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ORIGINAL PAPER

Resettlement strategies and Han imperial expansion into southwest China: a multimethod approach to colonialism and migration

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Abstract

Discussions on colonialism are pervasive in western scholarship but are hardly ever applied to the archeology of China. The present paper shows how concepts of colonialism and migration research can be successfully applied to understand Han imperial expansion into southwest China and how the Chinese material can in turn contribute to developing theories and methods of colonialism research further. Taking the Shamaoshan cemetery as a case study, the present paper combines archeological, textual, environmental, and isotope data to gain insights into strategies and processes of Han imperial expansion into southwest China. The insights gained here show that the long-accepted story-line of simple "Sinicization" and political control is far from accurate. Instead, it took over a century of cross-cultural exchange with immigrants and locals adopting each other's customs to varying degrees. While in the beginning the Han seem to have taken a top-down approach to "civilizing" the region through their elites, the present study suggests that in the end it was the lower levels of society that intermingled most intensively and helped integrate migrants and locals successfully. Moving away from the exclusive focus on exceptional graves and large sites, the present study thus shows the great value of approaching small, poorly equipped graves with new methods, combining isotope research with a nuanced analysis of burial remains. Evaluated together with the evidence from the well-known exceptional graves, lesser-known settlement material, and historical accounts, the Shamaoshan case study has made it clear that various types of contact, colonial and otherwise, play out quite differently within different social groups and historical situations. This study thus proposes a multisource, multimethod approach that moves away from a narrative dominated by the history-writing elite segments of the colonizing force to a multivoiced account integrating local and outside perceptions at various social levels, an approach that might successfully be applied in other parts of the world.

Keywords Colonialism · Migration · Culture contact · Imperialism · Han Dynasty · China · Dian · Isotope analysis

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Introduction

Traditionally, discussions on processes of acculturation and resistance in colonial situations have depended heavily on textual accounts combined with dichotomous categorization of objects as foreign or local. Similarly, migration research has mostly relied on the observation of unusual burial customs or objects combined with textual or ethnographic accounts. In recent years, isotope analysis has provided an important new avenue for identifying the biological origin of individuals. Such research has made it clear that individuals who appear local based on burial custom and object assemblages can be foreign and vice versa (Eckardt et al. 2014), while the same type of unusual body treatment can be applied to people of various origins (Müldner et al. 2011). In most cases, however, the results of isotope research are published separately in science journals, often jumping to simplistic conclusions on

migration without taking other sources into account or discussing the implications that these new discoveries have for concepts of culture contact, migration, or colonialism (e.g., Zhang et al. 2014). Although many scholars emphasize the multidimensionality of the issue, suggesting that the only way forward is a multisource approach, such collaborative publications are rarely undertaken (Eckardt et al. 2014). This is where the present paper sets in.

Taking the cemetery site of Shamaoshan, Yunnan, as a focal point, in the present paper we combine textual evidence, archeological data, and isotope analysis to study the mechanisms of early Chinese imperial expansion into southwest China. We argue that integrating the former Dian Kingdom (fourth century BC to 109 BC) of central northern Yunnan into the Han Empire was not a quick and one-directional top-down case of "Sinicization"; rather, it took over a century of cross-cultural exchange with different sectors of both immigrants and locals adopting each other's customs to varying degrees, a scenario that might also apply to other periods and parts of the world. Starting from a discussion of concepts of colonization and its reflection in the material record, this study proposes a multisource, multimethod approach that moves away from a narrative dominated by the history-writing elite segments of the colonizing force to a multivoiced account integrating local and outside perceptions at various social levels, an approach that might successfully be applied in other parts of the world.

Imperialism, colonialism, and culture contact

The western fascination with colonialism

Discussions on colonialism are pervasive in the archeology and history of Europe but also the Americas, Africa, and Oceania. Silliman (2010, p. 29) even sees the phenomenon of colonialism at the very core of the discipline of anthropology; however, this fascination with colonialism seems to be largely limited to western scholarship. The reasons lie in the origins of European identity which was shaped by the experience of being colonized in antiquity and then continuing the Greco-Roman colonizing mission by becoming colonizers themselves (Dietler 2005). Until the mid-twentieth century, colonization was seen as "a good thing" (Gosden 2004, p. 104), the superiority of the colonizers' civilization and their objects being so desirable that adoption and assimilation was deemed to be a natural consequence (Dietler 2005, p. 56). In the wake of postmodernist calls to consider the perspectives of the people being studied, postcolonialist approaches started focusing on the local (van Dommelen 2006). It is clear that archeology has much to contribute to this debate, may even be indispensable as it provides an alternative history that helps fight the dominance of textual accounts mostly written by the colonizers (Dietler 2005, p. 50).

A similar dominance of textual evidence can be seen in the narratives of early imperial expansion from the Central Plains of China, narratives largely based on historical accounts written by Han historians. Archeological material found outside the Central Plains is usually interpreted within a binary framework of "native" vs "Han." The status of Qin (221–206 BC) as the first Chinese empire—in the sense of "an aggregate of nations or people ruled over by an emperor or other powerful sovereign or government" (Webster's 1989, p. 468)—is uncontested; it is also clear that the Qin and later empires extended their power over neighboring territories. Even for pre-imperial periods, the relations with the outlying areas are often discussed within a world-systems framework, the Central Plains being the center, everything else the periphery (Hein 2014a). Although word-systems theories and core-periphery models are closely enmeshed with concepts of imperialism and colonialism, in China, these terms are usually not applied to Chinese history itself. Colonialism in particular is seen as a Euro-American phenomenon, while early expansionism from the Central Plains of China is discussed in terms of cultural contact/influence, military conquest, and "Sinicization" (e.g., Goodenough 1996).

Coined in parallel to terms such as "Romanization" or "Helenization," "Sinicization" refers to processes of assimilation and acculturation that are often state-imposed and thus closely linked to imperialist expansionism as seen from the Qin onward (e.g., Tao 1977). Imperialism in the sense of "an ideology or discourse that motivates and legitimizes practices of expansionary domination by one society over another" (Dietler 2005, p. 53) is thus clearly a facet of early Chinese history, as is colonialism in the sense of "the projects and practices of control marshaled in interactions between societies linked in asymmetrical relations of power and the processes of social and cultural transformation resulting from those practices" (ibid., p. 54). Although the strong western and especially Anglo-American focus on colonialism is likely the result of the specific colonial history of the western world, the long-standing debates on the material component of imperialist and colonialist situations can nevertheless throw light on the Chinese material. In particular, they can help provide a contra-narrative to the Central Plains-centric event-driven account of the Han expansion into neighboring regions.

Choosing a case study: the narrative of Han imperial expansion into Dian

The Dian Kingdom, ruling what today is central northern Yunnan from the fourth century BC to its annexation by the Han Empire in 109 BC, is one of the few non-Han groups mentioned in early Chinese historical sources that can be connected reliably with archeological evidence (Fig. 1) (Twitchett

Fig. 1 Map of Dian and Shamaoshan in relation to the Western Han Empire

and Fairbank 2008). Since the discovery of the golden *Seal of the King of Dian* in grave M6 at Shizhaishan in the 1950s (Yunnansheng 1959; Yunnansheng Bowuguan Kaogu 1959), much has been written about Dian, its social structure, unique bronzes, and connections with the Steppe (Dewall 1967; Li and Han 2011; Tong 1980; Yao 2010, 2016; Zhang Zengqi 2001). Especially for later periods, there are also a considerable number of studies on the southern expansion of the Chinese empire. While earlier studies focused on the process of "Sinicization" of the locals (e.g., Fitzgerald 1972), recent research has come to see the encounter between Han and locals as a complex and long-term process of mutual influence, acceptance, rejection, and everything in between, acknowledging the agency of locals and Han immigrants alike (e.g., Allard 2015; Brindley 2015; Di Cosmo 2009; Yao 2016). These studies have shown that for a long time the adoption of Han customs by the locals remained piecemeal and eclectic, while Han control of large parts of southwest China remained tenuous at best. Causes generally cited are the lack of an efficient incorporation of the local population in the Han administration, the diversity of the local population and thus a certain idiosyncrasy in individual and subgroup-based reactions to the Han, and the overall relatively small number of Han in the region. The main narratives are about resistance and identity (esp. Brindley 2015 and Yao 2016), mostly on a local and more rarely on a pan-regional level (Brindley 2015 for the latter).

For Ming (1368–1644) and Qing periods (1644–1912), there are several book-length historical/anthropological studies and a considerable number of papers on the integration of various parts of southwest China into the Chinese empire that provide a very nuanced view of the complexity of the relationship between locals and nonlocals (e.g., Giersch 2006; Herman 2007; Yang Bin 2009). In the case of Qing-period Yunnan, for instance, based on travel accounts, letters, and private accounts, Giersch (2006) highlights changing perceptions of the locals by the Han, from an already somewhat ambiguous view of the locals as more or less "barbaric" to an increasingly deeper understanding of local society and customs. Based on historical accounts, already from the Ming onward, Yang Bin (2009) observes signs of "Sinicization" and what he calls "Indiginization" going hand in hand. For the twentieth and even into the twenty-first century, similar observations on the individual differences in what they refer to as "Hanification" as well as "Nuosuoization" in the Liangshan Region have been observed by Hein and Zhao

(2016). Studies on the process of integrating Dian into the Han Empire and its social and cultural ramifications, however, are more limited, largely because of the paucity of textual sources that provide clear evidence on individual and group identities and actions. For the case of Dian, we largely have to rely on archeological sources as textual accounts of the period are scarce and of limited reliability.

Historical accounts tell us that considerable population movements from the Central Plains and other regions to the south and southwest took place already during the Qin (221–206 BC) and especially during the Han period (206 BC–AD 220), some through organized movement of troops, settlers, and administrators, others by people fleeing natural disasters or political upheavals (Hsu 2012, p. 152). At the same time, archeological evidence suggests an increase in access to Central Plains-style objects, first in the form of single bronze weapons, then increasingly more Han metal weapons, vessels, and coins in the most elaborate graves, and finally a complete replacement of Dian material culture by Han-style items in the second century AD (e.g., Allard 1999; Pirazzoli-t'Serstevens 1974; Xiao 2008). What remains difficult to ascertain is the identity of the tomb occupants. Is the presence of Han-style objects a sign of the foreign origin of the dead whom they accompanied or are they objects used by locals who had access to foreign goods? Did Han officials stationed in Dian take on local customs or did they combine both traditions in their graves? What was the rationale behind choosing some elements of the foreign tradition and rejection of others? And on a more general level, how did Han administration, migration, and settlement work on the ground in Yunnan? Was it mainly the upper-class locals who were in contact with the Han or did various types of exchange occur on all levels of society? Furthermore, did assimilation happen quickly and for all social groups? Was there resistance among the locals or even cultural change among the Han immigrants, "Dianification," so to speak? To make progress toward answering these questions, the present paper draws on theories and methods of studying colonial encounters developed on material from Europe and the Americas, connecting them with a critical reading of textual accounts, evaluation of various types of archeological evidence, and isotope analysis.

Diasporas, settler societies, and entangled objects in asymmetric cultural relations

There has been much debate on the definition of colonialism, various scholars suggesting different typologies, maybe most famously Gosden's (2004: Tab. 3.1) triad of (1) "colonialism with a shared milieu" where all concerned agree on the same norms and are part of the same cultural milieu; (2) "middle ground" situations where "all parties think they are in control"; and (3) "terra nullius" characterized by violent appropriation and conflict. Considering this wide range from contact situations that might not even be fully "colonialist" to oppressive foreign rulership shows the staggering variety of reactions of both locals and outsiders in contact situations. Some scholars therefore hold that it is impossible to develop any general theory of colonialism (e.g., Dietler 2010; Thomas 1991). In the present paper, we therefore do not try slotting the Chinese case into any specific typology but focus instead on aspects of colonialism research that help us understand the processes of Han imperial expansion into southwest China. In this endeavor, colonialism and other categories are used in a flexible way as "devices for provoking questions by focusing critical attention to the similarities and differences exposed by the act of making comparative distinctions" (Dietler 2010, p. 3).

