

Moieties and mortuary mounds: dualism at a mound and enclosure complex in the southern Brazilian Highlands

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**MOIETIES AND MORTUARY MOUNDS: DUALISM AT A MOUND AND ENCLOSURE
COMPLEX IN THE SOUTHERN BRAZILIAN HIGHLANDS**

Mark Robinson, José Iriarte, Jonas Gregorio De Souza, Rafael Corteletti, Priscilla Ulguim, Michael
Fradley, Macarena Cárdenas, Paulo De Blasis, Francis Mayle, and Deisi Scunderlick

Mark Robinson, José Iriarte, and Jonas Gregorio De Souza, Department of Archaeology, University
of Exeter, Devon, EX4 4QE, UK. (markrobinson.uk@gmail.com)

Rafael Corteletti, Instituto de Ciências Humanas, Departamento de Antropologia e Arqueologia,
Universidade Federal de Pelotas, Rua Cel. Alberto Rosa, 154, RS, Brasil.

Priscilla Ulguim, School of Science and Engineering, Teeside University, Middlesbrough, Tees
Valley, TS1 3BX, UK.

Michael Fradley, School of Archaeology, University of Oxford, Hayes House, 75 George Street, 1st
Floor, Oxford, OX1 2BQ, UK .

Macarena Cárdenas, and Francis Mayle, Centre for Past Climate Change and Department of
Geography & Environmental Science, University of Reading, Berkshire, RG6 6DW, UK.

Paulo De Blasis, Laboratório de Arqueologia Regional, Museu de Arqueologia e Etnologia,
Universidade de São Paulo , Brasil.

Deisi Scunderlick, Universidade do Sul de Santa Catarina, Av. José Acácio Moreira 787, Bairro
Dehon, 88.704-900 - Tubarão, Santa Catarina, Brasil.

Excavations at Abreu Garcia provide a detailed case study of a mound and enclosure mortuary complex utilised by the southern proto-Jê in the southern Brazilian highlands. The recovery of 16 secondary cremation deposits within a single mound allows an in-depth discussion of spatial aspects of mortuary practice. A spatial division in the placement of the interments adds another level of duality to the mortuary landscape, which comprises: i) paired mound and enclosures; ii) twin mounds within a mound and enclosure; and iii) the dual division in the mound interior. The multiple levels of nested asymmetric dualism evoke similarities to the moiety system that characterizes modern southern Jê groups, highlighting both the opposition and the complementarity of the social system.

The findings offer a deeper insight into fundamental aspects of southern proto-Jê social organization, including the dual nature of the community, the manifestation of social structure on the landscape and its incorporation into mortuary ritual. The results have implications for research design and developing appropriate methodologies to answer culture specific questions. Furthermore, the parallels among archaeology, ethnohistory and ethnography enable an understanding of the foundation of modern descendent groups and an assessment of the continuity in indigenous culture beyond European contact.

46 As escavações no sítio Abreu Garcia oferecem um caso de estudo detalhado de um conjunto de
47 recintos e montículos funerários utilizado pelos grupos proto-Jê do Sul nas terras altas do sul do
48 Brasil. A descoberta de dezesseis depósitos cremados secundários dentro de um único montículo
49 permite uma discussão aprofundada dos aspectos espaciais das práticas mortuárias. Uma divisão
50 espacial na disposição dos enterramentos acrescenta outro nível de dualidade à paisagem mortuária,
51 que compreende: i) recintos e montículos dispostos em pares; ii) montículos duplos no interior de um
52 único recinto; e iii) a divisão dual no interior do montículo. Os múltiplos níveis de dualismo
53 assimétrico evocam similaridades com o sistema de metades que caracteriza os grupos Jê meridionais
54 modernos, ressaltando tanto a oposição quanto a complementaridade no sistema social.

55

56 As descobertas propiciam uma compreensão mais profunda dos aspectos fundamentais da organização
57 social proto-Jê meridional, incluindo a natureza dual da comunidade, as manifestações da estrutura
58 social na paisagem e a sua incorporação no rito mortuário. Os resultados têm implicações para o
59 planejamento das pesquisas e desenvolvimento de metodologias apropriadas para responder questões
60 culturais específicas. Além disso, os paralelos entre arqueologia, etno-história e etnografia permitem
61 uma compreensão da fundação dos grupos descendentes modernos e avaliação da continuidade nas
62 culturas indígenas além do contato com os europeus.

63

The dead offer a window into the history of the individual and the community by encoding fundamental social institutions in mortuary practice. The patterns and variability of mortuary treatments not only reflect a community's socio-religious beliefs that define conceptions of the dead, but may also reflect an individual's social identity as defined by the divisions that characterize the form and organization of social systems (Binford 1971; Dillehay 1995; O'Shea 1984; Pearson 1999; Tainter 1978; Tarlow and Stutz 2013).

In southern Brazil, modern southern Jê groups are characterized by a dual social organization, revolving around exogamous, asymmetrical, patrilineal moieties. All people, objects, and natural phenomena are divided between the two moieties as dual oppositions. Public events overtly emphasize moiety membership through visual symbols and the performance of specific tasks. Funerary ritual is particularly defined by this system, with burials conscripted as community wide integrative events that reinforce the dual organization of the group, social hierarchy, and the individual's social identity (Baldus 1937; Crepeau 1994; Métraux 1946; Nimuendajú 1993; Veiga 2006).

