26793); the calibrated age of this sample, 2340±140 BP (Stuiver & Becker 1986: 897), is within the statistical overlap of the cation-ratios, which were measured before the radiocarbon age of the charcoal was determined.

In sum, the radiocarbon dates from Clay Creek and from site 5LA5598 suggest the rectangular bisected grid petroglyphs were made around 2300 BP, exactly the age established by CR.

Other radiocarbon dates for cultural deposits near petroglyph sites also confirm the CR dates. At site 5LA5255 the radiocarbon age estimate for the upper cultural level, including ceramics that throughout the region are the product of Apachean groups, is 370±60 BP. The ^{14}C date overlaps the CR age of the petroglyphs at the site; furthermore, as discussed above, these petroglyphs are suggested, through independent means, to be made by the Apache.

Another important site, on the Purgatoire river canyon rim, is the Zookeeper site, 5LA5993, where a single human figure is surrounded by 36 animal figures (FIGURE 5). Four CR dates in the main panel range from 900±150 to 1000±250 BP, and one CR date for a second panel is 1200±150 BP. The Zookeeper site is within 100 m of the Point site, 5LA6028, situated on a protruding canyon rim remnant that is isolated from the remainder of the canyon wall. At least seven house rooms were constructed on the site by stacking slabs of sandstone in vertical and horizontal tiers. A test excavation into one of the rooms produced chipped stone debitage and charcoal, uncalibrated radiocarbon determination of 1030±90 b.p. (Beta-37703). The series of CR dates overlap with the ^{14}C date, and CR dates are again consistent with the chronology suggested by seriation.

Prior to obtaining the ^{14}C date for the Point site, no two archaeologists offered the same estimate as to its age; estimates ranged from 600 to 1000 BP. All the CR dates were reported before any of the ^{14}C dates reported above were known, except for the date at the Clay Creek site. (There was a radiocarbon date had been obtained before the CR samples were collected, but it was not published until afterwards.) The ^{14}C results did not and could not have influenced the results of the CR dates.

All the varnish dates except two for petroglyphs in the PCMS support the rock-art chronology established for the region. These two samples, from site 5LA5255 and from site 5LA5569, are younger than expected. The sample from 5LA5255, selected to date a petroglyph that was immediately above an excavation unit in the rockshelter, was near the ground surface and slightly more eroded than other petroglyphs in the shelter. Cattle or other animals treading near the petroglyph may have influenced the varnish. At site 5LA5569, a small cave, a sandstone shelf is located immediately below the dated petroglyph. Persons who visit the cave tend to sit on the shelf, where they rub against the petroglyph and probably influence the varnish developing on it.

The dates for these two petroglyphs may be accurate, but because they appear too recent, more thought will go towards selection of petroglyphs for future samples, to ensure erosion will not be a disturbing factor.

Conclusion

CR dating worked very well for PCMS petroglyphs. The CR dates are as consistent as any group of radiocarbon dates would be in a similar situation, and followed correct chronological sequence. More recent research suggests that ^{14}C analysis of tiny amounts of carbon in the first-formed varnish over petroglyphs is also an accurate dating method for petroglyphs. Accelerator ^{14}C dates of petroglyphs with adequate carbon in their varnish may be the most accurate method for future research. However, the cost of CR dating is about one quarter that of ^{14}C by the accelerator method. For those trying to date petroglyphs or other rock engravings, the success of CR in the PCMS is encouraging. The method should be employed more widely, especially where there is opportunity for a secondary cross check of its accuracy. The best approach to dating petroglyphs is a combination of accelerator ^{14}C dates and CR dates together with all the relative schemes that can be devised.

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