19 THE DEAD DO TELL TALES: UNRAVELLING THE CASE OF CAHAL PECH'S JANE OR JOHN DOE

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This paper reports on a burial discovered in 2000 by the BVAR project in Plaza G of the Cahal Pech site core. Our stratigraphic data indicated that the grave had penetrated the last two plaza floors in the courtyard. The fact that neither of these floors were subsequently resurfaced strongly suggested that the burial was intrusive. The grave contained the remains of a young individual in fetal position and with no grave goods. Ever since its discovery in 2000, we had generally assumed that this interment, like several other intrusive burials at Cahal Pech, dated to the Terminal Classic period (~AD 750-900). Recent radiocarbon dating of purified bone collagen, combined with geochemical analysis of the skeletal remains, however, negate our previous assumptions and suggest that the individual in Plaza G Burial 1 is neither local nor ancient. In this paper, we present results of our attempts to unravel the mystery of the burial we have come to call Cahal Pech's Jane or John Doe.

Introduction

Although Cahal Pech is particularly well-known for its Preclassic occupation that began prior to the start of the first millennium B.C., recent investigations by the Belize Valley Archaeological Reconnaissance (BVAR) project have produced considerable evidence for Terminal Classic (~AD 750-900) activity at the site. This late phase of occupation has been especially evident in the site core, specifically in Plazas A and H, and to a lesser degree in Plaza B and C (Figure 1).

Evidence for Terminal Classic activity in Plaza A consisted of large, midden-like, deposits of cultural remains that we recovered on the flanks of the stairside outsets of Structures A2 and A3, and in the northeast corner of Plaza A where these two structures are adjoined. Our investigations further revealed that the cultural remains had been deposited above a thin layer of collapsed debris which had accumulated on top of the last plastered surface of Plaza A sometime after the buildings had been abandoned. Inside a bench within the central room of Structure A3, we also discovered an intrusive burial that contained the remains of a child approximately seven to nine years of age (Figure 2). It was apparent that the Maya had cut into the bench to deposit the burial and grave goods, then filled the cavity with dirt to the level of the bench's surface. The surface of the bench, however, was never resealed, but had been capped by two large limestone slabs that may have fallen off, or removed from, the wall or roof of Structure A3. In association with the interment, we recovered three Jaina-style ocarinas, two flutes, and four

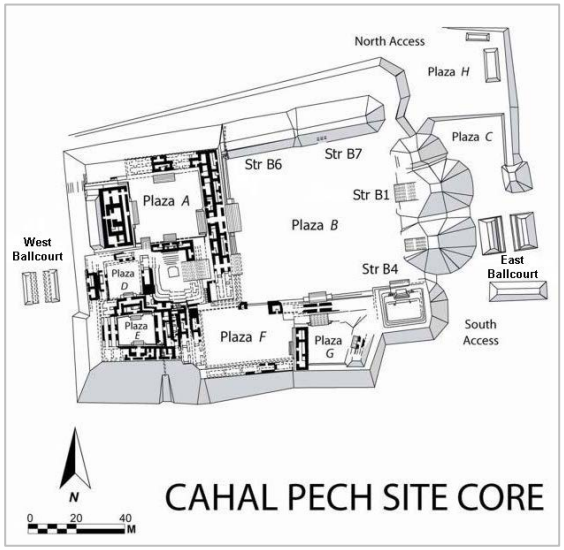

Figure 1. Map of the site core of Cahal Pech.

Spanish Lookout phase ceramic vessels, including an imitation slate ware vase (Figure 3). The relative date of the grave goods, the intrusive nature of the burial, and the fact that the surface of the bench was not re-plastered after the grave had been filled with dirt, all suggested a Terminal Classic date for the burial.

In Plaza B, we recovered evidence for Terminal Classic activity at the summit of Structure B1, and in front of the central stairway and the southwestern flank of the stairside outset of Structure B3. The deposits associated with Structure B3 shared a similar depositional pattern to that observed in Plaza A, reinforcing our interpretation that the Maya had deposited these cultural remains sometime after the site had fallen into disrepair. On Structure B1, we recovered contemporaneous remains in a special

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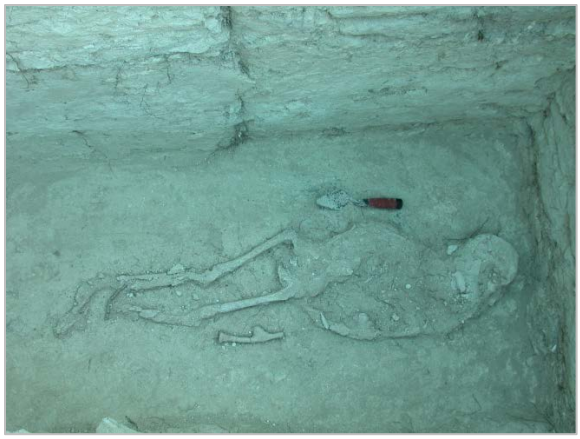

Figure 2. Photo of CHP Str. A3-Burial 1.