Although we need to be aware of the potential differences between the earlier archaeological contexts and those reported during the seventeenth–twentieth centuries, especially in the face of European colonisation of the region, there are general ideological and structural arrangements that appear to be constant over time. As the work of Iriarte and colleagues (2013) has shown, it is possible to interpret the highly structured archaeological patterns of southern proto-Jê mound and enclosure complexes (from here on MEC) through reasoned analogies with the ethnohistoric and ethnographic record, drawing on the historical continuity that exists in the organization of ritual space.

The southern proto-Jê, employed MEC as funerary monuments to bury the cremated remains of select members of the community, circa A.D. 1000 – 1700. Recent excavations at Abreu Garcia, a MEC near Campo Belo do Sul, Santa Catarina state, Brazil, in use from the mid-fifteenth to late seventeenth century (Table 1; Figure1), suggests that dual social organization was well established and an integral

feature of the funerary landscape, manifesting across multiple spatial levels of, i) the paired MEC; ii) the twin mounds within MEC1; and iii) the internal division of the mounds.

The following section provides a brief synthesis of southern Jê dualism and funerary rites, which serves as a point of departure for our interpretations. This is followed by an overview of the archaeology of mortuary structures in the southern Brazilian highlands before an examination of excavations at Abreu Garcia. We conclude with a discussion of the features of the cremation deposits and of the dualism in site plan, materials and internal mound space in light of the new data from Abreu Garcia.

Modern Jê Organization and Mortuary Practice

Dual social organization is prevalent throughout South America, documented ethnographically, and with increasing examples from archaeological contexts (Lévi-Strauss 1944; Hornborg 1988; Moore 1995; Nimuendajú and Lowie 1937; Turner 1996; Zuidema 1964). The best studied modern southern Jê groups, the Kaingang and the Xokleng, exhibit dual organization. That the moiety system is ancient among the southern branch of the Jê family is attested by the fact that it is found in virtually all northern Jê societies in central Brazil and some of their Macro-Jê neighbors (Maybury-Lewis 1979). The moiety system of the Kaingang is rooted in the lineages originating from two mythological twin brothers, *Kamé* and *Kairu* (Veiga 1994). In the Kaingang origin myth, after a cataclysmic flood, Kamé and Kairu independently created all beings of nature, setting the stage for a dual divided world in which everything is assigned to one brother or the other in an all-encompassing classificatory system (Borba 1908; Nimuendajú 1993). Before the brothers ascended into the heavens as the Sun (Kamé) and Moon (Kairu), they dictated the order by which society should be structured, establishing the division into complementary moieties, as well as the rules for moiety recruitment through patrilineal descent and exogamous marriage. The brothers lend their names and their associated traits

to the two moieties. Kamé is associated with the Sun, west, day, thick body, high, persistence and permanence, while Kairu is associated with east, Moon, night, slim body, low, less persistent and transformation (Silva 2002). The mythology points toward an asymmetrical relationship, with the successes of Kamé contrasting with the imperfect and unfinished attempts of Kairu. Possessing stronger souls, Kamé can demand more lavish ritual and privileged locations, such as higher elevations (Crépeau 1994, 2002; Veiga 2006).

The Xokleng (more recently self-identified as the Laklãñõ), were divided into three exogamic patrilineal clans called *Mê-vidn*, *Mê-calêbn* and *Mê-kúi-ken*. However, as shown by Métraux (1946), this system was originally dual, with the first clan (*Mê-vidn*) corresponding to the Kairu moiety of the Kaingang and the second clan (*Mê-kúi-ken*) being equivalent to the Kamé moiety. The third clan's function is predominantly ceremonial, and membership is not necessarily inherited (Veiga 1994; Silva 2001).

Modern anthropological studies document a Xokleng culture that has undergone radical social transformation in the face of near ethnocide in the early twentieth century (e.g. Cruz Conceição 2015; Henry 1964; Hoffman 2010; Santos 1973; Urban 1978, 1985; Wiik and Mota 2014). Dispossession of land forced previously sedentary communities into smaller, mobile groups (Henry 1964; Loch 2004; Noelli 2000), with a resulting adaptation of social, economic, subsistence, political, and ritual practices to the new way of life. Modern accounts of the Xokleng are therefore particularly problematic for analogical application to archaeological contexts (Noelli 2000), requiring a reliance on data from the Kaingang.

Mortuary rituals associated with mound building by the southern Jê have been recorded by European accounts since the seventeenth Century (Baldus 1937; Becker 1976; Crépeau 1994; Henry 1964; Maniser 1930; Métraux 1946; Nimuendajú 1993; Paula 1924; Veiga 2000, 2006), with the practice of interring in mounds continuing into the twentieth century. Ceremonies at mounds were the most important for the community, and were public events that specifically emphasized the dual

organization of the group (Baldus 1937; Crépeau 1994; Métraux 1946; Nimuendajú 1993; Veiga 2006).

Both halves have integral roles to play in the structure of public ceremony. Moiety affiliation is marked, with members of the Kamé moiety painting their bodies with black stripes, lines, and open shapes using burnt pine chips (*Araucaria angustifolia* (Bertol.) Kuntze), whereas Kairu members paint red circles and closed shapes using *Symplocos parvifolia* (Da Silva 2011). During the *kiki* funerary ritual, ceremony in the cemetery adheres to an organised spatial and conceptual east-west division (Crépeau 1994; Veiga 2000). For example, two fires are lit, one in the east for Kairu, and one in the west for Kamé. However, the events also demonstrate the complementarity of the moiety system and each fire and the accompanying prayers may only be performed by members of the opposite moiety (Da Silva 2011; Veiga 2006).

