

Radiocarbon Determinations on Chillagoe Rock Paintings: Small Sample Accelerator Mass Spectrometry

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ABSTRACT. Indirect dating methods have previously been applied to the rock paintings of north Queensland, utilising patterns of superimposition, depictions of material items and animals of known antiquity, the use of fragile paints such as mud and white kaolinite, and *in-situ* pigment stratigraphies. These patterns suggest that the vast majority of Chillagoe rock paintings are relatively young, likely less than 3500 years old. We directly analysed radiocarbon in the charcoal pigments in several of the Chillagoe rock paintings. Preliminary radiocarbon results at three sites confirm that these charcoal paintings are less than 3500 years old, as predicted. A change in the geographical distribution of rock art styles across north Queensland—from widespread non-figurative forms (as evident in surviving petroglyphs) to regionally distinctive motifs—suggests a regionalisation of artistic conventions starting around 3500 years B.P. Such a regionalisation implies that major cultural changes accompanied the changes in rock painting styles.

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Behavioural diversity is one aspect of the human condition that makes archaeology possible; it is the desire to characterise, model and understand both spatial variation in human behaviour, and its short- and long-term dynamics through space and time, that underlies this project. This is also the source of our methodological anguishes: how can

we measure or otherwise describe past human activities, their spatial variability, and their trends at various temporal scales?

This paper is an exploration of method firmly rooted in this broader problem. Specifically, rock art is a manifestation of cultural activity. It is a cultural expression embedded in