Figure 3. Collage of ceramic artifacts found with CHP Str. A3-Burial 1.

deposit and in a burial at the summit of this pyramidal structure. The burial, which was excavated by Peter Schmidt in 1969 (Awe 1992), contained several ceramic vessels (Figure 4). Two of these vessels, both modeled censers diagnostic of the Terminal Classic period, share close affinity to Cayo Unslipped ceramics from the Belize Valley, and with the Cambio Ceramic Group from the Peten (Adams 1971:57; Gifford 1976; Sabloff 1973, 1975:114-116). We identified the other vessels as Belize Red bowls which also date to the Terminal Classic Spanish Lookout phase in the Belize Valley.

The special deposit in Structure B1 was recovered along the primary axis of the structure, a few centimeters below surface and just above the area where the Str. B1-2nd stair block is located. The deposit covered an area 60 x 45cm north-south and was 26cm thick (Ishihara et al. 2013:75-70). It contained two laurel leaf blades of fine-quality chert, with an upside-down skull placed on top of them. Around the skull were several disarticulated

Figure 4. Ceramic vessels associated with CHP Str. B1-Burial 1.

fragments of human bone that were capped by a bed of eroded potsherds and a large fragment of a Mount Maloney bowl.

In Plaza C and H, we recovered Terminal Classic period remains in Structures C2, H1 and H2. The data from Structure C2 included a shallow grave (a few centimeters below modern ground surface) containing the disarticulated remains of a young individual and a few potsherds (Awe and Schwanke 2006). In contrast to Structure C2, coeval remains in Plaza H were represented by occupational debris in several areas of the courtyard, by a large tomb that had been constructed with cut stones scavenged from Structure H1/2nd, and by construction activity associated with the last phase of occupation on both Structures H1 and H2 (Awe 2013; Douglas and Brown 2013; Douglas et al. 2015; Santasilia 2012). The large tomb adjacent to Structure H1 contained the remains of an adult male. Associated grave goods included 13 ceramic vessels, five obsidian blades, greenstone jewelry and several modified animal remains (Figure 5; Awe 2013). The ceramic vessels were all diagnostic of the Terminal Classic period, a temporal assignment supported by an AMS ^{14}C date of cal AD 710-875 acquired from the phalanx of a deer bone that was in the tomb.

Having recovered all these intrusive burials across the Cahal Pech site core, we were therefore not surprised with the discovery of yet another intrusive burial in Plaza G. For these same reasons, we initially assumed that this

Figure 5. Sample of ceramic vessels from Str. H1-Burial 1.

interment likely dated to the Terminal Classic period. As we note below, however, this was not the case with the Plaza G burial, and subsequent scientific analyses produced a wealth of surprising and unexpected results.

Context of Plaza G Burial 1

During our excavation of Structure F2, and prior to the conservation of this building in 2001, we uncovered a poorly preserved stairway on the southeastern flank of the building (Audet 2001). The stairway, which provided access from Plaza G to the summit of Structure F2 (Figure 6), was mostly destroyed, seemingly by a large tree that had been brought down by a previous tropical storm. After clearing the collapsed stairway, we noted that there was a depression in Plaza G about 3 meters east of the destroyed stairway. In an effort to investigate the depression in the plaza, and to search for an axial cache in the stairway, we decided to excavate both features.