Archaeology of the Southern Proto-Jê

The southern proto-Jê covered a vast area (more than 600 km north/south) encompassing diverse environments across the southern highlands and Atlantic forest of the modern Brazilian states of southern São Paulo, Paraná, Santa Catarina, and Rio Grande do Sul, and Misiones, Argentina. The highland plateau (700-1850 m above sea level) is dominated by mixed *Araucaria* forest and high-altitude grasslands (*Campos de cima da Serra*) (Klein 1975).

Ancestral to the modern speakers of the southern branch of the Jê language family, and sharing a broadly defined material culture, known as the Taquara/Itararé Tradition, the southern proto-Jê are characterized by the use of diagnostic small, thin walled ceramic vessels, pithouses, MECs, and rock art (e.g., Araújo 2007; Beber 2005; De Masi 2009; Iriarte et al. 2013; Noelli 2005; Riris and Corteletti 2015). The territorial extent of the Taquara/Itararé Tradition – covering most of the southern Brazilian

highlands and adjacent escarpment, as well as parts of the Atlantic coast – coincides with the historical distribution of the Kaingang and Xokleng (Da Silva 2001; Noelli 2005; Jolkesky 2010). Beyond the spatial overlap, the dates of occupation of many Taquara/Itararé sites continue into the early colonial period, and there is continuity in material culture (ceramics), burial practices (earthen mounds), and decorative motifs in rock art and ceramics between the pre-colonial Taquara/Itararé Tradition and the historical Kaingang and Xokleng (Da Silva 2001). For those reasons, most archaeologists agree on attributing the Taquara/Itararé material culture to the direct ancestors of modern Kaingang and Xokleng, as well as the extinct Kimdá and Ingáin (Jolkesky 2010). Following that reasoning, and to emphasise the continuity, we refer in this paper to the Taquara/Itararé groups as the southern proto-Jê. These communities practiced a mixed economy, combining harvesting the Paraná pine nut (*A. angustifolia*), hunting, gathering and fishing, with the cultivation of domestic crops. From a pithouse context, recent microbotanical studies have documented the consumption of manioc (*Manihot esculenta* Crantz), beans (*Phaseolus* sp.), maize (*Zea mays* L.), and squash (*Cucurbita* sp.), implying a degree of sedentary farming (Corteletti et al. 2015).

The Taquara/Itararé Tradition began to spread after A.D. 0, reaching new levels of regional organization and political complexity around A.D. 1000. The first major earthworks, in the form of domestic pithouses, begin to appear circa A.D. 400. Pithouses range in size from 2 – 20 m diameter and occur as solitary pits through to clustered “villages” containing more than 100 structures. Around A.D. 1000, over-sized pithouses and MECs begin to appear on the landscape (Copé 2006; Corteletti 2012; Iriarte et al. 2013; Schmitz et al. 2013). Interestingly, pollen records (Behling 1995, 1998; Bitencourt and Krauspenhar 2006; Iriarte and Behling 2007) document an expansion of *Araucaria* forest, coinciding with these innovations.

Mound and Enclosure Complexes

MEC are funerary monuments, concentrated along the Pelotas and Canoas river basins, occurring in isolation and in groups, typically occupying the most prominent hilltops with wide view sheds (Corteletti 2012; Corteletti et al. 2015; De Masi 2009). Just over 50 MEC have been documented, although few have been excavated (Beber 2005; Chmyz 1968; Copé et al. 2002; Corteletti 2012; De Masi 2005; De Souza and Copé 2010; De Souza et al. 2016; Herberts and Muller 2007; Iriarte et al. 2008, 2010; 2013; Muller 2008; Naue et al. 1989; Reis 2007; Ribeiro and Ribeiro 1985; Rohr 1971; Schmitz et al. 2010). Published dates of MEC are limited, with the earliest dating to circa A.D. 1000 (Posto Fiscal and SC-AG-75) with a proliferation of dates in the fifteenth – seventeenth centuries (see Iriarte et al. 2013; Iriarte et al. 2016).

The complexes are characterized by circular, elliptical, rectangular and key-hole shaped earthworks surrounding one or more earthen mounds. Both raised rings and ditches were used as encircling earthworks. The significance of the different forms is at present unknown, with both associated with cremated remains. Ditches are typically shallow and narrow. Raised rings are up to 1 m high, 6 m wide, and 10-180 m in diameter. More complex features, including entry avenues and attached ringlets, such as at ElDorado, Misiones, Argentina (Iriarte et al. 2008, 2010) and SC-CL-37 in Santa Catarina (Reis 2007), are occasionally present. Iriarte et al. (2013) argue for a high level of spatial organization, whereby paired complexes of distinctly different sizes represent a dual ranked social structure.

The mounds themselves are predominantly circular, although there are rectangular examples (e.g., SC-AG-12; De Masi 2009). When a single mound is present, it occupies the center of the enclosure. Two mounds typically follow a dual architecture pattern of distinctly different sizes, following a southwest-northeast alignment, with the larger structure in a higher elevation to the northeast (see Iriarte et al. 2013).

