An unconventional depiction of viewpoint in rock art

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Rock art in Africa sometimes takes advantage of three-dimensional features of the rock wall, such as fissures or protuberances, that can be incorporated into the artistic composition (Lewis-Williams, 2002). More commonly, rock artists choose uniform walls on which two-dimensional depictions may represent three-dimensional figures or objects. In this report we present such a two-dimensional depiction in rock art that we think reveals an intention by the artist to represent an unusual three-dimensional viewpoint, namely, with the two human figures facing into the rock wall, instead of the accustomed Western viewpoint facing out!

The figurative image

The depiction (Figure 1) comes from the Classic Style of the controversial Bradshaw rock art, whose origins and age are debated, in a narrow region of Australia’s Kimberley. The radiometric methods of carbon 14 and uranium-thorium dating have not been as successful in giving rock art dates in the quartzite of the Kimberley as they have been in the limestone of Palaeolithic rock art in Europe. However, superposition studies of overlapping art give a temporal rank order of evolving styles that can be calibrated by depictions of extinct megafauna that disappeared 46.5 ka, indicating that this image is 50 ka or older (the surprisingly minimal deterioration is due to a biofilm of pigmented, replenishing microorganisms; Pettigrew, 2010; Pettigrew et al., 2010).

The Classic Style, as illustrated here, shows unusual definition of the body, especially the muscle groups of the limbs, if one allows for its great age. Moreover, there is enough definition of the heads to deduce that these are inclined toward each other, with the figure on the viewer’s right turned slightly to its left and the figure on the viewer’s left turned slightly to its right, but with both facing into the rock wall, instead of facing out. This viewpoint is confirmed by an overall judgement of the whole composition, especially the genders of the two figures, whose backs are in view. For example, the figure on the right has female features compared to the left (male) figure, such as smaller stature, neater coiffure, delicate toe-in and pigeon-toed stance, and steatopygia. The identity of this latter bulge, seen in the profile view of a partial left turn by the smaller, putative female, has probably escaped attention in previously studied examples, whereas it was attributed instead to a male paunch, (27 cases in Walsh, 2000), even though it has a gluteal rather than an abdominal location. This misattribution would follow from the failure to recognise the posterior view. Similar reinterpretations may follow a failure to recognise the facing-in viewpoint in the controversial subject of gender representation in this kind of art, in which the male dominance in the published literature may be an artifact of the absence of the more obvious secondary sexual characteristics in a posterior view.

Individual variation between viewers

One problem with our observations on this particular rock art depiction is that it is not universally perceived as facing in. Many viewers remain in the facing-out mode, conforming to the habitual viewpoint of the many thousands of images to which most of us have been exposed. This depiction has been presented to audiences in Australia, the United States, and Germany with a majority of viewers accepting the facing-in percept (Table 1), although some required coaching to see it. Unfortunately, around 30% adhered to the facing-out viewpoint, even after coaching and prolonged viewing. This recalls a survey...
by one of us (JDP) of undergraduates in a large practical class on perceptual rivalry, in which 3% were “stuck” on one perspective of the well-known Necker cube, showing that perception of even a bistable image with obvious perspectives can become stuck. It seems likely that this inability to switch to an alternate percept will be even more true for the common images of human figures and faces, most of which predominantly face out. This bias toward a different perspective, compared to the one that we think was intended by the artist, is also a potential stumbling block for the review of our work on this unusual piece of rock art.

Table 1. Subjective Reports of “Facing In” vs “Facing out” in 2 Audiences. Reports from two different audiences of interpretations of Figure 1 when it was projected life-size onto a screen, broken down by whether they reported the “facing in” or “facing out” percept, but also by gender. Notes: M = male participant; F = female participant.

<table>
<thead>
<tr>
<th>Facing in</th>
<th>Facing out</th>
<th>Undecided</th>
</tr>
</thead>
<tbody>
<tr>
<td>45 M, 63 F</td>
<td>23 M, 12 F</td>
<td>17 M, 23 F</td>
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Figure 1. The two figures are turned slightly toward each other, as shown by the depiction of their heads and by the profile of the buttocks of the presumed female (the member of the pair on the right). The key observation, however, is that both figures appear to be looking in to the rock, rather than the usual viewpoint of looking out. This depiction has been published by Donaldson (2012, p. 206).

Motivation of artist?

It is difficult to speculate about the clear intention of the artist to present the facing-in viewpoint, which we think is quite clear. We note the modesty
of some San hunter-gatherers (Lewis-Williams, 2013), but also the virtuosity of this artist, which has enabled a clear distinction to be made between the genders using the more subtle cues available in the posterior view without resorting to the obvious secondary sexual characters that would be obvious in a frontal view.

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References