The Plaza G excavation (Unit 51) measured 2m x 3m and completely encompassed the depression to the east of the Str. F2 stairway (Figure 6). The unit descended 3.4m from surface and exposed five plaza floors in the area outside of the depression. The lowermost plaza floor (Plaza G/1st) abutted a low, single course, wall. Below the floor, we recovered several fragments of Middle Preclassic pottery. We located a second, 10 course and 186cm high, wall resting on the floor of Plaza G/2nd. This

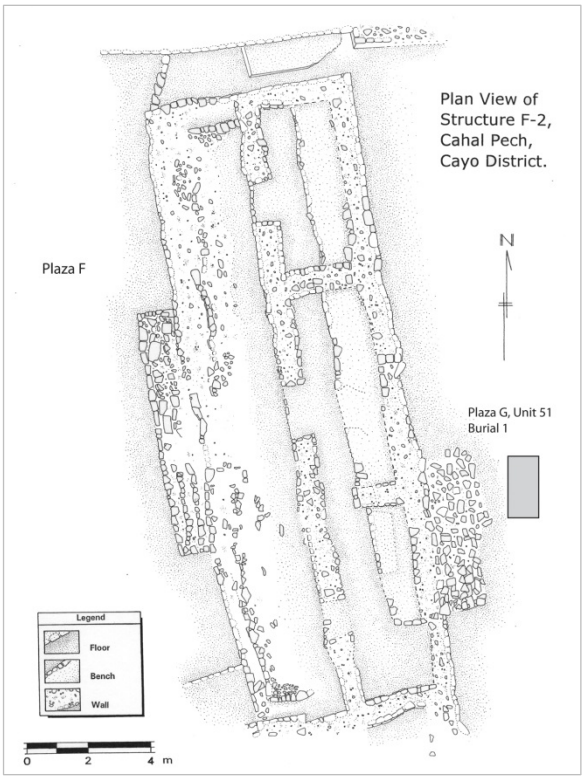

Figure 6. Structure F2 at Cahal Pech indicating location of Plaza G-Burial 1.

wall was constructed of large limestone blocks (exceeding 20 x 30cm in size) and was raised at an angle of approximately 30 degrees. It is possible that this wall is part of a larger retaining wall that previously marked the southern edge of Plaza G. The fill associated with the wall contained a mixture of Middle and Late Preclassic pottery. In the area not directly below the depression, we recorded three more plaza surfaces. We designated the latter as Plaza G/3rd, Plaza G/4th, and Plaza G/5th. The latter (Plaza G/5th) was poorly preserved and represented the final plaza surface in the courtyard.

Interestingly, neither the plastered surface of Plaza G/5th nor that of Plaza G/4th were present in the area immediately below the depression in the courtyard. The earliest preserved plaza floor that we recorded in this area was that representing Plaza G/3rd. A few centimeters above this floor, and approximately 50cm to 70cm below modern ground surface, we also uncovered two burials, designated as Plaza G Burial 1 and Plaza G Burial 2. The absence of the last two plaza floors above the burials

indicated that both floors were likely destroyed during excavation of the graves. This stratigraphic record further indicated that the two uppermost Plaza G floors were never re-plastered following the interment of either individual, and that the graves were simply filled in with dirt following their interment.

Description of Plaza G Burials 1 and 2

Plaza G Burial 1 was located at the north side of the depression in excavation Unit 51. The grave contained the relatively well-preserved remains of a subadult, sex indeterminate, who was approximately 9-12 years old at the time of death (Figure 7). The right mandibular first molar was erupted with partial root completion (9-12 years old), the right mandibular second molar was erupted with no root completion (less than 12 years old) and the distal fibula was unfused (less than 14 years old). The individual was interred in a fetal position lying on the left side in a simple grave. The burial was axially aligned north south with the individual's head to the south. The burial was also a primary and intrusive interment, and had no associated grave goods.

We recovered Burial 2 on the southeastern side of the unit. Very few of the skeletal elements of Burial 2 were preserved, with only a few skull fragments and teeth remaining. The developmental stage and location of the teeth suggested that this individual was a young child and that s/he had been buried with head to the south, feet to the north and possibly in flexed position. Like Burial 1, no grave goods were associated with Plaza G Burial 2.

Given the better state of preservation of Plaza G Burial 1, we decided to conduct stable isotope and strontium analysis on the remains of this individual, and to submit fragments of the skeleton for AMS ^{14}C dating.

Biological and Isotopic Analyses

Multiple isotopic analyses were conducted on tooth enamel, dentin, and bone to reconstruct the life history of the individual in Plaza G Burial 1, from where s/he was born, to dietary patterns during infancy and childhood, to when the child died and was buried.