The mounds are funerary, containing single and multiple, cremated burials. In a few instances, excavation has determined that a mound was erected on top of the cremation pyre

(De Masi 2009; De Souza and Copé 2010); however, in most instances the cremation was transported from an offsite funeral pyre (Copé and Saldanha 2002; De Masi 2009; De Souza and Copé 2010; Müller 2008; Müller and Mendonça de Souza 2011). The most common grave goods, when present, are small ceramic vessels (rim diameter no larger than 15 cm), possibly representing food and drink offerings. As with modern funerary practice, MECs likely functioned as integrative facilities that reinforced community structure through collective ceremony (De Souza and Copé 2010; Iriarte et al. 2008).

Abreu Garcia Site Description

The Abreu Garcia site is located on an elongated basaltic plateau with commanding views across the surrounding landscape (Figure 1**Error! Reference source not found.**). The archaeological site is focused on the north-western edge of the plateau, consisting of two MECs and a solitary pithouse (Figure 2). MEC1 is the larger of the two and incorporates a primary central mound and a secondary small mound to the northwest. MEC2 is much smaller consisting of a single mound within an enclosing ditch. The pithouse, measuring 5 m in diameter, is located 200 m along the plateau to the north. Each structure is in alignment, positioned close to the plateau's edge. A stone chapel is a recent addition to the landscape. No further structures have been found on the plateau.

The two mounds of MEC1 are within a 50 m diameter, 4 m wide, low (.4 m) circular enclosing earthwork. The central mound measures 10 m in diameter and .8 m in height. The smaller mound to the northwest, measures 4 m in diameter and .2 m in height. MEC2, 60 m to the southeast, is far smaller, with the encircling ditch and small bank measuring 10 m in diameter. A single central mound, .4 m in height and 5 m in diameter is present.

Excavations at Abreu Garcia

In 2014 a 2x5 m unit running parallel to the plateau's edge was excavated on the north-eastern half of the central mound of MEC1 (Mound A). The recovery of cremated deposits prompted a second excavation in 2015. Excavations were also undertaken in Mound B of MEC1 and the central mound (Mound C) of MEC2. Test pitting was carried out on the enclosure rings, the inter-mound areas and the internal off-mound space.

Osteological analysis of the cremated remains is in its preliminary stages. As such, this paper focuses on spatial aspects of the mortuary context. In-field observation of MNI, age, and faunal inclusions shows variability across contexts that does not appear to reflect prescribed practices of the social system and therefore does not affect the interpretations presented here.

MEC1 –Mound A

Excavation revealed two construction phases (Figure 3). A subtle change in soil texture and color 20-30 cm above the bedrock marks the old ground surface when the mound was first constructed. The initial mound construction consisting of a largely sterile clay matrix (Munsell 5YR 3/4) was capped by a layer of degraded yellow basalt. Similar basalt caps frequently define construction phases in both mound and pithouse architecture in the surrounding area. A second construction phase expanded the mound with the addition of a coarser red sandy clay matrix from a distinctly different source (Munsell 2.5YR 3/6).

Sixteen secondary cremation deposits were encountered across the two excavations with a spatial separation between the north-eastern and south-western halves, paralleling the direction of the plateau's edge (Figure 4). Nine cremation deposits were recovered in the southwest and seven in the northeast. The segregation is highlighted by the absence of deposits along the central axis and a

distinct difference in the burial contexts between the two sides, with those in the southwest subject to more formal interment. The basalt cap also remains largely intact along the central axis, but is broken or absent above all cremation deposits except Cluster 16. The broken cap suggests these deposits were later additions, re-entering the mound after the cap's construction, with Cluster 16 potentially representing an early (or initial) burial as part of the original mound construction.

The seven cremation deposits in the north-eastern half are located throughout the body of the mound, below the level of the basalt cap. The interments include both well-defined and scattered deposits. Bio-turbation alone does not appear to account for the difference in the concentration of the deposits. There is limited bio-turbation, with major root disturbance primarily located above the basalt cap. The more scattered cremation deposits do not show clear evidence of dispersal from an original concentration, with the material from the deposits evenly spread and the surrounding matrix showing no evidence of disturbance that would cause the spread. Three of the deposits, Clusters 12, 15, and 16, were well-defined. Cluster 16 (370 ± 30 B.P.; Figure 5a) was placed directly on top of the bedrock and is one of only two deposits to include human teeth (the other being Cluster 1). Cluster 15, a concentrated deposit in the lower stratum (Figure 5b) contained charred seeds and several pieces of burnt bamboo, alongside more typical wood charcoal. A rectangular basalt stone covered Cluster 12 (230 ± 30 B.P.), likely functioning as grave architecture.

Clusters 13 and 14, toward the northern corner of the excavation (Cluster 14, 400 ± 30 B.P.; Figure 5c), and Clusters 10 (Figure 5d) and 11 (Cluster 11, 270 ± 30 B.P.) in the east, lacked demarcated shape or a distinctive core, suggesting they were more scattered during interment. A concentration of pebbles immediately to the east of Cluster 10 may have served as grave architecture or offerings.

In comparison to the interments of the northeast, the nine cremation deposits in the south-western half are spatially distinct and decidedly more formal. Eight of the deposits are located in four bedrock cut pits, while the ninth is placed above the basalt cap, associated with stone grave architecture. The four pits are in a linear arrangement (Figure 6a), paralleling the edge of the plateau to the northeast and

emphasising the internal mound division. The basalt layer above the pits was fragmentary, suggesting some, if not all, of the pits were entered after the second construction phase of the mound. Pits B, C, and D all contained single cremated deposits, whereas five separate cremated contexts were placed in Pit A (Figure 6b), alongside a single complete incised ceramic vessel,.