One important insight from previous studies is that even in asymmetric power relations, influence is not one-directional but that "middle grounds" exist in which "it was not always the power and values of the colonisers that came to dominate" (Gosden 2004, p. 113). Furthermore, there is not just one tactic of colonization and not only one type of migrants. Migration usually refers to the temporary or permanent, voluntary or forced, monodirectional or multidirectional relocation from one administrative area to another, potentially crossing international borders (Lüthi 2018). It is noteworthy that migration may take place as a sequence of several instances of relocation, it can be reversed, and original intentions may not come to fruition, meaning that migrants who had intended to stay might move back and people who wanted to return may not be able to do so. The intent behind and attitude toward such an at least semipermanent relocation thus varies widely from idealization of the chances ahead to wistful longing for the place of origin. These attitudes may change en route or at any point after relocation has taken place.

Working from Cohen's (2008) typology, Eckardt et al. (2014) have used the concept of diasporas as a framework for the case of Roman Britain, focusing on imperial diaspora (i.e., "colonizers who move in the service of the army and administration"; Eckardt et al. 2014, p. 536) and trade diaspora. For the case of southwest China, these two types are likewise applicable; additionally, we suggest the existence of a third type that might be termed "settler diaspora." Chinese historical sources speak of a large-scale resettlement of thousands of poor peasants and convicts, either forcibly relocated or attracted with the promise of land and financial reward (Korolkov 2018). They were to open up land, establish settlements, and contribute to what in present-day China is referred to as "Hanification," the moving of Han Chinese into minority regions to dilute the importance of the local population (Liu and Peters 2017), thus establishing cultural dominance by numbers.

Tim Murray (2004, p. 6) points to the major ecological changes and "a catastrophic impact on the visibility of

indigenous populations" that go hand in hand with the "demographic takeover" that characterized most British settler societies. Not all colonial powers use the tactic of domination by numbers, however, but control through military, administration, and/or control of the economy is also a viable option. We would argue that one does not preclude the other. Various domination tactics may occur together or follow each other chronologically. How can we assess which strategies the Han employed? Here, textual accounts provide insights into what the state administration planned and executed. Isotope analysis can furthermore help identify nonlocals, and our study thus focuses on this type of evidence.

Another major component of this study is the analysis of archeological assemblages. Most archeologists would agree that material culture is of crucial importance for understanding culture contact situations, asymmetrical or otherwise; however, there is much debate over the exact role of objects in colonial encounters and the ways archeological remains may be interpreted. A simple binary (foreign/local) or tripartite division (foreign/local/hybridized) of material objects is clearly not sufficient as they assume erroneously that objects are "meaningful or functional in their own right" (Silliman 2009, p. 214). Colonialism in particular entails objects breaking "out of purely local value systems" and taking on new meanings and values (Gosden 2004, p. 39). Gosden (2004, p. 3) proposed a rather radical approach that see objects as the main mover and define colonialism as "a particular grip that material culture gets on the bodies and minds of people, moving them across space and attaching them to new values." As refreshing as this change of perspectives is, this focus on objects as actors reduces humans to mere re-actors, puppets of the material world around them, never really in contact with other humans but only with objects. As there is more to culture than objects and more to human action than reaction to outside circumstances, we focus on people as actors, though we recognize that human actions are not random but take place within contextual constraints that include objects.

Dietler (2005, p. 67f.) suggests a "consumption-oriented approach, focused upon the social and cultural logic of desire for alien goods, the relationship between objects and objectives in colonial interactions, and the unintended entangling consequences of consumption." The crucial points here are the importance of the context of object consumption, their association, number, and distribution, but also human agency. In contact situations in particular, material culture is manipulated by groups and individual to express identity and resistance, acceptance, or something in between, leading to a fluidity in artifact interpretation and function (Barrett 2001). The key in interpreting archeological remains is thus context in the complex sense of "the myriad factors" that "'set the stage' for daily practices" (van Dommelen and Rowlands 2012), among them the nature of the objects in question, but also the local social and economic situation, and the overall historical context including colonization tactics and political structures. As Dietler (2010, p. 63) puts it, we need "a balanced consideration of agency and structure as mutually constituting historical forces. Local history and agency must be situated within the larger political economy, but in a way that allows for motivated and consequential human action." The historical texts are therefore indispensable not in spite of but because they were written by the colonizers and thus provide insights into the wider imperial context.

In terms of local context, it is crucial to look beyond exceptional items to the "unassuming" objects of daily life (van Dommelen and Rowlands 2012, p. 24) and consider not only particularly rich graves but also less elaborate burials. In practice, these principles are difficult to follow as lesser graves often contain few objects or none at all, making their interpretation difficult. Nevertheless, especially in highly asymmetrical contact situations, it is crucial not to automatically assume poorer graves to be local but to scrutinize details of construction, content, and any information the human remains may furnish. Unfortunately, the graves usually selected for isotope analysis tend to be rich and/or unusual in content and/or form (Eckardt et al. 2014). Breaking with this trend, for our present study, we sampled skeletons associated with a wide range of grave sizes and assemblages from 0 to 155. Considering everyday items rather than special objects is hampered by the fact that settlement research in southwest China is still in its beginnings. Nevertheless, we are discussing settlement patterns and subsistence systems as far as they are known, thus going beyond objects and even beyond man-made contexts, taking into account the natural environment as well.

On the whole, in southwest China, research considering isotope analyses is still in its infancy (Zhang et al. 2014, 2018). Where isotope analyses are conducted, there is a tendency to jump to conclusions, declaring individuals identified as nonlocal to come from specific areas, in the case of Han-period southwest China automatically the Central Plains, even though isotope studies cannot offer this level of information. It is thus crucial to combine the scientific results with textual and archeological data to gain a more nuanced view of migration and identity in the early imperial southwest. To connect the different types of evidence, we choose human tooth enamel from 18 skeletons from 11 graves at Shamaoshan which have been attributed to the Dian culture based on grave forms and body treatment but whose assemblages also show Han cultural connections and are representative of the

range of interment types, sexes, ages, and periods. To increase the number of data points, we include the results of previous analyses conducted on skeletons from other Dian cemeteries.

Historical and archeological background

Historical evidence for population movements and Central Plains expansionism

One obstacle in text-based research on the Qin and Han expansions is that the few historical documents mentioning the southwest were recorded by Han historians and are thus tinged by a political agenda. They do, for instance, claim that the Dian Kingdom was established by the Chu general Zhuang Qiao in 281 BC (Sage 1992, p. 144; Yang Bin 2009), but it is now clear that a political regime had been established in the Dian Basin already two centuries earlier and was characterized by a complex sociopolitical structure and material culture of its own making (e.g., Watson 1970; Zhang Zengqi 1997). According to the *Shiji*, the *Records of the Grand Historian* written in the second to first century BC for the Han emperor, groups located west of Dian were involved in trade of horses, yaks, and slaves with the Qin, a trade network that likely also involved Dian (*Shiji* 129; Watson 1993: vol. II, p. 291). First historical evidence for direct contact consists of reports of a Qin envoy to central Yunnan in the late third century BC and military campaigns against the Baiyue in neighboring Lingnan in 214 BC (*Shiji* 6; Holocombe 2001, pp. 147–150). Recent metal analyses have furthermore shown that raw material from Yunnan was used to produce bronzes for the Central Plains already in the second millennium BC, so trade networks might have expanded much further at a much earlier time than the written sources suggest (Chiou-Peng 2009).

Historical texts document the Han expansion toward the southwest from around 135 BC, the Han aiming to establish a stable trade network toward South and Southeast Asia and beyond to obtain exotic goods (*Shiji* 116; Sun and Xiong 1983; Yü 1986, pp. 457–8). As the most powerful groups in the southwest at the time, the Dian and the Yelang were the largest obstacle (*Shiji* 116; Watson 1993, pp. 294–6). As they had difficulties annexing Dian, the Han first established the Jianwei commandery (southwest of present-day Yibin County, Sichuan) in 135 BC, followed by further commanderies in other parts of southwest China (*Hou Hanshu* 113; Yü 1986, p. 458) (Fig. 2). These commanderies proved difficult to hold with the locals rebelling and the Han occupiers—not used to the local climate and diet—dying from illness and starvation (*Shiji* 116). There was much opposition to investing into what some saw as useless territories in the southwest (e.g., *Shiji* 112), and during the resource-intensive war with the Xiongnu, some of the southwestern commanderies were abandoned and the roads built for the southern trade fell into disrepair (*Shiji* 116).[1]

When it became clear, however, that the northern trade routes to the west were more permanently blocked by the Xiongnu, the Han were considering alternatives (*Shiji* 116; *Hanshu* 95; Watson 1993: vol. II, p. 293). In 120 BC, people were sent to make channels to create Lake Kunming, as later commentaries suggest probably for the purposes of naval warfare against Dian (*Hanshu* 6). All of these undertakings—establishing commanderies, building roads and channels, waging war, even trade–must have meant the movement of considerable numbers of people, although exact numbers are difficult to estimate. Already the Qin sent tens of thousands of colonist to Shu (*Huayang Guozhi* 3), not all of them coming from the center of Qin but many from other newly conquered territories. Many were convicts, debtor laborers (Korolkov 2019), or peasants who had been promised fertile land (Sage 1992, p. 134). As the *Shuihudi* bamboo manuscripts report, these migrations were well-organized and tightly controlled, as were the new settlements (Shuihudi 1990, pp. 261–2). Once a sizable population had settled in a new location, officials would move in to establish a local bureaucracy and levy taxes. It is reasonable to assume that Han migrations were organized in a similar fashion.

In the case of Dian, immigrants would have come not only from the center but from close-by commanderies in Shu and other places that had been colonized earlier. A similar phenomenon has been observed for ancient Rome where people and objects from various parts of the Empire circulated to various other parts and where many if not the majority of the soldiers sent to places such as Britain or Hungary "were auxiliaries—noncitizens from various parts of the Empire, including the local area" (Wells 2005, p. 71). Similarly, the troops that defeated the most important allies of the Dian, the Liaojin and Mimo, and marched on Dian, had come from Ba and Shu, not from the Han core areas (*Shiji* 116.9). They eventually forced the Dian king to submit to the Han court in 109 BC, confirmed him as King of Dian by bestowing him a royal seal, and established the Yizhou commandery (*Shiji* 116; Watson 1993, p. 296). The Han thus followed an established model of acknowledging local rulers in exchange for their

[1] Historical texts: (a) *Han shu [100 juan]* 漢書 *[100]*, by Ban Gu 班固 (AD 32–92) and Ban Zhao 班昭 (AD 45–116), commentary by Yan Shigu 顏師古 (581–645), 1970 edition. Xianggang: Xianggang Zhonghua Shuju 香港中華書局; (b) *Hou Hanshu [120 juan]* 後漢書 [120卷*]*, by Fan Ye 範曄 (398–445 AD), commentaries by Li Xian 李賢 (AD 651–684), Sima Biao 司馬彪 (3rd c. AD), and Liu Zhao 劉昭 (6th c. AD), 1965 edition. Beijing: Zhonghua Shuju 中華書局; (d) *Huayang guozhi* 華陽国志, by Chang Qu 常璩 (c. 291–361 AD), and Tang Chunsheng 唐春生, 2008 edition. Chongqing: Chongqing Chubanshe 重慶出版社; (d) *Shiji [130 juan]* 史記 *[130]*, by Sima Qian 司馬遷 (c. 145–86 BC), commentaries by Pei Yin 裴駰 (5th c. AD), Sima Zhen 司馬貞 (8th c.), and Zhang Shoujie 張守節 (8th c.), 1987 edition. Shanghai: Shanghai Guji Chubanshe 上海古籍出版社.