Each isotope tells a different story: the ratios of two strontium isotopes (^{87}Sr to ^{86}Sr)

Figure 7. Photo of Plaza G-Burial 1.

identifies *where* an individual lived because it varies regionally in the Maya lowlands, based on the principle that most food and water are locally obtained. Oxygen isotope values (δ^{18}O) also vary regionally, though the differences are based on many factors, including individual physiology and rainfall and evaporation patterns. ^{87}Sr/^{86}Sr values decrease from the north to the south in the Maya region, with the exception of the Maya Mountains, while oxygen isotope values decrease from the Caribbean to the Pacific Coast and Guatemalan Highlands (Bentley 2006; Freiwald 2011a, 2011b; Freiwald et al. 2014; Hodell et al. 2004; Lachniet and Patterson 2009; Marfia et al. 2004; Mitchell 2006; Price et al. 2010; Wright 2005, 2012; Wrobel et al. 2014, 2017).

Stable carbon (δ^{13}C) and nitrogen (δ^{15}N) isotope measurements of human bone collagen and apatite are widely used as a proxy for prehistoric human diet (Ambrose and Krigbaum 2003; DeNiro and Epstein 1978, 1981). Values for δ^{13}C are determined by photosynthetic pathways used by C3 (trees, shrubs) and C4 (grasses) plants. Maize is the most common C4 plant consumed across the Maya lowlands from prehistoric times into the present, and δ^{13}C values of bone collagen document the importance of this domesticate as a staple crop. Nitrogen isotope ratios in human bone are introduced in the process of protein digestion, increasing incrementally by 3-5‰ between trophic levels (Hedges and Reynard 2007). Stable isotope data from a sample of Preclassic and Classic Period (~1200 BC-AD 900) individuals from Cahal Pech (*n*=45) indicate an

increased reliance on diets composed primarily of maize-based protein through time (Ebert et al. n.d.; Green 2016; Piehl 2006; Powis et al. 1999). Green (2016) is piloting the use of sulfur ($\delta^{34}S$) isotope ratios that can serve as proxies for both migration and diet (Richards et al. 2001; also see Rand et al. 2015). Elemental analysis also may vary regionally, and the ratio of strontium and barium to calcium might serve as locational indicators as each element is incorporated into body tissues as food and water are consumed (Burton and Price 2003; Kohn et al. 2013; Novotny 2015).

The Plaza G burial also was analyzed for AMS ^{14}C dating using standard procedures for bone collagen extraction and purification at the Human Paleoecology and Isotope Geochemistry Laboratory at the Pennsylvania State University by Claire Ebert (Ebert et al., n.d.). Julie Hoggarth also dated a white-tailed deer (*Odocoileus virginianus*) phalanx from a terminal deposit associated with Structure G2, since these deposits represent some of the final activities that occurred in the Cahal Pech site core (Hoggarth personal communication; also see Hoggarth et al. 2016).

For other isotopic analyses, the skeletal elements sampled include the left distal radius, the left maxillary premolar (P), and the left mandibulary first molar (M1), each of which were well-preserved. Childhood diet and mobility can be captured at different stages of the child's life because the M1 enamel forms before birth and during early infancy (~6 mo.); premolar enamel begins forming during infancy and finishes by age 6 during early childhood, and bone remodels constantly hence capturing the final years of an individual's life. Samples were taken at multiple intervals along the tooth root to identify specific nitrogen isotope values during the development of the tooth.

Method

Cortical bone was preferentially sampled to maximize collagen yield for the radiocarbon dating supervised by Ebert. Approximately 100g of dry bone from each sample was cleaned of adhering sediment with an X-acto® blade. Bone collagen was extracted and purified using the modified Longin (1971) method with ultrafiltration (Brown et al. 1988). Samples were demineralized for 24–48 hours in 0.5 N HCl at 5 °C, followed by a brief (<1 h) alkali bath in 0.1 N NaOH at room temperature to remove humates. Ultrafiltered collagen was lyophilized and weighed to determine percent yield as a first evaluation of the degree of bone collagen preservation. Carbon and nitrogen concentrations and stable isotope ratios were measured at the Yale Analytical and Stable Isotope Center with a Costech ECS 4010 Elemental Analyzer with Conflo III interface. Sample quality was evaluated by % crude gelatin yield, %C, %N, and C:N ratios. C:N ratios for the Plaza G burial was 3.4 and for the Structure G2 terminal deposit deer bone was 3.8, indicating good collagen preservation (van Klinken 1999). AMS radiocarbon samples were analyzed at KCCAMS (University of California, Irvine), and ^{14}C ages were corrected for mass-dependent fractionation with measured $\delta^{13}C$ values (Stuiver and Polach 1977). Green, cleaned and powdered the Cahal Pech tooth enamel and bone samples, and isotope processing details for all but one of the human bone collagen and apatite samples can be found in Green (2016). Freiwald, further prepared 10mg of the same tooth enamel and bone samples, along with tooth enamel from the M1 (see preparation in Freiwald 2011) for processing at the UNC at Chapel Hill Department of Geosciences (Sr) and the University of Arizona (C and O).