Overlapping material between all contexts in Pit A (Clusters 2, 6, 7, 8, and 9) suggests the five deposits are from a single interment event, and the pit was sealed with a cap that prevented sediment penetration, allowing time for the cremation containers to disintegrate and the contained material to spread. The ceramic vessel, a thin walled cup with zigzag incised decoration (Figure 6c), appears to be deposited as a separate event, sometime after the interment of the cremation deposits. The vessel sits on 2 cm of sediment build-up above the collapsed spread of Cluster 9 and the edge of the spill from Cluster 7, implying enough time had passed for the cremation containers to disintegrate before the ceramic was deposited. Each of the five cremated deposits in Pit A showed distinct characteristics enabling separation of the contexts. The red color on the bones and the surrounding matrix and absence of charcoal distinguished Cluster 7, suggesting the bones were treated with ochre after collection from the cremation pyre.

Pits B, C, and D, each contained a single cremation deposit, Clusters 5, 4, and 3, respectively. Field observations suggest faunal (including bird) bone is present alongside human skeletal material in Cluster 5 and both adult and sub-adult bones are present in Cluster 3. Sixteen large ceramic fragments were encountered above Pit B to the southeast. Many of the fragments refit and are all likely from a single vessel that is similar in form to the cup found in Pit A, albeit without decoration. A constructed wall separates Pit C from Pit D (Figure 6d), with skeletal material from Pit C spread beneath the wall. As such, the wall postdates the interment of Cluster 4 and was most likely a feature added at the same time as Cluster 3 to maintain spatial separation after Pit C was cut.

Just as the bedrock cut pits mark a distinct interment choice from the location of the cremation deposits in the main body of the mound in the northeast, Cluster 1 also differs as the only interment

placed above the basalt cap. Cluster 1 also contains formal stone architecture (Figure 7), and along with Cluster 16, is the only other context to include dentition.

A deposit of charcoal was present in the southern half of the excavation unit. The deposit was fully contained within the excavation unit and does not continue into any profile. No human skeletal material was associated with the feature. Preliminary analysis of the charcoal identifies the presence of multiple wood species, confirming that the deposit was not a single tree/post etc. AMS dating of charcoal from the context provided a date of 300 ± 30 B.P. The late date and absence of the basalt cap above the feature confirm it was added after the second construction phase. The nature of the deposit remains ambiguous, possibly representing a self-contained fire based ceremony, or a ritual attached to one of the pit interments. Current dates and stratigraphy do not allow direct association between the burnt feature and an interment.

Including the complete vessel in Pit A and the fragments of the vessel above Pit B (counted as one), the mound excavation contained only 18 ceramics, seven sherds from the north-eastern side (density = $.78 / \text{m}^3$) and nine from the south-western half (density = $1.22 / \text{m}^3$). Nine of these sherds were recovered from above the basalt cap, nine from below.

Mound B

Mound B was also constructed in two phases, with a basalt cap defining the first phase. A 2x1 m excavation was opened across the center of the mound. A well-defined circular concentration of cremated bone and charcoal (360 ± 30 B.P.) sat within a small depression cut into the underlying basalt bedrock in the west of the excavation. Seven ceramic sherds were recovered from the mound fill (density = $5.83 / \text{m}^3$). The contemporary date of a second less defined deposit in the northwest (330 ± 20 B.P.), confirm the concurrent use of Mound A and Mound B.

MEC1 – Enclosure rim

A 1x10 m trench excavation crossed the outer rim with the aim of understanding form and construction history. The continuous circular rim showed a single construction phase, unlike the mounds. A total of 13 ceramic sherds were found between 10-40 cm depth, located in the bank or immediately on the outer side. The excavated area between the mounds and the rim was devoid of artifacts. This positioning suggests that at least some of the material represents the remains of activities performed atop the mound and discarded off the back, perhaps with deliberate clearance of the inner enclosure. A separate 4x1 m trench inside MEC1 enclosure recovered zero artifacts, further suggesting that the internal enclosure was kept clean of debris.

MEC2

Mound C of the smaller MEC2 revealed a single construction phase. A 2x2 m unit was established over the center of the mound, with an 8x1 m trench extending off the northwest side, across the interior of the enclosure and through the encircling ditch/terrace, toward MEC1. A low density scattering of bone fragments was present in the eastern corner of the excavation between 20 and 30 cm below the modern ground surface; however, no distinct clustering or concentration was present. Two ceramic sherds were present within the mound (density = 1.67 /m³). Eight ceramic sherds found in the trench within the enclosure (density = 7.92 /m³) lack distinct contextual information, but may be vestiges of activities performed within the enclosure, or swept from atop the mound. Although still in small numbers, the presence of material within the enclosure contrasts with MEC1, which was kept perfectly clean.

External area

A 3x2 m excavation was established to test the area between MEC1 and MEC2 and 30 1x1 m test units (not shown on map) were dug in the southern sector outside of MEC1 to sample a total area of 180m². Interestingly, the highest density of ceramic material across the site was encountered within

these areas (density = 10.83 /m³). The quantity of ceramics is distinct from the limited material in the internal area of MEC1 and hint at less controlled activity outside of the enclosure. No other material or features were recorded.

Summary

Excavations at Abreu Garcia confirm that both MEC and all mounds were mortuary in nature, although they are distinct in terms of form, interments and associated activities. Mound A of MEC1 is particularly interesting, revealing two construction phases and a history of re-entry, with the interment of 16 cremation deposits. Most startling is the distinct difference between the two sides of the mound interior, aligned to the plateau's edge, adding yet another level of dualism to the paired MEC and twin mounds of MEC1.