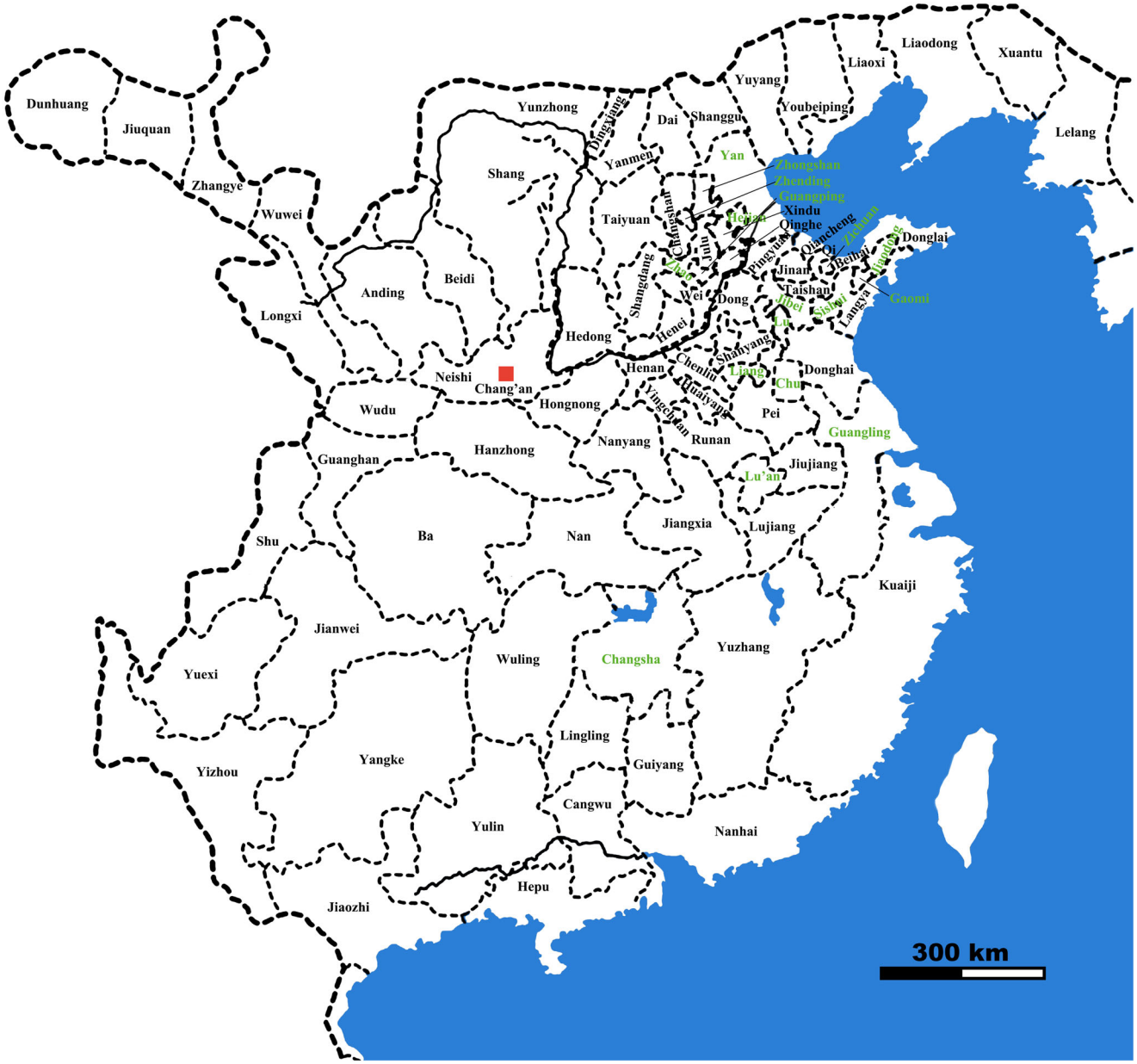

Fig. 2 Han administrative division

support, declaring them to be subjects to Han rule yet local kings. It is not entirely clear how far the influence of the Han went and how autonomous the Dian and Yelang rulers—the only southwestern leaders to have received kingly seals from the Han (*Shiji* 116)—may have been.

This may be a case of what White (2011, p. XIII) called "creative misunderstanding" where groups in contact tried to make sense of the situation, each guided by their own cultural logic and interests. While the Han Empire may have understood it as a colonial situation where they dominated the local kings, the Dian and Yelang like assumed that they were on more or less equal footing with the Han. In the mountains further west, probably even the Han did not think they had any kind of substantial control. The mountain groups were difficult to control due to the rugged local terrain and likely retained complete independence, their acknowledgement of Han supremacy being only pro-forma (Sage 1992, p. 189). Similar suggestions have been made for Britain and Hungary under Roman rule where some communities lived without much contact to the Roman world (Gabler 1991; Hingley 1997). In the Dian Basin, contact with the Han seems to have been closer, though, with large numbers of immigrants from the Central Plains and other regions and a local administrative system staffed by immigrant officials. In a nation-wide census undertaken in AD 2, the Yizhou commandery,

consisting of 24 prefectures, was reported having 81,946 households and a population of 580,463 people (*Hanshu* 28A), but the percentage of locals vs immigrants is not mentioned, neither is the exact definition and size of a household.

In spite of these planned population movements, the area was not easy to keep under control, as reports of at least seven uprisings in Yizhou between 105 BC and AD 176 show (Allard 1998, p. 331). These uprisings were costly for both sides, the Han killing large numbers of people and livestock and an alleged 70% of Han soldiers dying of illness alone during a 3-year campaign under Wang Mang (AD 9–23) (*Hou Hanshu* 86; Yü 1986, p. 459). The Dian lands nevertheless remained attractive, providing both access to long-distance trade networks and great natural resources of their own. Han officials living in the Dian region allegedly became rich due to the great agricultural lands, exotic birds, fish, livestock, salt, and precious metals the land held (*Shiji* 129; Watson 1993: vol. II, p. 450). In the upheaval following the rise of Wang Mang, even more migrants came to the southwest, although mostly as refugees and thus probably in less orderly a fashion than previously, and Han control faltered once again. Finally, troops from Ba and Shu defeated local uprisings and a new governor brought order, apparently gaining popularity among both locals and immigrants (*Hou Hanshu* 86). There are stories of certain officials being popular, but more often than not, relations between locals and immigrants were tense. The large number of dead on both sides and the many immigrants and soldiers succumbing to the unfamiliar climate and local germs would have meant a considerable fluctuation in population numbers, probably destabilizing the region further.

Nevertheless, the growing number of immigrants, the majority probably fleeing disaster rather than through government-organized resettlement (Korolkov 2018), must have tilted the relative numbers of locals vs immigrants significantly, establishing dominance by numbers, as it were. The census data from AD 140, when compared with the AD 2 census, suggests an increase by over five million people (*Hanshu* 28 for AD 2 census; *Hou Hanshu* 29–33 for AD 140 census; Bielenstein 1947 for further research).[2] Besides moving more military into Dian, resettling even more people, and establishing a local bureaucracy, under Huangdi (AD 146–168) a new approach was taken: educational efforts were made to teach the "southern barbarians" Han customs and thus make them easier to govern (*Hou Hanshu* 86)—with limited success as the uprising of AD 176 suggest (*Huayang Guozhi* 4; *Hou Hanshu* 8). This was the last of the rebellions during the Han, however, and most of the second century AD was without major upheavals. At that point, the region was largely under Han control, administered through Han officials and local rulers installed or confirmed by the Han. In terms of material culture, Han-style artifacts became increasingly common, and by AD 100, typical Dian-style items had largely disappeared from graves in the Central Lakes Basin (Watson 1995, p. 88), but only around the third century AD in the western mountains (Hein 2014b).

Dian archeology: local developments and evidence for Central Plains connections

The archeology of southwest China is extremely varied as a recent summary of the current state of research in this area reflects (Yao 2010). For the purposes of this study, we concentrate on the Central Lakes Basin (Dian, Fuxian, and Xingyun Lakes) in eastern Yunnan usually associated with the Dian Kingdom (Fig. 3). There is much debate about the relationship between the Dian culture or Shizhaishan culture—defined based on the elite cemetery of Shizhaishan were the Seal of the King of Dian was found—and the Dian Kingdom. The term Dian Kingdom is an exonym applied by the colonial empires at the time, trying to make sense of the social and political structures they encountered. Tong Enzheng (1991) argued that Dian was a chiefdom, rather than a kingdom, while most scholars use the term Dian culture and avoid defining the social structure further beyond calling it "complex." There is some debate about the dates as well, some scholars suggesting that this level of social differentiation emerged only around the fourth century BC and mainly concentrated at Shizhaishan, while others see similar developments already in the seventh century BC at Yangfutou (Yunnansheng et al. 2005).

It is uncontested that elaborate burials with a strong emphasis on highly decorated weapons as well as belt buckles, bronze drums, and cowrie containers with elaborate zoomorphic and anthropomorphic designs of high craftsmanship and unique style started appearing in the Central Lakes region around the fourth century BC, in particularly large number at Shizhaishan but also at other sites (Fig. 4). In this paper, these assemblages and objects will therefore be referred to as Dian-style rather than Shizhaishan-style. As such items seem to have been reserved to specific segments of society, we will not use the terms Dian culture or Shizhaishan culture. Trying to fit the available evidence into Elman Service's (1971) old typology of band-tribe-chiefdom-state as Tong suggest might obstruct interpretation of the data rather than helping it. We therefore refer to the locals inhabiting the Central Lakes Basin during the first millennium BC—admittedly somewhat vaguely—as "the Dian," keeping in mind that they were not one unified group or limited to the Central Lakes Basin but connected with the inhabitants of the surrounding mountains.

[2] Part of the numerical increase may have been caused by the increase in extent and efficiency of the administrative structure, but considering the high numbers and other reports on population relocation throughout the empire, a marked increase in foreign population can be assumed.

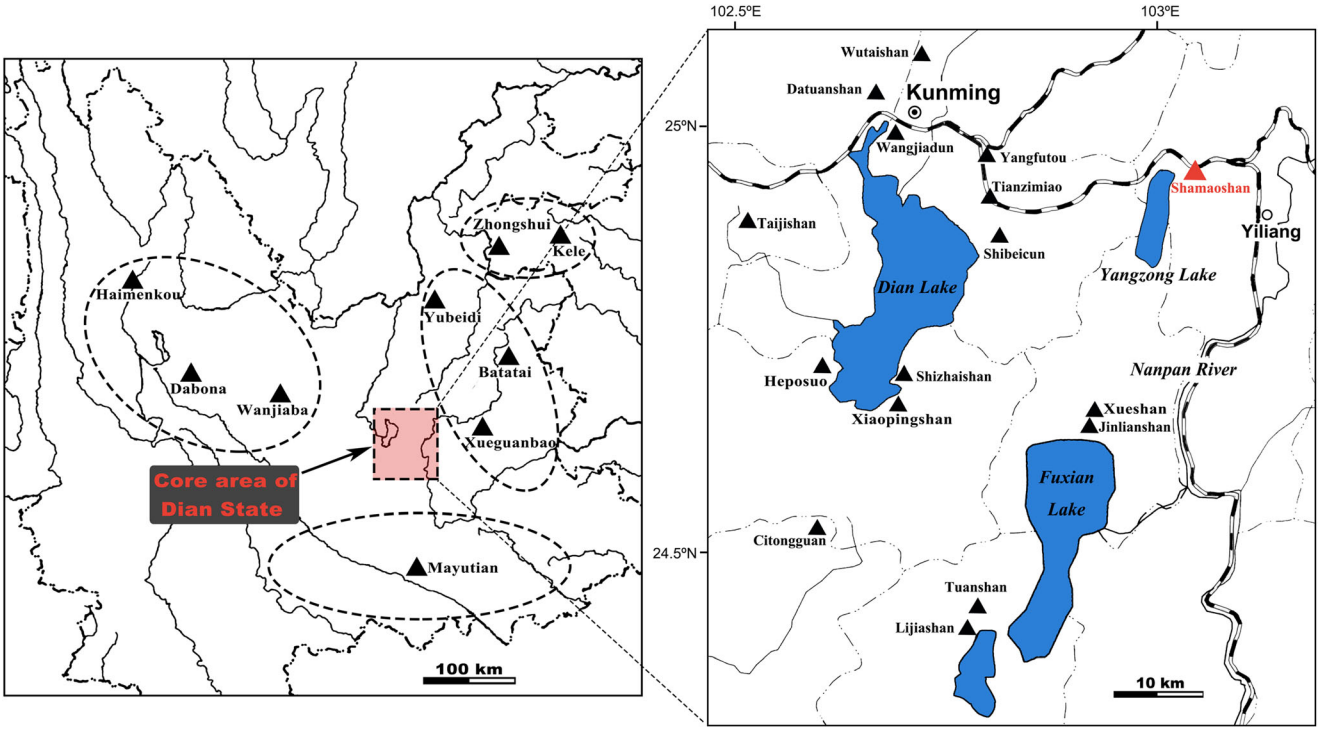

Fig. 3 Sites mentioned in the text

Nevertheless, the flat and fertile area around the major lakes differs markedly from the surrounding mountains not just in geomorphology but also in the considerable number of elite cemeteries containing richly furnished graves unparalleled in other parts of southwest China. These graves indicate the presence of a stratified society considerably predating the fourth century that textual sources see as the founding date of the Dian Kingdom (Yao 2016, pp. 133–135). It is these exceptional graves from a small number of sites that most research concentrates on. Here, we discuss material from both richer and less well-equipped and empty graves from various sites in the Central Lakes area as well as the small number of known settlement sites.