Results

All dates are reported as conventional ^{14}C ages corrected for fractionation (Table 1). Date calibrations were produced in OxCal v.4.3 (Bronk Ramsey 2009) using the IntCal13 Northern Hemisphere atmospheric curve (Reimer et al. 2013). Values for $\delta^{13}C$ and $\delta^{15}N$ for the human and deer sample are also reported. These $\delta^{13}C$ and $\delta^{15}N$ values for Plaza G Burial 1 are consistent with expected range for Maya populations consuming maize along with other terrestrial plant and meat resources (see following section; Somerville et al. 2013).

The ^{14}C measurement for the Plaza G burial is associated with a period with several steep slopes and plateaus (less steep) in the radiocarbon curve, resulting in a wide probability distribution for the calibrated dates

Table 1. Calibrated AMS 14C dates and stable carbon (δ13C) and nitrogen (δ15N) isotope values from Plaza G human burial and deer remains from Terminal Deposit (Structure G2) at Cahal Pech.

Provenience	UCIAMS#	^{14}C age (BP)	2σ range (BC/AD)	δ^{13}C (‰ VPDB)	δ^{15}N (‰ Atm N_2)	C:N
Plaza G Unit 51, Lvl 2	166050	190 ± 15	AD 1660-1950	-9.3	8.7	3.4
Str. G2 Terminal Deposit	174164	395 ± 15	AD 1440-1615	-22.5	2.9	3.8

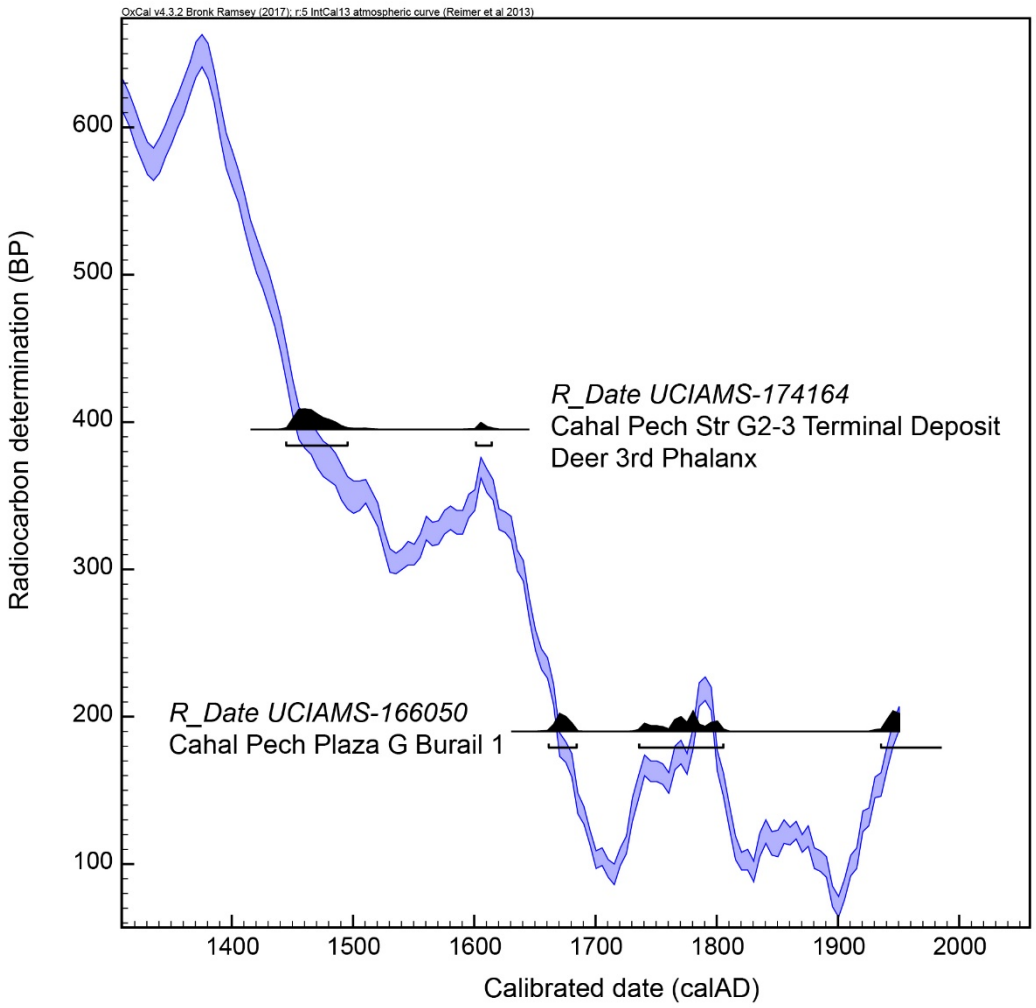

Figure 8. Calibrated date ranges for Plaza G Burial 1 and Str. G2 Terminal Deposit deer bone plotted again calibration curve.