Discussion

In the discussion that follows we draw parallels between the archaeology of the southern proto-Jê and the socio-political organization of the southern Jê Kaingang groups. The comparison serves as a point of departure to explore the historical continuity of general underlying ideological and structural arrangements that have survived over time; however, we are aware of the pitfalls associated with the direct transposition of the ethnographic present into the archaeological record. From here on we refer to Alpha and Beta moieties, rather than the Kamé and Kairu moieties, to facilitate discussion and avoid implying direct association through the use of Kaingang terminology, Alpha representing the more dominant moiety.

Dualism in Site Plan

Iriarte et al. (2013) argue for a pattern of dual social organization in the southern proto-Jê funerary landscape, noting the common occurrence of paired MECs. Paired complexes are asymmetric with the larger complex almost always occupying a slightly higher topographic position, typically to the southwest, in a southwest-northeast alignment. The complex at Abreu Garcia follows this pattern. These characteristics correlate with associations attached to the dominant Kamé moiety of the Kaingang (Iriarte et al. 2013; Silva 2002; Crépeau 1994, 2002, 2005; Veiga 1994, 2000).

The southwest-northeast arrangement is particularly apparent in Pinhal da Serra where five of six paired structures follow the pattern (Iriarte et al. 2013). The architectural placement corresponds to the shadow alignment of sunrise during the winter solstice, and sunset during the summer solstice, which could represent an early referencing to the Sun and the Moon as embodied by Kamé and Kairu in Kaingang. It is perhaps of significance that a nineteenth century account mentions that the shadow of an upright arrow was used by the Kaingang to align the body of the deceased (Mabilde 1983).

Deviations from the southwest-northeast pattern can be explained by other landscape features, such as plateau orientation and topography superseding the directional layout. The distinct plateau of Abreu Garcia is one such deviation, with the Alpha MEC occupying a higher position to the northeast; however both MECs and the pithouse follow the edge of the plateau. It is important to note that the opposition between high and low places is more important in modern Kaingang cemeteries than the east-west division (Crépeau 1994, 2002). SC-CL-94 (Schmitz et al. 2010), another paired MEC over 50 km from Pinhal da Serra, also deviates from the southwest-northeast pattern, raising the possibility that the feature may be more of a localised tradition for the Pinhal da Serra region.

Whether the paired structures were reserved for, or controlled by, the relevant moiety, or if the structures were a representation of cosmological structure and utilised by the whole community is difficult to discern with the limited excavated samples. In a paired complex at SC-AG-12, De Masi (2005, 2006, 2009) documented the cremated burial of an adult and infant, accompanied by a well-preserved complete ceramic plate and cup in the central mound of the larger enclosure. Six collective

cremated burials were recovered in the smaller MEC. Based on this evidence, De Masi (2009) posited that the two individuals in the larger enclosure had a higher status than the multiple burials in the smaller enclosure, with the funerary landscape reflecting societal divisions. At Abreu Garcia, MEC2 contrasts with MEC1 in terms of form, interments and artifact distribution. The smaller and topographically lower MEC2 contains only a scattering of bone in the mound but a higher density of ceramics within the enclosure, suggesting at least differences in ritual practice. The difference between the enclosing ditch of MEC2 and the ring of MEC1 is a further example of disparity and may reflect moiety specific architectural styles.

Dualism in materials

There is a consistency in the ceramics found throughout southern proto-Jê ceremonial contexts, from MEC to funerary rock shelters. These small, thin ceramic dishes, vases and cups have dimensions and forms appropriate for individual consumption rather than for food processing (cf. De Masi 2005; Saldanha 2005; Iriarte et al. 2008, 2013; Müller 2008). Ceramics from pithouse assemblages are dominated by large inflected vases with charred residues, abrasion and other use wear more associated with food preparation (Schmitz et al. 2002; Saldanha 2005; Copé 2006; Corteletti et al. 2015; De Souza et al. 2016).

Although a greater density of ceramic material was recovered from MEC2 than MEC1, the only distinctly interred offerings were the ceramic cups recovered from the south-western half of MEC1. These vessels are strikingly similar to the ceramic cups retrieved from other MECs (De Masi 2005; Muller 2008; Rohr 1971; Saldanha 2005). The band of zigzag decoration on the cup from Pit A is particularly comparable to the ceramic cup from the mound of the larger enclosure at SC-AG-12 (De Masi 2009; Figure 8). The similar form and decoration of the vessel to those at the larger enclosure at SC-AG-12 is intriguing. Here again, it is enlightening to compare the archaeological data with the ethnographic record. Among the historical Kaingang the same design style was used in the body painting of the Kamé moiety (Da Silva 2001), and the equivalent Xokleng clan used similar linear

decorations (Métraux 1946). These designs were in opposition to the dots and circles worn by the other Kaingang moiety and Xokleng clan.

Modern southern Jê mortuary practice emphasizes the personal attachments of the deceased within strictly structured ritual underscored by the moiety system. Possessions of the deceased are broken and included in the burial and pets may even be sacrificed so that the dead do not return, seeking what is theirs (Veiga 2000). This last point is particularly pertinent considering the presence of animal bones mixed with human in at least some of the cremation deposits as observed in the field.