The world of the dead: evidence from graves

Burial evidence suggests that from the late second millennium at the latest, northern Yunnan had been part of long-distance exchange networks (Hein 2014b). Likely based on restricted access to these routes of exchange as well as raw materials and technological knowledge, parts of southwest China saw the development of increasingly more hierarchical social organization. During the eighth century BC, what Yao (2016, p. 118) calls a "drum-owning elite" emerged, reflected in a small number of large graves containing high-quality local metal items as well as bronze drums and cowrie shells from Southeast Asia, weapons from Sichuan, some having antecedents as far north as the steppe (Chiou-Peng 1998). In the earliest graves at Shizhaishan, bronze halberds and arrowheads appear that are nearly identical with Central Plains Shang (c. 1600 BC–c. 1046 BC) or western Zhou (c. 1046–771 BC) types, but these were probably obtained not through direct contact but through intermediaries in Sichuan where these object types are common (Chiang 2011). Lacquer wares likewise seem to have reached Yunnan from Sichuan where lacquer production flourished. Iron technology appeared prior to the Han as well, transmitted through Sichuan or the middle Yangzi (Yang 2011b, pp. 326–7).

Certain burial goods are shared between the Central Lakes Basin and the surrounding mountains, including drums, bronze halberds, swords, and knives, but some items are unique to the Central Lakes such as elaborately decorated axes, full-body bronze armor, and cowrie shell containers and drums with three-dimensional scenes with humans and animals. The inclusion of Heger I/Dongson drums of cowrie shells from the Indian Ocean and weapons and ornaments of Shu and steppe style (Chiou-Peng 2008; Zhang Zengqi 1997) in the most richly equipped graves reflects an exclusive access of an elite stratum of Dian society to far-ranging exchange networks. At the same time, the number of weapons and the prevalence of martial imagery as well as the emergence of horse iconography suggest an increasing competition for resources and trade routes (Yao 2010, p. 231).

From the third century BC onwards, some large graves began to contain a small number Han items, e.g., crossbows, iron and composite swords, iron and bronze vessels, sometimes mirrors and *banliang* coins (Yang et al. 2009, 2010). As Allard (2015) has shown, in pre-conquest times,

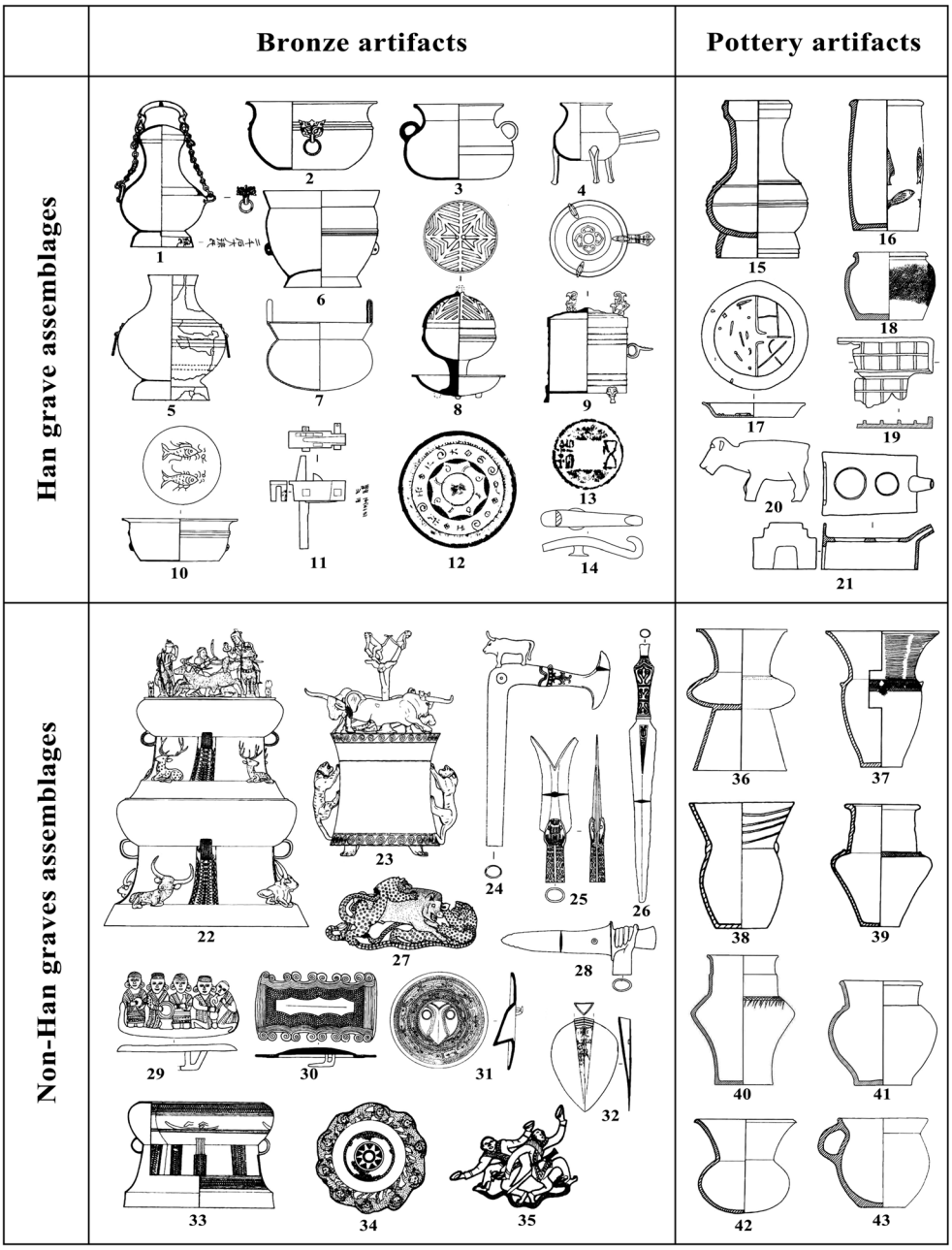

Fig. 4 Han-style and local-style objects from Yunnan. A. Han-style bronze artifacts (top left): 1., 5. hu jars (Xiaosongshan, Chenggong; Shizhaishan, Jinning); 2. xi basin (Shizhaishan, Jinning); 3. mou cauldron (Yangfutou, Kunming); 4. jiaodou heating implement (Lijiashan, Jingchuan); 6. steamer basket (Yangfutou, Kunming); 7. fu cauldron (Shamaoshan, Yiliang); 8. incense burner (Lijiashan, Jiangchuan); 9. zhi container (Lijiashan, Jiangchuan); 10. xi basin (Yangfutou, Kunming); 11. crossbow mechanism (Lijiashan, Jiangchuan); 12. mirror (Xueguanbao, Luliang); 13. wuzhu coin (Shamaoshan, Yiliang); 14. belt hook (Jinlianshan, Chengjiang); B. Han-style ceramic objects (top right): 15. hu jars (Yangfutou, Kunming); 16. well model (Yangfutou, Kunming); 17., 19. paddy field model (Yangfutou, Kunming; Lihuacun, Songming); 18. guan jar (Muyi, Guangnan); 20. cattle figure (Yangfutou, Kunming); 21. oven model (Yangfutou, Kunming); C. Local-style bronze objects (bottom left): 22., 23. cowrie shell containers (Shizhaishan, Jinning); 24. yue battle ax (Lijiashan, Jiangchuan); 25. forked implement (Lijiashan, Jiangchuan); 26. sword (Lijiashan, Jiangchuan); 27., 29., 30., 31., 34., 35. belt buckles (Shizhaishan, Jinning; Yangfutou, Kunming); 28. halberd (Lijiashan, Jiangchuan); 32. hoe (Shizhaishan, Jinning); 33. drum (Yangfutou, Kunming); D. Local-style ceramic objects (bottom right): 36.–38. zun vessels (Yangfutou, Kunming; Wutaishan, Kunming); 39.–42., 43. guan jar (Yangfutou, Kunming; Xueguanbao, Luliang; Yangfutou, Kunming; Shamaoshan, Yiliang) (images redrawn from Yang 2011b; Yunnansheng et al. 2012; Zhonguo et al. 2015)

cemeteries located at some distance from the Central Lakes Basin (e.g., Tianzimiao and Yangfutou) contained only few Han items which nevertheless made up a considerable proportion of the small assemblages. Shizhaishan and Lijiashan, on

the other hand, furnished as many as 119 Han-style objects in 10 burials, but they made up less than 1% of the assemblages (Yunnansheng et al. 2007). For the former group, the Han items seem to have been of much greater importance, either as symbols of outside connections or as useful items that had been integrated into local daily life.

During the second century BC, the contrast between the few rich and the majority of moderately equipped graves grew, the wealthiest two graves at Shizhaishan containing an average of over 300 artifacts and the poorest 149 only 2–3 items each (Lee 2001). The majority of graves both at Shizhaishan and "commoner cemeteries" such as Datuanshan, Shibeicun, Tuanshan, and Wutaishan hold less than 10 items and mostly lack iron objects or Han-style items (Yunnansheng 1980, 1983a, 1984). Only during the late Western Han period, Han-style items began to appear in large concentration in the most elaborate graves of Shizhaishan and Lijiashan but associated with an even larger number of local items, including cowrie shells but excluding Han coins. Yao (2016) suggests that resistance against the Han was the catalyst for the increasingly lavish interments and the emphasis on local customs and objects for the elite graves. In contrast, the presence of Han coins and simple tools such as iron knives is especially notable at lesser cemeteries such as Shibeicun and Taijishan, but also Tianzimiao where large graves become increasingly less common (Kunmingshi 1985; Yunnansheng 1965, 1980). Here, occasionally S-shaped belt hooks appear, indicating Han-style dress for nonelite parts of society.

Han-style objects become rather common from the early eastern Han, including not just lacquer, iron, and bronze objects as before, but also ceramic models suggesting either a shift in concepts of the afterlife or the interment of Han migrants (Fig. 4). From the middle eastern Han onward, Han-type brick graves and rock-cut tombs appear over an increasingly wide area, as far north and west as the Hengduan Mountains (Yang 2011b, pp. 325–9; Zhongguo and Yunnan 2001). Such Han-style graves usually are located at some distance from the local-style graves but often within the same cemetery. In some cases, there are even burial mounds and stele identifying the tomb occupant as Han (Yang et al. 2010; Yunnansheng 1999, pp. 408–9). Following Han customs, these graves contain single primary interments in wooden coffins, accompanied by bronze sacrificial vessels, mirrors, belt hooks, incense burners, lamps, various types of lacquer items and gray fine ware ceramics, ceramic models of domestic or agricultural scenes, and sometimes small jade or gold items (Fig. 4). These Han-style graves show local particularities such as shallow grave pits, large numbers of bronzes, clay models in the form of stilt houses, rice paddies, and ponds, and also local ceramic forms or decorations; nevertheless, these are "no more than regional variants of the metropolitan culture present in central and northern China at the time" (Allard 2005, p. 234).

The world of the livings: settlements

Recent surveys suggest that large domestic sites existed in the Central Lakes Basin by the second half of the first millennium BC, but there is no evidence for defensive works, walls, or palace-type architecture as one might expect based on the lavish burials. Instead, we see wooden houses, stone tool, and paleobotanical remains pointing to a wide variety of subsistence systems, and some evidence for metal production, e.g., at Wangjiadun (Li and Wang 1983), Citongguan (Yunnansheng et al. 2006), Hejiashan (Zhang Zengqi 2000, p. 49), and Yubeidi (Yang 2016). Another possible bronze production site was observed at 10 km distance from the Han period copper mine of Jiudingshan (Zhang Zengqi 2000). Bronze production thus occurred locally at a number of sites, likely in small-scale undertakings rather than a centralized system of metal working. The close proximity to a Han period copper mine begs the question who controlled the access to metal and metal production at the time and how far the Han government and its officials were involved. At least in the beginning, Han officials may have tried to extract taxes without necessarily getting involved in metal production. This may have changed during the second century AD though, when Han control was stronger. Further surveys of possible extraction sites combined with comprehensive metal composition analysis are needed to assess extraction and distribution networks.