(Figure 8). The results place the interment of the burial within three different intervals: cal AD 1660-1685 (20.7% probability), cal AD 1735-1805 (49.4% probability), or cal AD 1935-1950 (25.3% probability). The deer bone sampled from Structure G2 dates to cal AD 1440-1615, indicating activity at the site during the Late Postclassic/Colonial Periods. While the Plaza G burial dates slightly later, the close association between these two contexts suggests the placement of the intrusive burial likely occurred during the Colonial period. The placement of the body, with the head to the south, also supports the earlier date as this was a longstanding tradition in the region and at Cahal Pech (Freiwald 2011a; Novotny 2015).

The carbon and nitrogen isotope values (Table 2) fall within the range of those from

Table 2. Strontium, carbon (δ13C), nitrogen (δ15N), oxygen (δ18O), and sulfur (δ34S) isotope values for Plaza G Burial 1 compared to local and regional isotopic data. Values that are statistical outliers are in bold. Strontium values are indicated as ratios (87Sr/86Sr). All other isotopic values are in parts per mil (‰).

Plaza G Burial 1 isotope values		**Local and regional values**
$^{87}Sr/^{86}Sr$ bone apatite (UM31)	0.708253	0.7082 to 0.7091 $^{87}Sr/^{86}Sr$ fauna (*n*=17) 0.7080 to 0.7092 $^{87}Sr/^{86}Sr$ human tooth enamel (*n*=115) (2 SD range: Freiwald 2011a:88, 128)
$^{87}Sr/^{86}Sr$ M1 tooth enamel (UM70)	**0.707651**	
$^{87}Sr/^{86}Sr$ P3 tooth enamel (UM15)	No data	
$\delta^{13}C$ bone collagen	-8.53	-14.50 to -7.80 (*n*=69) (2 SD range in Ebert n.d.; Piehl 2006)
$\delta^{13}C$ dentin collagen	avg. -8.48 (-9.79 to -7.84)	-8.80 to -2.36 (*n*=12) (2 SD bone collagen range in Piehl 2006)
$\delta^{15}N$ bone collagen	9.92‰	7.30 to 11.70 (*n*=69) (2 SD range in Ebert n.d.; Piehl 2006)
$\delta^{15}N$ dentin collagen	avg. 9.13 (8.41 to 10.59)	7.3 to 11.7 (*n*=16) (2 SD bone collagen range in Piehl 2006)
$\delta^{13}C$ bone apatite	-8.55	-13.43 to -7.8 (*n*=16) 2 SD range in Piehl (2006)
$\delta^{13}C$ enamel apatite	UM15 (P3) -1.69 UM70 (M1) -2.83	-6.20 to -1.69 (*n*=14) Cahal Pech range of values (also see Green 2016)
$\delta^{34}S$ bone collagen	6.89	11.5 to 12.6 (*n*=5) Cahal Pech range in Green (2016)
$\delta^{18}O$ bone apatite	-6.48‰	Limited data available
$\delta^{18}O$ enamel apatite	UM15 (P3) -2.11 UM70 (M1) -2.29	-4.06 to -2.11 (n=14) Cahal Pech range of values (also see Green 2016)
Sr/Ca elemental analysis (ppm)	UM15(P3) -4.33 UM70 (M1) -3.76	-4.33 to -3.43 (*n*=12) Cahal Pech range of values
Ba/Ca elemental analysis (ppm)	IM15 -4.56 **UM70 -5.37**	-5.37 to -3.05 (*n*=12) Cahal Pech range of values

Classic period Maya burials (Piehl 2006), but additional isotope values provide more of the life history of this individual. First, the strontium isotope values more closely resemble those identified in Late Postclassic burials at Baking Pot (Hoggarth et al. 2017) than Classic or Preclassic period Cahal Pech populations. The first molar tooth enamel value, UM70 0.707651 $^{87}Sr/^{86}Sr$, which represents the residence at near time of birth, is lower than the range of local values identified along the Belize or Macal River floodplains (Table 2). It more closely resembles values to the west in the Petén or to the south in the Vaca Plateau (Freiwald 2011a; Freiwald et al. 2016; Patterson and Freiwald 2015; Thornton 2011; Trask et al. 2012; Wright 2012). In contrast, the bone sample (UM31 0.708253 $^{87}Sr/^{86}Sr$) shows a value within the range of local values in the Belize Valley; however, this may result in part because of diagenetic contamination as samples were not pretreated before analysis and bone is

more prone to elemental exchange with surrounding soil matrix than enamel tissues.