Dualism in Internal Mound Space

Perhaps the most intriguing feature at Abreu Garcia is the distinct disparity between the north-eastern and south-western halves of Mound A. The division is epitomised by the absence of cremated deposits along the centerline of the mound and the stark contrast between the formal bedrock cut pits of the south-western half and the dispersed interments in the northeast. Likewise, the location of Cluster 1 above the basalt cap contrasts with the seven dispersed interments in the main body of the mound below the cap in the northeast.

The spatial division (and the alignment of the bedrock pits) parallels the alignment of the three structures at Abreu Garcia, which in turn parallels the edge of the plateau. Interestingly, the split into a southwest and northeast half is analogous to the arrangement of paired MEC elsewhere, with the more extravagant offerings and the more formal interments in the western portion, equating to the Alpha moiety (De Masi 2009).

The smaller mound (Mound B) of MEC1 similarly does not contain any central interments. with the two cremation deposits both located in the western half of the mound. The whole complex of Abreu Garcia may thus represent three levels of integrated dual organization, manifesting in (i) the paired MEC, (ii) the twin mounds within MEC1, and (iii) the internal division of the mounds. The multiple

levels of dualism are both overt and subtle, perhaps symbolising the cohesive and mutually dependent nature of the moiety system. Alternatively the apparent dualism may reflect sub-divisions within moieties enmeshing multiple levels of hierarchy and social division within spatial aspects of mortuary practice.

Despite limited excavations, other MECs in the southern Brazilian highlands also exhibit internal dualism. The smaller enclosure of SC-AG-12 encircles two mounds, and the burial mound in the larger circle is in fact peripheral in relation to a central rectangular platform that seems to have performed a non-mortuary function (De Masi 2005, 2009). The main structure of site PM-01 in Misiones also contained two mounds with marked disparities in size, the largest of which was located to the west (Iriarte et al. 2008).

Grave Architecture

Architecture is limited to three stone associations and the bedrock pits. The four pits dug into bedrock in the south-western half of Mound A clearly show a distinct pattern in comparison to the other interments, requiring the concerted decision to excavate into the hard basalt, rather than stop and place the burial atop as in the case of Cluster 16. This marked distinction, located in the west, correlates with the associations of the Alpha moiety.

The stone additions to Clusters 1, 10, and 12 take different forms. The stone slabs of Cluster 1 contrasts with the single rectangular cap of the well-defined Cluster 12, and the loose pebble accumulation associated with the spread of Cluster 10. In these three cases the type of stone association mimics the dispersal of the cremation deposit, although there are not enough examples to confirm a pattern. Stone architecture accompanying mound interments has been documented elsewhere, including both large slabs (cop 1908) and smaller rock concentrations (Müller 2008). The reasoning behind the presence or absence of architecture in these cases is also ambiguous. The more formal architecture of all the interments of the south-western half does offer further support that this side and the more elaborate burial rites were reserved for the Alpha moiety.

Hierarchy

Ethnographic accounts of Kaingang funerary mounds refer to the burial of chiefs and the accompanying ceremonies passing chiefly office to their successor, although interment of other high status individuals and actors with specific social roles is also noted (Da Silva 2001; Maniser 1930; Métraux 1946; Veiga 2006). Larger Xokleng mounds were also reserved for high-status individuals (Vasconcellos 1912). Among the Kaingang, only the death of a paramount chief required the construction of a new mound (Mabilde 1983). Interestingly, collective burials in mounds for warriors who died in battle were reported in the nineteenth century (Mabilde 1983). These mounds were built side-by-side with individual mounds reserved for deceased chiefs.

MEC certainly did not accommodate the remains of the whole community, and the prestige associated with commanding ceremonies at a prominent public landmark, such as Abreu Garcia, were likely reserved for higher status individuals or those associated with specific social function. Although multiple individuals are sometimes present within a single cremation deposit, the core of each deposit appears to have been conspicuously independent. This is made apparent by the distinctly different material of each deposit in Pit A, and the reconstruction of the wall separating Pit C and Pit D. While the treatment of each context as a distinct entity is perhaps not surprising, it does reveal conceptualisations of the sacred and profane, and an inherent respect for the remains of the deceased.

The dual organization existent among many lowland South American societies has been hypothesised to favor the development of inequality, with the moieties becoming asymmetrical over time (Spencer and Redmond 2015). In fact, as the classical work of Lévi-Strauss (1963) first pointed out, dualistic ideologies usually mask a subjacent asymmetrical structure. This is manifest in the Kaingang moiety system: Kamé burial grounds are placed in higher positions, and they are considered ritually “stronger” (Crépeau 1994, 2002).

Bone Removal

The absence of dentition in all but two contexts at the complex suggests a practice of selective bone collection from the pyre, with some material either separated for use or curation elsewhere, or abandoned at the pyre site. So far, a pyre location has not been discovered to assess whether teeth were left at the cremation site, and skeletal material has not been encountered in other contexts to confirm a separate caching practice. Archaeological and ethnographic data regarding practices of bone removal for the southern Jê is scant. Ethnographically Borba (1908) notes the removal of the cranium for burial within cemeteries/mounds in Paran . Archaeologically, De Masi (2005) reports teeth present for the two cremated individuals in a mound at SC-AG-12, dating to the fifteenth century. Teeth were also reported from a cremated burial at SC-AG-108 by M ller (2008). Cranial fragments, including mandible and maxilla fragments, were present in the deposits at Abreu Garcia, confirming that crania were not removed. Teeth will often pop out during the cremation fire and the small size of the individual teeth may explain why some were not collected with the rest of the bone; however, the durability of teeth and their distinctiveness would suggest their absence was a behavioural choice.