In the Dian Basin, a major complex of Bronze Age settlement sites has been observed around Hebosuo, i.e., in close proximity to the Shizhaishan cemetery (Yao and Jiang 2012). The largest site Hebosuo itself measures about 31 ha in size and was surrounded by 16 sites falling into two categories of 4–10 ha and below 2 ha (Yunnansheng and Meiguo 2012). A secondary center was identified at Gucheng (4 ha) toward the northeast, likewise close to a cemetery, and surrounded by a number of smaller settlements. All sites rested on stratified shell deposits, probably aimed at making the wetland habitable (Yao and Jiang 2012, p. 365) and contained archeobotanical evidence indicating a wetland habitat and cultivation of rice, millet, and wheat, and also some evidence for metal and stone working. Smaller sites in the vicinity include Xiaopingshan (Yunnansheng and Jinningxian 2009) and Xueshan (Jilin et al. 2010). Outside the Dian Basin, Shihudui and Luofeng have been identified as major Bronze Age occupation centers connected with Yangfutou, but excavation work and detailed reports are still outstanding (Yunnansheng et al. 2005, p. 862). For the mountainous parts of western Yunnan, archeological and historical sources suggest that they were inhabited by various groups engaged in

pastoralism or mixed form of subsistence (Sun and Xiong 1983, p. 14; Watson 1993: 2, pp. 253–8; Yao 2010, p. 226).

For the Han, a low-land people, the Dian Basin was thus one of the few places in the high-altitude mountains of Yunnan that provided a level ground, climate, and soil and water profile attractive to and manageable for them, and people that they could relate to, i.e., settled agriculturalists (Sage 1992, p. 191; Yao 2016, p. 190). From the first century BC onward, large settlements with rammed-earth walls and single- and multistoried mud-brick buildings covered with Han clay roof tiles reflecting Han building techniques emerged in the Lake Dian and Qujing Basins, mirroring the increasing Han incursion into the region seen in textual accounts. Nevertheless, clay models depicting stilt houses found in some of the eastern Han graves indicate that local house structures continued to be present. In the Dian Basin, the 61-ha site of Jincheng is most noteworthy, for its size and large number of Han roof tiles, but also for its location, not close to the lake like earlier settlements, but at the very edge of the flood plain in the foot hills (Yao and Jiang 2012). Jincheng may even have been the center of Yizhou which replaced the former Dian capital at Hebosuo as political center after the Han conquest, the location potentially having been chosen for its easier defensibility or for better access to long-distance exchange networks (Yao and Jing 2012, p. 364). Another 13 Han sites have been documented in the vicinity, again falling into two size clusters of 4–10 ha and below 2 ha, suggesting a settlement hierarchy that is mirrored in the variability in burial elaboration by sites (Yao 2010, p. 226).

Human–environment relations: subsistence practices and deforestation

Recent archeobotanical research has shown that there is some variety in subsistence patterns between sites even within the Central Lakes regions. Li Haiming et al. (2016) suggested that there were three phases of agricultural development on the Yunnan–Guizhou Plateau: rice cultivation from 4800 to 3900 cal. BP (ca. 2840–1940 BC), mixed rice and both foxtail and broomcorn millet 3900 to 3400 cal. BP (ca. 1940–1440 BC), and mixed rice, millet, and wheat cultivation 3400 to 2300 cal. BP (ca. 1440–340 BC), but evidence from other sites suggests a more complex picture. Li et al.'s model of development was based nearly exclusively on phytolith evidence which—with the lack of systematic floatation at many sites—is biased toward rice (Harvey and Fuller 2005). Recent research has shown that at Baiyangcun, the site that Li et al. cited as evidence for the earliest phase of rice cultivation in the area, there is evidence for millet cultivation from at least 2600 BC (Dal Martello et al. 2018). At Dadunzi (2000–1600 cal. BC), both millet and rice appear together (ibid.). Dal Martello et al. (2018) therefore suggest that millet and rice reached Yunnan together likely coming from Sichuan where they appear together from 2500 cal. BC. In Yunnan, so they argue, the millet–rice package was adapted to local conditions by preferencing one over the other depending on the local climate. Rice and millet were not the only crops that people planted, however. Soybeans appeared at various sites, including Baiyangcun and Haimenkou (ca. 2000–500 BC). At Haimenkou, people experimented with a wide range of different crops, soon finding out that in the western mountains rice was not a reliable food source (d'Alpoim Guedes 2013; Xue 2014). They eventually turned to wheat as an important staple, but a variety of crop and noncrop plants and gathered foods remained important to minimize the risk of crop failure.

In the Dian Basin, climate and altitude are much more conducive to rice agriculture, but also here diversification seems to have been the most common subsistence strategy. In the Neolithic, rice and foxtail millet were used in mixed cropping, from the early Bronze Age onward supplemented by soybean and small amounts of wheat (e.g., Hebosuo, Yubeidi); the middle to late Bronze Age witnessed a switch to foxtail millet and wheat mixed cropping, always accompanied by wild fruits, nuts, and other gathered plants, but also soy bean, buckwheat, and hemp for the later periods (Yang Wei 2016). There is some locational variation, though; people at Xueshan, for instance, relied mostly on wheat, while rice, foxtail and broomcorn millet, buckwheat, soy beans, and fruits were of only secondary importance (Jilin et al. 2010; Wang 2014; Yang Wei 2016). Considering that the site is located in the Central Lakes Basin, planting rice would not have been a problem, but for some reason, wheat—at that time a new, exotic, but also hardy grain—held more attraction.

For later periods, it is generally assumed that the arrival of the Han leads to an intensification of rice cultivation and building activities that should be visible in pollen profiles. Historical sources claim that the Han constructed irrigation systems and introduced terracing in AD 19 (Sun and Xiong 1983, p. 249), leading to an intensification of agriculture. Environmental research around Lake Erhai has shown a decline in arboreal taxa coupled with an increase in grasses already from the fifth millennium BC (Dearing 2008; Shen et al. 2006; Sun et al. 1986), although the extent is debated (Dearing 2008). Over the following millennia, secondary pine forest expanded, which has been interpreted as the outcome of shifting agriculture (Shen et al. 2006). Various clearance phases have been identified through a decline in pine forests especially from 180 BC; at the same time, deciduous trees increased, suggesting the development of large-scale grazing and/or the expansion of settlements (Shen et al. 2006, pp. 275–6). The most severe decline in pine coupled with an increase in large *Poaceae* grains suggesting widespread cereal production occurs only in the ninth century AD. Erosion sets in only in the fifth or sixth century AD, intensifying 15-fold around the tenth century AD (Whitmore et al. 1994), probably due to the

establishment of a major administrative center at Dali around 900 AD. Considering the early onset of low levels of forest clearing and the late date of massive damage to the local environment, the intensification of agriculture and building of larger settlements after 109 BC were not the main turning point for the local ecology.

The Shamaoshan cemetery

Geographic background

The Shamaoshan cemetery is located east of Lake Yangzong at the edge of the Central Lakes Basin at an altitude of 1780 m asl. The region lies in the subtropical humid monsoon climate zone. The climate is mild with little rainfall in spring and winter, a rainy season in summer and fall, an average annual temperature of 16.3 °C, and annual precipitation of 898.9 mm. Central Yunnan is defined by the Central Lakes Basin amid mountains with a complex geological structure dominated by magmatism and metamorphism (Fig. 5). The $^{87}Sr/^{86}Sr$ ratio in dental enamel is that of the childhood diet and largely reflects that of the local geology. Though similar geological profiles may appear in different regions (Montgomery 2010), the local geology around Shamaoshan is sufficiently complex to provide a unique signature. So far, survey work around Shamaoshan has been limited, but as Dian cemeteries are usually located close to settlement sites (e.g., Xueshan and Jinlianshan; Jilin et al. 2010), we assume that the people buried at Shamaoshan lived close to their final resting place as well; thus, the local geology is used as a proxy for their living environment.

Usually, animal bones or teeth accompanying human skeletons are used reconstruct the local bioavailable $^{87}Sr/^{86}Sr$ range (Price et al. 2002; Frei et al. 2015); as no such remains are available here, we assessed the local strontium background

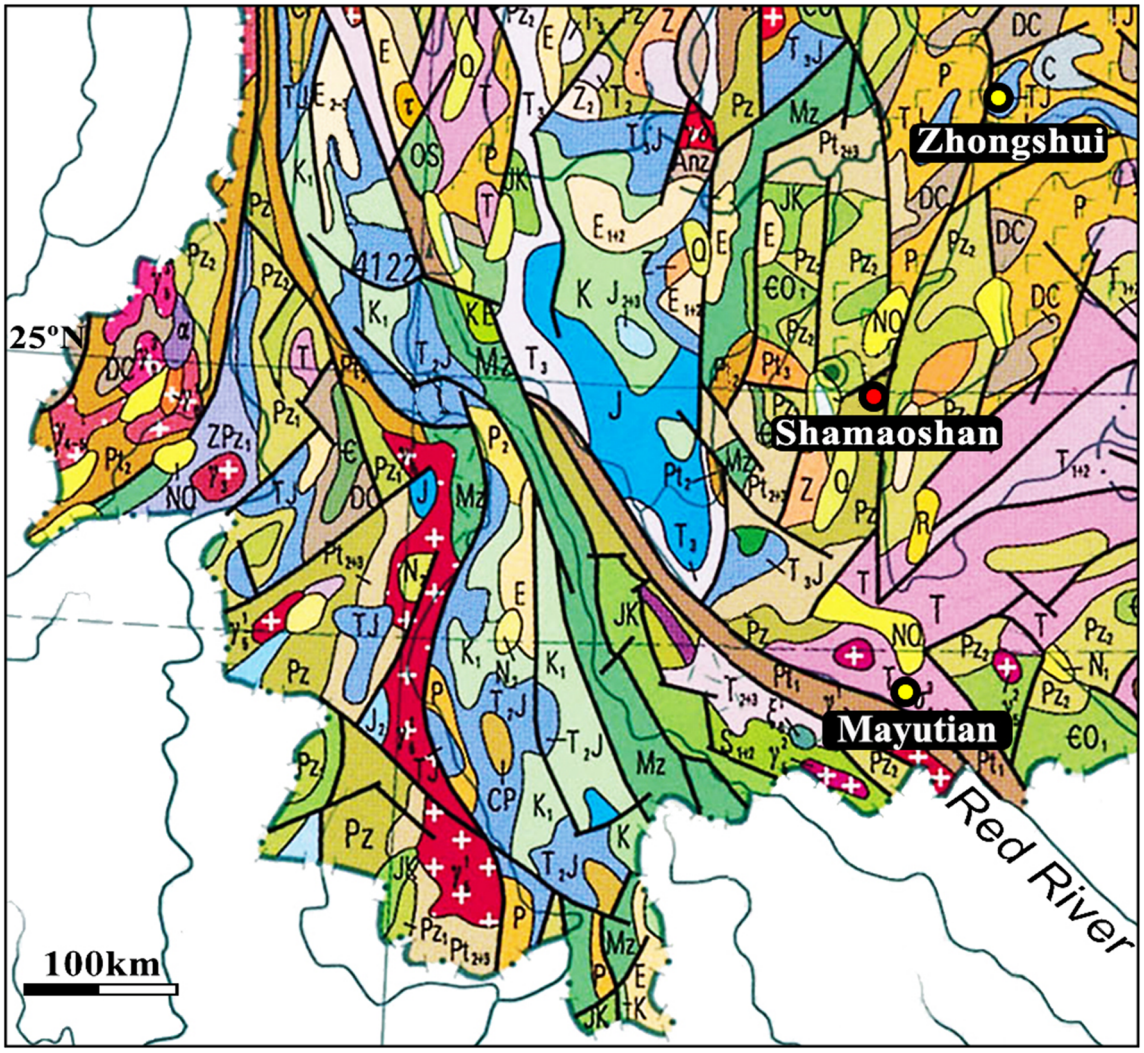

Fig. 5 Geological map of central Yunnan (T = Triassic limestone and dolomite; Pz = Paleozoic sandstone; TJ = Triassic–Jurassic limestone and dolomite) (modified from Ma et al. 2002)

through an analysis of the local geology. The bedrock around Shamaoshan consists of Paleozoic sandstone and shale. The $^{87}Sr/^{86}Sr$ range of Nanpan River water flowing through this region is 0.71181–0.71356 (Xu and Liu 2007). The $^{87}Sr/^{86}Sr$ ratios of river water reflect the result of mixed rock weathering, representing the local $^{87}Sr/^{86}Sr$ ratio background (Bentley 2006a, b; Hoogewerff et al. 2001). The other two major sites for which stable isotope data is available are Mayutian and Zhongshui. Mayutian is located in the Red River Basin, 200 km south of Shamaoshan. The bedrock there consists of Triassic limestone and dolomite. Measurements taken from the local basalt suggest a local value of 0.7066 (Zhang et al. 2014). Zhongshui is located on Permian limestone 270 km northeast of Shamaoshan and yielded evidence from both human and horse skeletons, the results of which will be used in the evaluation of the Shamaoshan data.