The oxygen and carbon isotope values in tooth enamel are more enriched than the other Cahal Pech samples (Green 2016), but are not statistical outliers from the Cahal Pech dataset. This comparison is somewhat problematic because both premolars and molars were sampled and values for teeth that form post-weaning differ from those formed during infancy because of trophic-level fractionation. However, the elemental data include an outlier value that like the strontium isotope results, suggests a non-local place of birth. The UM70 -5.37 Ba/Ca value is a statistical outlier from the Cahal Pech dataset and shows that this individual's diet during infancy consisted of foods not acquired near Cahal Pech. At present the elemental data cannot be directly compared with other published datasets (i.e. Novotny 2015) until more research is done on comparability among labs and instrument runs.

Other aspects of diet suggest that the types of food consumed were similar to those of earlier Cahal Pech populations. The $\delta^{13}C$ collagen values show an individual that relied mainly on a maize diet while the $\delta^{15}N$ collagen values indicate a diet with terrestrial proteins. None of the values are statistical outliers from the sample published by Piehl (2006) for other Cahal Pech individuals (also see Green 2016). Values from tooth enamel, which represents two earlier periods in time (UM70 early infancy childhood and UM15 early childhood) also fall within the range of other Cahal Pech values (Table 2; Green 2016). The tooth serial sample also showed consistent $\delta^{13}C$ and $\delta^{15}N$ consumption over the course of their childhood and provide no evidence of dietary stress or major fluctuations (Figure 9).

The sample also has a $\delta^{34}S$ value that fell outside the cluster of individuals that likely indicate the local expected values, showing that even if the types of foods consumed were similar, they were not from the Cahal Pech region. Green (2016) sampled five burials that yielded enough collagen to run $\delta^{34}S$, one of which was the Plaza G burial. The four Classic era Maya burials clustered together giving a likely $\delta^{34}S$ range for this area of 11.5 – 12.6. In comparison, the Plaza G burial had a $\delta^{34}S$ value of 6.89. While little is known about $\delta^{34}S$ and no baseline data is available as of yet, this supports the interpretation that the individual buried in Plaza G was not from Cahal Pech or the surrounding area.

Discussion

The radiocarbon date on the Plaza G burial offers several temporal possibilities, since the AMS ^{14}C distribution spans the Colonial and modern eras. Here we explore the historical background of the early Colonial period in the Belize Valley, as well as subsequent modern development in the San Ignacio area, to inform our temporal context for the Jane/John Doe of Cahal Pech. The largest portion of the radiocarbon probabilities fall within the period between cal AD 1660-1805. Together these two (of three) discontinuous intervals for the AMS ^{14}C date constitutes 70.1% probability of the 95.4% two sigma distribution. An additional radiocarbon date on a deer bone from a deposit near Structure G2 in the site core at Cahal Pech dates to the period between cal AD 1440-1615 (95.4%). This sample suggests that there were low-level activities occurring near Cahal Pech during the Colonial Period, supporting the notion that the Jane/John Doe of Cahal Pech likely dates to this time rather than the past 50 years. The final possibility is that this was a modern burial, interred at the site in the mid-twentieth century. The latter, however, seems unlikely as Plaza G Burial 1 is not atypical when compared to Postclassic/Early Historic burial patterns in the Belize Valley. Its intrusive-style also reflects a tradition that began back in the Terminal Classic period, and continued into early Historic times at several sites in western Belize. Given these patterns, and the date of the burial, we believe that the evidence strongly suggests that this individual dates to the Colonial period, likely prior to the abandonment of Tipu and the Spanish resettlement of local populations in the Petén Lakes region of Guatemala. The stable isotope data is also in-line with a more traditional maize-based diet, further eliminating the possibility that the Plaza G burial dates to the twentieth century.