Without the absence of teeth reported at other sites, their omission in 14 of 16 interments in Mound A may represent a localised tradition. Perhaps of relevance, Henry (1964) explicitly notes the bad dentition of the modern southern J  he studied, further recording that in their mythology many malevolent supernaturals were explicitly characterized with good teeth as a sign of their corrupt power. Whether the removal of teeth from the burial contexts is an early concept of profanity associated with dentition is yet to be determined. Ongoing osteological analysis is assessing whether certain bones, or types of bone, were preferentially collected or avoided, and whether any patterning exists correlated with social organization.

Variability in Cremation Deposits

Despite the spatial division within the mound, a degree of variability in the characteristics of each cremated deposit precludes the identification of further mortuary rites specific to moiety attachment or social role. Variation in grave architecture, number of individuals, presence of faunal bones, and absence of specific bones lacks distinct spatial patterning. Although the location of the interment within the mound and, to a certain extent, the degree of formality in the burial may be indicative of the Alpha and Beta moieties, the variability and overlap in the characteristics of the individual cremation deposits appears to reveal either: i) a non-standardised cremation practice that does not represent community structure; ii) rites were in flux, lacking codification for an any extended period; or iii) personal associations supplant generalised social categories, with the deceased's more nuanced identity reflected in mortuary rites. A combination of these factors is perhaps more likely with certain aspects of mortuary ritual mandatory, while other aspects were optional or non-codified.

Chronology

Chronological change in ritual over the 170 year span of radiocarbon dates from Mound A (Table 1), may account for some of the variability. The chronological relationships amongst the bedrock pits are particularly interesting. The post-depositional stratigraphic relationship of container collapse in Pit A confirms they were deposited in a single event within the sealed pit; however, did the individuals die at the same time? Were they cremated at the same time (albeit in different pyres)? Or were they curated until the burial event? Also, despite the similarity in the four pits, the stratigraphic relationship between Pit C, Pit D, and the constructed wall, implies a chronological separation between the two interment events. More refined dating may help tease out the relationships amongst the cremated deposits, although the error ranges within radiometric dating, old wood issues, and problems with dating cremated bone, could easily obscure and conflate separate interment events over the relatively short span of occupation.

Summary and Conclusions

Abreu Garcia provides a detailed case study of a mound and enclosure mortuary complex utilised by the proto-southern Jê. The discovery of 16 cremation deposits within Mound A allows an in-depth discussion of mortuary practice within a single monument. MEC1 was built in two phases. The initial construction included the enclosure rim and the two basalt capped mounds. After the second construction phase, multiple re-entries, depositing cremations, continued the active use of the mound. Throughout its history, a distinct separation between two halves of the mound was respected; a division that paralleled the direction of the plateau's edge. The smaller mound of MEC1, Mound B, also lacked any central deposits, potentially also following a dual separation. Contrasting practices at the single phase MEC2 from MEC1 may be a monumental reflection of the asymmetric dual social structure.

Although there is a distinct difference in the formality of the cremation deposits between the north-eastern and south-western halves of Mound A, with the bedrock cut pits in the southwest in stark contrast to the deposits of the northeast, there is a level of variability amongst the cremation deposits that lacks distinct patterning. Cremation deposits across the complex show variability in the presence of grave architecture, faunal remains, number of individuals, and post-cremation treatment. A lack of patterning and replication of the interment characteristics prohibits the identification of funerary rites attached to distinct social identities. The absence of standardised practice amongst the cremation deposits is made more acute when contrasted with the high level of structured spatial division both on the landscape and in the internal mound division, which suggests a high level of regulation. Mortuary rites may therefore reflect a combination of non-standardised and mandated practices, with certain ceremonies and elements deemed essential, whilst other rites are optional or in flux as the codified norms of funerary ritual develop and evolve.

The Abreu Garcia complex provides another southern proto-Jê example of site planning revolving around spatial alignments as well as the use of distinct size differences in structures within paired

arrangements. However, excavation at the site adds another level of dualism to the mortuary landscape, extending spatial organization into the interior of Mound A. The presence of paired MEC on the plateau, paired mounds within MEC1, and a spatial division within Mound A reveals multiple levels of nested dualism. The nested nature of the dualism highlights both the opposition and the complementarity of the moiety system. Although exactly how the complex was utilised by society and the specific moieties remains ambiguous, the incorporation of asymmetry at three nested levels demonstrates the necessity for both moieties to be represented as part of a complimentary whole, just as the Kaingang *kiki* ritual requires the participation of both moieties, while also maintaining spatial and practical divisions.

The findings at Abreu Garcia offer a deeper insight into fundamental aspects of southern proto-Jê social organization, including the dual nature of the community, the manifestation of social structure on the landscape and its incorporation into mortuary ritual. The identification of multiple levels of dualism, down to an internal mound division, raises important considerations for the excavation and interpretation of archaeological contexts. The findings have implications for research design and developing appropriate methodologies to answer culture specific questions. Future research can be designed through an emic lens, specifically testing for dualism within archaeological contexts. Furthermore, the parallels among the archaeological record and ethnohistoric and ethnographic examples enable an understanding of the foundation of modern descendent groups and an assessment of the continuity in indigenous culture beyond European contact.

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681 (UNISUL), Tubarão, Santa Catarina State, Brazil. Access to all material can be arranged via contact
682 with José Iriarte (j.iriarte@exeter.ac.uk).
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