The cemetery

Fifty-seven burials were excavated at Shaomaoshan cemetery, spanning a time period of BC 250 to 55 AD (Yunnansheng et al. 2012). Based on stratigraphic evidence, artifact typology, and ^{14}C dates, the burials were divided into four phases and six subphases dated between the third century BC and the first century AD (Yunnansheng et al. 2012, pp. 365–6), the cemetery growing over time from northwest to southeast (Fig. 6).

Grave and cemetery layout

All graves are shaft-pit structures, oriented roughly in northwest–southeast direction (mostly 310–320°), with measurements of 2–2.5 by 0.8–1.2 m and depth of around 1–2 m (Appendix II). The southern graves are somewhat longer and deeper than those in the north. Ten graves additionally had one or two pits in the waist or foot area, and four had a second-level ledge.

Interment customs

As preservation conditions were favorable, different interment types could be distinguished: single, twin, and multiple interment, either primary or secondary, and three graves without any human bones (Fig. 7). There is no notable differentiation in treatment between sexes or ages. Single interments tend to be in extended supine position. Group burials fall into several categories: secondary interment of two–seven people and combined primary and secondary burial of two–eight people,

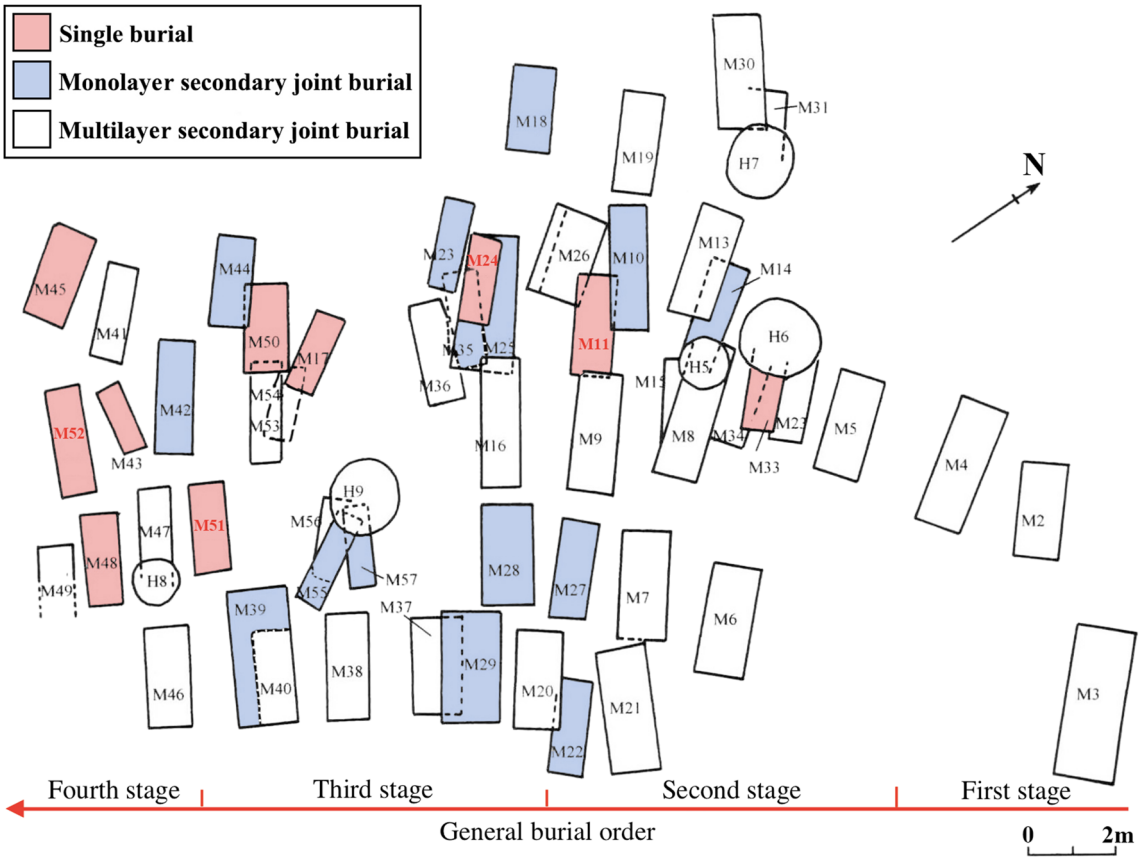

Fig. 6 Layout of the Shamaoshan cemetery

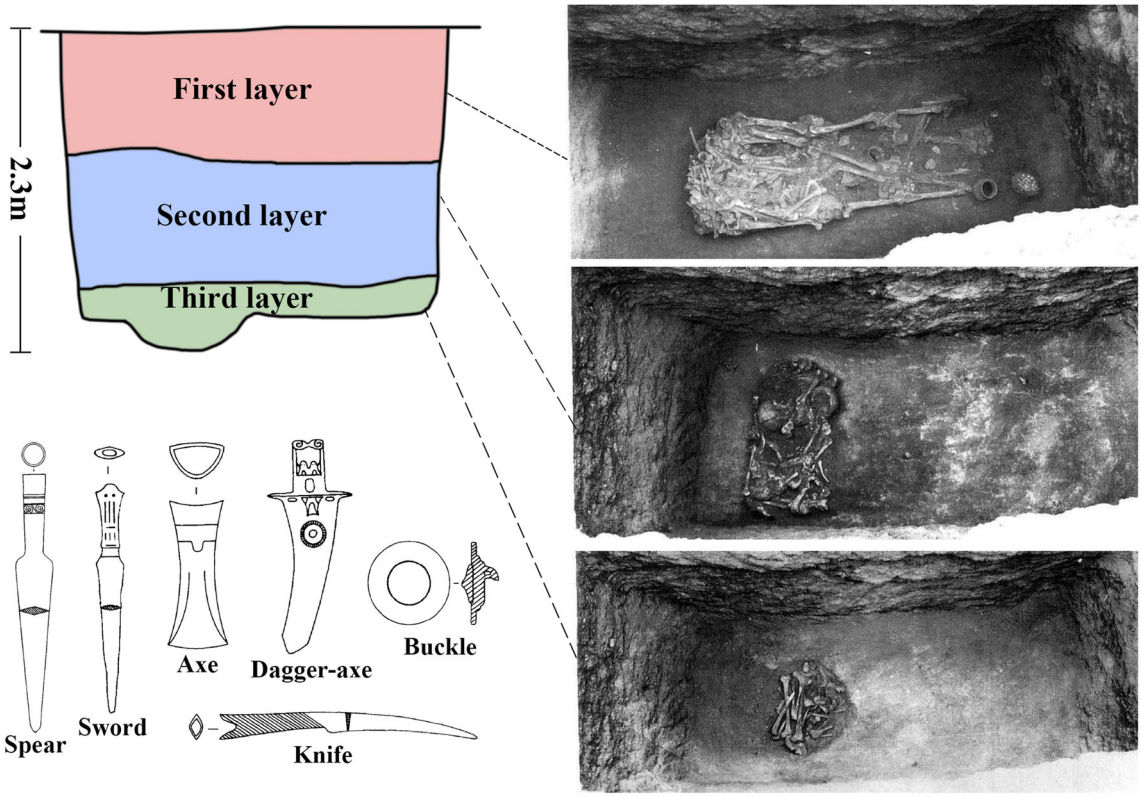

Fig. 7 Profile, photos of the three layers, and bronze objects in grave M3

the primary interment usually being in extended supine position. The most remarkable feature of the site is complex multilayer burials—usually 2–4-layered and more rarely 5–6-layered—which combine primary and secondary interments (Table 1; Appendices I and III). Such graves occur also at other contemporary sites but nowhere in as high a percentage as at Shamaoshan.

There is no clear correlation between age, sex, interment practice, and number or type of objects interred (Appendix II); however, the earliest graves tend to be multilayer burials, holding mostly secondary interment, while secondary group interments are most common in phases 2 and 3, and an increase of primary interments can be seen in phases 3 and 4.

Grave goods

Grave goods at Shamaoshan are much less numerous than at Shizhaishan or Lijiashan and mainly consist of undecorated or minimally ornamented bronze tools and weapons (Fig. 7). The objects from Shamaoshan nevertheless comprise over 600 metal items, mostly bronze but also some composite and iron items, including weapons, tools, ornaments, *wuzhu* coins, *fu* cauldrons, small *ling* bells, and other items (Appendix II; Table 2). While metal ornaments and weapons are more numerous than any other type of items—at least when beads, shells, and coins are not counted individually but as item groups—ceramics are considerably more common here than

Table 1 Interment types at Shamaoshan

Interment category	Cases	Percentage	Subcategory	Cases	Percentage
Single interments	10	20.41	Primary interment	10	100.00
			Secondary interment	0	0.00
Group interments	17	34.69	Secondary interment	5	29.41
			Primary and secondary interments	12	70.59
Multilayer group interments	22	44.90	2 layers	6	27.27
			3 layers	10	45.45
			4 layers	4	18.18
			5 layers	1	4.55
			6 layers	1	4.55

Table 2 Number of burial objects at Shamaoshan by type. The third column provides the number of items when beads, shells, and coins are not counted individually but as item groups

	Number	Percentage	No. adjusted	% adjusted
Objects				
Ceramic vessels	87	2.93	87	18.91
Spindle whorls	28	0.94	28	6.09
Stone tools	14	0.47	14	3.04
Bronze weapons	93	3.13	93	20.22
Iron weapons	13	0.44	13	2.83
Composite weapons	15	0.51	15	3.26
Metal ornaments	146	4.92	146	31.74
Beads	1207	40.64	7	1.52
Cowrie shells	1004	33.80	25	5.43
Snail shells	18	0.61	17	3.70
Coins	339	11.41	9	1.96
Jade pieces	5	0.17	5	1.09
Iron pieces	1	0.03	1	0.22
SUM	2970	100.00	460	100.00
Metal weapons/tools				
Halberds	3	3.03		
Swords	4	4.04		
Spear heads	8	8.08		
Arrowheads	58	58.59		
Spear handles	3	3.03		
Armor	4	4.04		
Axes	8	8.08		
Pairing knives	5	5.05		
Chisel	1	1.01		
Spades	3	3.03		
Sickles	2	2.02		
SUM	99	100.00		
Other metal objects				
Buttons	24	15.79		
Belt hooks	3	1.97		
Bracelets	120	78.95		
Fu cauldron	1	0.66		
Ling bell	3	1.97		
Plate	1	0.66		
SUM	152	100.00		

in most other contemporary cemeteries in Yunnan (Yunnansheng et al. 2012: Tab. 2–3).

A number of graves are noteworthy for their larger number of objects, especially M1 with nearly 2000 objects accompanying 10 people. It is the largest grave by far, has a waist pit, and is the only one containing cow bones. Additionally, the grave is located on top of the mountain, not on the slope like the other graves. A group of graves containing over 50 items each vary in size and number of interments, but the majority of them hold several skeletons and a considerable number of shells and beads as well as metal weapons and ornaments. Five graves furnished no objects at all, but they were disturbed and possibly robbed. The majority of graves, all of them medium to small sized with differing numbers of skeletons and interment layers, hold around 1–10 items (26 graves) and some 11–20 (10) or 21–38 (9).