The archaeological record indicates that the Belize Valley was largely depopulated following the collapse of Classic Maya

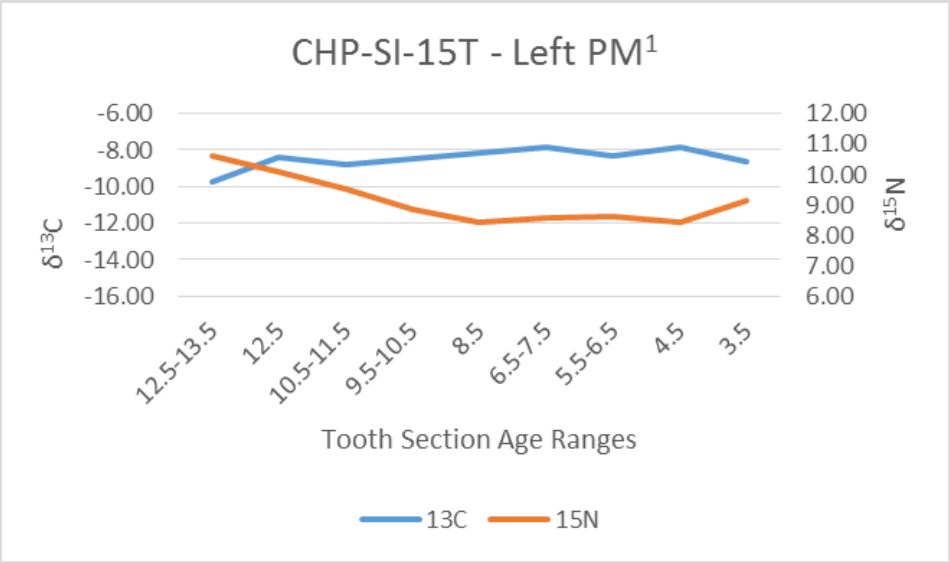

Figure 9. Stable carbon (δ13C) and nitrogen (δ15N) isotope analysis from the premolar tooth roots during different developmental stages.

civilization (~AD 800-1000) (Awe and Helmke 2007; Yaeger 2008). Small populations lived at Tipu (Graham 2011), as well as Baking Pot (Hoggarth et al. 2014) and Barton Ramie (Willey et al. 1965) during the Late Postclassic period (AD 1200-1500). After Spanish colonization the Christian church and cemetery at Tipu served as a political and religious focal point in the interior of the region (Graham 2011; Jones 1989). However, the strontium isotope value is not consistent with an origin near Tipu or elsewhere in the Belize Valley (Freiwald 2011a, 2011b; Freiwald et al. 2014; Wrobel et al. 2014, 2017). The value instead suggests an origin to the west in the central Petén or to the south in the Vaca Plateau (Freiwald et al. 2016; Patterson and Freiwald 2015). Similar values also are found in the western Maya lowlands and Chiapas, as well as other locations in Central America. The closest locations include the Petén Lakes region, which was populated throughout the Postclassic, Contact, and Colonial periods, and mobility, including intermarriage, migration, trade, and hostilities connected the Petén and the Tipu regions (Awe and Helmke 2015; Caso Barrera 2002; Freiwald et al. 2016; Graham 2011; Jones 1989). The non-local strontium isotope value is even more notable because earlier populations at Cahal Pech had values found in the Belize Valley (Freiwald 2011a; Green 2006; Mitchell 2006; Novotny 2015).

Conclusion

In this paper, we describe the discovery of two burials in Plaza G at Cahal Pech. Because the manner of their disposal reflected a pattern similar to that observed in several late and intrusive burials in the Belize River Valley, we initially assumed that both burials were Terminal Classic period in date. Subsequent scientific analysis of the human remains in Plaza G-Burial 1, including AMS ^{14}C dating, plus isotope and strontium analyses, produced compelling evidence indicating that this individual was neither local nor prehistoric. Results of our analyses further indicated that s/he was likely born in the Petén where s/he spent their early childhood before migrating to Belize sometime around cal AD 1660-1805. This early Historic period was marked by continuous migration of people in the central Maya lowlands as a result of the bellicose relationship that existed between the Maya and Spanish in the years leading up to the conquest of the Itza in 1697. When considered within this historical context, it allows us to more accurately and logically explain the discovery of an intrusive, historic burial of a non-local Jane/John Doe in Plaza G at Cahal Pech. Besides negating our earlier

assumptions about Plaza G Burial 1, our research further demonstrates the value of applying sound scientific analyses to the study of the past, and provides an important caveat that relative dating of archaeological data should never be assumed as either absolute or accurate.

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