The main characteristics of Shamaoshan are thus northwest–southeast orientation, medium- to small-sized rectangular pit graves without access ramp, burial mound, or grave furniture, in primary interments a propensity of extended supine burials with some crouched interments and a considerable number of joint primary and secondary single- and multilayer burials. Tools and objects of everyday life are the most common burial goods, especially ceramics, but also bronze, iron, and stone items. Among bronze objects, weapons and ornaments dominate, but the latter are concentrated in a small number of graves. Phases 1 (fourth–third century BC) and 2 (third century BC) are characterized by high-necked ceramic vessels and various types of bronze weapons; phases 3 (second c. BC) and 4 (early to mid-first century BC) are dominated by short-stemmed bowls, wide-mouthed and single-handled jars, and a number of bronze tools; and from phase 5 (late first century BC–first century AD) onward, iron and composite weapons appear.

Shamaoshan in its regional context

To evaluate the implications of the Shamaoshan finds for questions of migration, acculturation, and Han tactics of colonialism, they have to be discussed within their local context. This requires a detailed comparison with finds from other contemporary sites in the Central Lakes Basin, discussing grave forms, interment practices, object assemblages, and the connection between all of these, paying attention not only to the nonlocal or unusual but also to the common and mundane. Furthermore, both similarities and differences between the various *comparanda* have to be ascertained.

While the change in types of metal objects over time describe above is common to most contemporary cemeteries in central Yunnan, the dominance of ceramics is not nor the multilayer group interments. At present, it is unclear if this is an intersite difference in burial customs or the result of unfavorable preservation or insufficiently careful early excavations. Considering the richest sites, at Shizhaishan, for instance, excavations conducted in the early 2000s revealed three multilayer burials (M54, M81, M83) among 91 graves, so only 3.4%, but in many cases preservation conditions were too poor to ascertain the number and placement of the interred (Yunnansheng et al. 2009). At Yangfutou, 4.9% (40 out of 671 graves) were multilayer interments (Jiang 2013: Tab. 7.10). From Lijiashan, no multilayer burials were reported, but the site was excavated in 1972 and preservation conditions were poor.

At Jinlianshan, a cemetery with considerably less well-equipped graves, 66 out of 284 graves, i.e., 16.9%, were multilayer interments (Jiang and Wu 2011; Jiang 2013: Tab. 6.1–3, Yunnansheng et al. 2011). The percentage at Shamaoshan is even higher, 38.6% (i.e., 22 graves). The two sites are fairly similar in other respects as well, showing a complex combination of primary and secondary single and group interments in the various layers of graves of a similar size range, form, and orientation. They are similar in the range and type of metal objects as well, form types they share with other contemporary graves in Yunnan; however, both Shamaoshan and Jinlianshan show a larger percentage of tools and lack the drums, cowrie containers, weapons, and three-dimensional figures for which Shizhaishan and Lijiashan are famous. All sites share the presence of cowrie shells in their largest graves, though, and the basic grave form (earth-pit or rock-cut graves), orientation, and presence of wooden coffins.

Shamaoshan and Jinlianshan are thus more similar to each other than they are to the "elite" sites, but they differ from each other in a couple of points as well. Jinlianshan, for instance, lacks *wuzhu* coins, although belt hooks, various iron and composite objects, and a stone seal with what might be Chinese characters (the lower of the two looks like *yu* 魚 but they may be a copy by sight without actual literacy) clearly show a connection with the Han. Another notable difference is the considerable number of ceramic vessels and loom weights at Shamaoshan, items that are all but absent from Jinlianshan. In that respect, Shamaoshan is much more similar to Yangfutou, which is known for its many ceramics that come second in number only to bronzes, followed by lacquer, gold, and jade. The ceramics from both sites resemble each other in quality as well as in certain ceramic forms (high-necked vessels, cauldron forms, large round-bottomed closed bowls, and the single-handled jars with leaf impressions on the bottom). Other forms, however, are not shared (jars with trumpet-shaped openings, some with corded-ware decoration, red-painted wares, *zun* vessels, and high-stemmed bowls at Yangfutou; round-bottomed single-handled vessels, short-stemmed bowls, incised designs, and a considerable number of loom weights at Shamaoshan). Noteworthy among the commonalities is the leaf-impressed handled jar (Yunnansheng et al. 2012: Figs. 42 and 46; Yunnansheng et al. 2001: Fig. 43.8), very rare at Yangfutou, with a few more examples at Shamaoshan, but extremely common in the southern part of the Hengduan mountain range, especially in stone-cist and megalithic graves (Hein 2017). At Shamaoshan, the short-stemmed bowls, round-bodied jars with constricted neck, and low straight-rimmed jars (Yunnansheng et al. 2012: Fig. 40.7–10, fig. 29.5) appearing in phase 3 likewise find their closest parallels in stone-cist graves in Sichuan (Aba et al. 1987), not in the local Neolithic or the sites in Yunnan.

In terms of both grave forms and assemblages, a number of other sites show parallels to Shamaoshan as well. The graves at Shibeicun, Tianzimiao, Taijishan, Datuanshan, Tuanshan, Wutaishan, and Xueguanbao are mostly of medium and small size like those at Shamaoshan. Shibeicun furnished high-quality, nicely decorated bronze weapons and tools very similar to finds from Lijiashan and Shizhaishan, but only 0–10 objects per grave (2–3 on average), metal tools being in the majority, followed by metal weapons, some ornaments, ceramic net weights, but no ceramic vessels; Han-style iron and composite items are present in the later graves, but always accompanied by local-style objects (Kunmingshi 1984; Yunnansheng 1980). The assemblages at Tuanshan are similar, but without Han-style items, suggesting a pre-Han date (Yunnansheng 1983b) or lack of Han connections. At Tianzimiao, the local-style bronze weapons and tools in the small-sized graves are of high quality, elaborately decorated, but without any of the three-dimensional additions or special forms the largest grave at the site (M41) holds (Kunmingshi 1985).[3] Similar to Shamaoshan, most graves at Tianzimiao hold 2–10 objects, a few up to 100, and some just 1–2 ceramic vessels or loom weights, all in forms largely identical to Yangfutou but no Han-style items.

Taijishan—likewise consisting of a number of modestly equipped burials holding metal weapons/tools and/or ceramics—stands somewhere between Shamaoshan on the one hand and Yangfutou and Tianzimiao on the other, the ceramics being a combination of types from both sites and the metal objects more moderately or not at all decorated, but without clear Han-style items (Yunnansheng 1965). Datuanshan (Yunnansheng 1982, 1983a), Wutaishan (Yunnansheng 1984), and especially Xueguanbao (Zhongguo et al. 2015), on the other hand, bear close resemblance to Shamaoshan in grave size, orientation, and content (ceramic types, metal forms and quality). Like Shamaoshan, some Xueguanbao graves held Han-style objects, including bronze mirrors, belt hooks, various iron and composite objects, a large number of *wuzhu* coins, and even a bronze seal with squiggles on the surface, likely trying to imitate Chinese characters without literacy, thus reminding of the Jinlianshan stone seal. The ceramics at Xueguanbao combine forms characteristic of Shamaoshan (e.g., low-footed bowls) with forms seen at Yangfutou and other sites (e.g., high-footed bowls), and items common to both sites, but combined with bronze objects of lower quality and less elaborate design than at Yangfutou but more similar to the Shamaoshan assemblages.

Chronologically speaking, what the excavators call the Shamaoshan phase 1 bronze items are most closely related

[3] M41 is similar in form and object assemblage to medium-sized graves at Shizhaishan, Lijiashan, or Yangfutou, holding over 1000 objects including elaborate weapons, a drum, lacquer ware, turquoise and agate beads, cowrie shells, and other special items. The grave has been dated typologically between the fourth and second century BC.

to the more modest items at Shizhaishan or Lijiashan; phase 2 bronze weapons resemble items from Shibeicun phase II, and the ceramics find close parallels in Tuanshan and Wutaishan; from phase 4 onward, a number of Han-style items appear, including a large number of *wuzhu* coins, iron and composite weapons, belt hooks, and a *fu* cauldron; phase 5 holds a number of *wuzhu* coins dating to the time of emperors Zhao (87–74 BC), Xuan (74–49), and Yuan (49–33 BC), providing a secure t*erminus post quem* of the first century BC for the last phase of the site as well as clear evidence of increasingly closer connections with the Han in the post-annexation period.

In their overall assemblage and burial customs throughout all phases, the Shamaoshan grave assemblages are most similar to those at Jinlianshan (Jiang and Wu 2011) and Xueguanbao (Zhongguo et al. 2015). These connections are especially intriguing when seen in the geographic context; Shamaoshan is located more or less at the mid-point between Jinlianshan and Xueguanbao, at the northeastern edge of the Central Lakes Basin and thus very close to the mountains of Qujing, where Xueguanbao can be found. By mere distance, it is much closer to Yangfutou, Tianzimiao, and Shibeicun (all clustered together at the northeastern edge of Lake Dian) than to either of the other sites. As Yao (2016, pp. 143–163) has shown, located in between the Dian and the Chengdu Basins as well as the middle Yangzi, the Qujing Valley and its inhabitants became crucial in local and supralocal exchange relations, both with Sichuan and with the encroaching Han. Shamaoshan may thus have been a node in this network connecting the Dian Basin with the outside world.

A further site that needs to be discussed here is Mayutian (fifth–fourth century BC), one of the few sites in southwest China were isotope analysis has been conducted. It is located outside of the main study area of this paper, about 260 km south of Kunming but less than 100 km north of the border to Vietnam and therefore on an access route toward Southeast Asia (Yunnansheng et al. 2013). The site holds modestly equipped rectangular shaft-pit tombs with single interments, accompanied in some cases by single round-bodied ceramic cauldrons similar to finds from Shamaoshan, and on occasion a single stone or simple bronze tool/weapon. The bronzes show some similarities with items from other parts of southern Yunnan and northern Vietnam, but the connections with the Central Lakes Basin are remote. Isotope analysis suggests that most of the individuals in the graves were locals, but the individual occupying the largest and richest grave, M12, was clearly nonlocal—potentially from the Emeishan basalt region north of Dali—but had lived in the Mayutian region for an extended period (Zhang et al. 2014). The burial custom is nevertheless local, showing that the absence of foreign goods or customs cannot prove a local origin of the individual thus interred. They may, however, suggest local acculturation.

Human bones at Shamaoshan

The good preservation of the human bones at Shamaoshan allowed for a number of direct observations (Yunnansheng et al. 2012). For 25 skeletons, deliberate extraction of the two upper front teeth could be discerned, something not identified at any other site in Yunnan. Eight individuals from six graves had been injured, four by arrows and six by blunt trauma which may have been fatal, suggesting that they may have died in armed conflict or were killed as grave offerings. In terms of health, tooth decay is common, suggesting a considerable proportion of starchy foods in their diet. Common signs for bone disease include hyperostosis and rheumatism likely caused by exhausting physical labor and/or the damp climate and living conditions in semisubterranean or stilt houses close to the water.

To gain further insights into differences in both dietary patterns and place of origin of various individuals, we conducted isotope analysis. Only few high-quality human remains were available for sampling, but we aimed at choosing graves covering the range of measurements (excluding the largest and the two smallest which for which no suitable samples were available) and burial treatments. In order to determine the birthplace of the human individual, we preferentially choose the first molars were analyzed, we extracted enamel from 18 human teeth from 18 different individuals, in all cases permanent teeth, so the carbon and oxygen isotope less affected by breastfeeding during childhood (Wright and Schwarcz 1998). In most cases, the first molar (M1) was chosen; only for ZY-9240 (M30-2D), M3 was sampled. The samples were chosen from four single interments (M11, M24, M51, M52), 4 layered interments (M3, M5 (2 samples), M6, M30 (2 samples)), and 3 single-layered multiple interments (M22, M28 (5 samples), M57 (2 samples)) (Appendix III). Male and female specimens in the age range from 14 to 45 were sampled, the majority being in the adult to mature age range. We furthermore ensured that the whole range of object types was represented in the graves chosen for sampling, including also two graves that held no objects (M51, M57).

Multi-isotope analysis on tooth enamel

Methodological background

Dental enamel is the most highly mineralized substance in the human body (ca. 96% mineral) and is comprised mostly of calcium hydroxyapatite ($Ca_{10}(PO_4)_6(OH)_2$) (Hillson 2005). A combination of various properties of dental enamel—the fine crystalline structure, avascular nature, and low organic

content—prevents substantial remodeling or in vivo alteration of the inner core enamel and also makes it highly resistant to diagenesis or post-mortem alteration. Therefore, the isotopic signal contained in dental enamel reflects the biogeochemical environment where it formed via the incorporation of elements from consumed food and water during the period of crown mineralization (Bentley 2006a, b). Carbon and oxygen isotopes thus reflect diets and environments (Bryant and Froelich 1995; Fricke et al. 1995), providing evidence on human migration, nutrition, and even breastfeeding customs (Longinelli 1984; Schwarcz et al. 2010; Sponheimer and Thorp 1999; Ventresca Miller et al. 2017; Wright and Schwarcz 1999). In China, this type of research is still in its beginnings, but the success of isotope research of human skeleton unearthed from Mayutian (Zhang et al. 2014) and Zhongshui (Zhang et al. 2018) shows that this method has great potential when applied to material from southwest China. While these studies limit themselves to identifying individuals as local or foreign and presenting this as the main outcome of their research, in recent years, researchers working in a variety of regions have successfully applied isotope analysis to address issues of identity and ethnicity from a new angle. Various studies in the UK have shown that Roman Britain was ethnically considerably more diverse than previously assumed (e.g., Leach et al. 2009). In the case of the "Lady of York," Leach et al. (2015) have also shown how even the analysis of a single individual can throw light not only on the complicated migration history and genealogical heritage of the person in question but also helps question our assumptions concerning the importance of ethnicity in Roman Britain. The study in question has shown that cultural and ethnic identity in Roman Britain were rather fluid and up to reinterpretation even within an individual's lifetime. Similarly, Gregoricka's (2013) study of individuals from a third millennium BC cemetery in southeastern Arabia showed that grave forms and burial goods are not a clear indicator of people's origin, but that definitions of kinship and social identity can be rater flexible, especially in communities involved in interregional interactions. Similarly, our study is questioning the long-held assumption that an individual's origins can be read from their burial goods. Instead, we argue that identities are fluid and might change by context as well as over a person's lifetime and that some of this fluidity may be unveiled using isotope analysis.

Strontium isotope analysis

Strontium isotope ratios ($^{87}Sr/^{86}Sr$) of tooth enamel reflect the geological conditions of the area from which food and drink were sourced during childhood (Bentley 2006a, b; Ericson 1985; Budd et al. 2000). Strontium has four stable isotopes (^{84}Sr, ^{86}Sr, ^{87}Sr, and ^{88}Sr) of which ^{87}Sr is radiogenic and results from radioactive decay of the isotope ^{87}Rb. Depending on the rubidium content of a rock and its age, the $^{87}Sr/^{86}Sr$ ratio varies mostly between 0.7000 and 0.7500 but may also be higher. When rocks and soils weather, strontium is released into water and becomes biologically available. Due to their similar ionic radii and chemical properties, strontium can substitute for calcium and is transferred through food chains without any significant isotope fractionation. In animals and humans, strontium is primarily incorporated into hydroxyapatite ($Ca_{10}(PO_4)_6OH_2$), the inorganic component of teeth and bones. Because the enamel of tooth crowns forms during certain time intervals in childhood, does not remodel afterwards, and is very resistant to post-mortem alteration (Hillson 2005), its $^{87}Sr/^{86}Sr$ ratio records the geologic signature of an individual's childhood landscape (Slovak and Paytan 2012).

Carbon isotope analysis

Carbon isotopes of carbonate that is contained in bone/enamel hydroxyapatite (Pasteris et al. 2004) and collagen reflect diets (Deniro and Epstein 1978; Lee-Thorp et al. 1989; Sponheimer et al. 2013; van der Merwe and Vogel 1978). Carbon isotope research is based on the difference in carbon isotope ratios of crops using the C_3 or C_4 photosynthetic pathways. Crops using the C_3 pathway (rice; wheat; barley) have average $\delta^{13}C$ values of − 26.5‰; crops using the C_4 pathway (millet; maize; sorghum) have average $\delta^{13}C$ values of − 12.5‰. Human enamel $\delta^{13}C_{VPDB}$ ranges from − 14‰ for purely C_3 diets to 0‰ for purely C_4 diets (Ambrose and Norr 1993). For the case of southwest China, using C_3/C_4 isotope ratios is not entirely straightforward because—as described above—the small amount of archeobotanical research conducted so far suggests considerable variability in subsistence systems between different sites and even within the same site with changes over time (e.g., Haimenkou). The general assumption is that from the late Neolithic, southern China was characterized by rice agriculture (C_3-plant) (Zhao 2010), but the identification of millet crops at some sites in southwest China speaks against such a clear-cut division. The results below therefore have to be evaluated with caution.

Oxygen isotope analysis

Oxygen isotope compositions of hydroxyapatite of human bones and teeth are derived primarily from drinking water (Longinelli 1984; Luz et al. 1984; Luz and Kolodny 1989), rainfall being its major source (Schwarcz and Schoeninger 1991). Oxygen has three stable isotopes (^{16}O, ^{17}O, and ^{18}O), but we focus on the two most abundant isotopes: ^{18}O (99.8%) and ^{16}O (0.2%). ^{18}O is 12.5% heavier than ^{16}O. Because water molecules are mainly oxygen by weight, $H_2{}^{18}O$ is 11% heavier than $H_2{}^{16}O$. Heavier water molecules are more difficult to evaporate than the lighter water molecules and, once in the

atmosphere, lighter molecules remain longer than the heavier molecules. When the temperature is higher, there is more energy to keep both molecules in the air, but when the temperature is cold, the heavier molecules are preferentially removed and the remaining moisture becomes isotopically lighter. Thus, the oxygen isotope content of rainfall depends on climatic and environmental variables such as temperature, humidity, altitude, and distance from the sea where clouds form (Ayliffe and Chivas 1988; Stuart-Williams and Schwarcz 1997). Its light stable isotopes fractionate during the metabolic processes and are incorporated into the biological hard tissues. Due to the constant body temperatures of mammals, this happens at constant rates and linear regression equations can be used to estimate the isotopic composition of the imbibed water from the oxygen isotope ratios found in teeth and bones.

Analyses

Strontium isotope analyses

For strontium isotope analysis, using an established procedure, about 7–10 mg of tooth enamel was cut from each individual with a dental drill. We mechanically cleaned all visible dirt or contamination and removed dentine with a surgical steel scalpel, and then soaked the sample for 8 h in weak (5%) acetic acid to remove diagenetic material. The cleaned enamel was dissolved in ultrapure 8 and 3 N HNO_3 in Teflon beakers on a hot plate at 120 °C. The strontium was purified from this solution by cation exchange chromatography in Teflon columns with Eichrom Sr-Spec resin (mesh 100–150 μm) and nitric acid as the mobile phase. The Sr-Spec resin was presoaked and flushed with H_2O to remove any Sr present from the resin manufacturing process. The resin was further cleaned with repeated washes of 18-MΩ Milli-Q H_2O and conditioned with 3 N HNO_3. Purified Sr was extracted with 3 N HNO_3 acid. $^{87}Sr/^{86}Sr$ ratios were measured on the Neptune Plus system at the CAS Key Laboratory of Crust-Mantle Materials and Environments, School of Earth and Space Sciences, University of Science and Technology of China. The strontium carbonate standard NBS 987 yielded a $^{87}Sr/^{86}Sr$ ratio of 0.710248 ± 0.000012 (2 s.d., $n = 100$) (Table 3).

Carbon and oxygen isotope experiments

For carbon and oxygen isotopes, cleaned enamel samples were prepared in the Archaeometry Laboratory, University of Science and Technology of China by selecting a few milligrams of finely powdered enamel carbonate. Powdered samples were reacted with dehydrated phosphoric acid under vacuum at 70 °C in the head-space of the vile. $\delta^{18}O$ and $\delta^{13}C$ of tooth enamel carbonate then were measured using an automated carbonate preparation device (GasBench) coupled to a gas-ratio mass spectrometer (Finnigan MAT253) in the Isotope Laboratory of the Third Institute of Oceanography, SOA. The isotope ratio measurement was calibrated based on repeated measurements of NBS-19 and NBS-18 and precision is ± 0.1‰ for $\delta^{18}O$ and ± 0.06‰ for $\delta^{13}C$ (1 s). The carbonate-CO_2 fractionation for the acid extraction is assumed to be identical to that of calcite (Table 3).

Results

The 18 human samples from Shamaoshan yielded $^{87}Sr/^{86}Sr$ ratios ranging between 0.709710 and 0.715239, with an average 0.712826 ± 0.0014 (1 s.d., $n = 18$). These samples exhibit a $\delta^{13}C$ ratios range of − 12.7 to − 11.1‰, with an average of − 12.2 ± 0.44‰ (1 s.d., $n = 18$), showing a $\delta^{18}O$ ratios range of − 7.6 to − 4.1‰, with an average of − 5.53 ± 1.07‰ (1 s.d., $n = 18$). Overall, we can thus see subtle variation (Table 3; Fig. 8). Previous studies have shown that the $^{87}Sr/^{86}Sr$ ratio of the Mayutian skeletons identified as local is 0.7096 ± 0.0003 (Zhang et al. 2014). The horse bones from Zhongshui exhibit an $^{87}Sr/^{86}Sr$ ratio range of 0.708221–0.713595 with an average of 0.710775 ± 2 s.d. (s.d. = 0.00159). Both sets of data can thus serve as a point of comparison for the data from Shamaoshan and the data from the geological analyses discussed above.

Strontium isotope analysis

The $^{87}Sr/^{86}Sr$ ratios of the 18 Shamaoshan individuals fall into three groups with distributions ranging from small to large. The first group (M11, M24, M51) has an $^{87}Sr/^{86}Sr$ ratio range of 0.709710–0.710731, and the average value is 0.710188 ± 0.0005 (1 s.d., $n = 3$). The second group (14 individuals) has an $^{87}Sr/^{86}Sr$ ratio range of 0.711856–0.713962, and the average value is 0.713219 ± 0.0006 (1 s.d., $n = 14$). The third group (M28: H) has a $^{87}Sr/^{86}Sr$ ratio range of above 0.7150 ($^{87}Sr/^{86}Sr$ ratio = 0.715239) (Table 3; Fig. 8). The $^{87}Sr/^{86}Sr$ ratios of 14 individuals in the second group correspond with the $^{87}Sr/^{86}Sr$ ratios of the water of the Nanpan River, indicating these people were most likely local. The $^{87}Sr/^{86}Sr$ ratios of the individuals in the first and third groups are beyond the local $^{87}Sr/^{86}Sr$ range, which indicates that they must have come from at least two places other than the surrounding area. Remarkably, the individuals of M11, M24, and M51 in the first range are all early owners of single burials. By contrast, 13 out of the 14 individuals identified as local were interred in secondary group burials with only the individual in M52 occupying one of the late single burials. The $^{87}Sr/^{86}Sr$ ratios of Shamaoshan M11, M24: A, and M51 thus correspond with the Mayutian and Zhongshui ranges.

Table 3 Strontium, carbon, and oxygen isotope data of human tooth enamel of Shamaoshan site

Lab no.	Sample	Teeth	Sex	$^{87}Sr/^{86}Sr$	$\delta^{13}C_{VPDB}$ (‰)	$\delta^{18}O_{VPDB}$ (‰)	Burial style
ZY-9228	M3-3	LLM_1	Female	0.711856	− 12.3	− 4.1	Multilayer burial
ZY-9229	M5-2B	LLM_1	Female	0.712857	− 12.7	− 6.3	Multilayer burial
ZY-9230	M5-4	LLM_1	Male	0.713609	− 12.6	− 5.2	Multilayer burial
ZY-9231	M6: A	LLM_1	Female	0.713229	− 11.5	− 5	Group interment
ZY-9232	M11	LRM_1	Male	0.710124	− 12.2	− 6.7	Single burial
ZY-9233	M22-1A	LRM_1	Male	0.713457	− 12.1	− 6.1	Multilayer burial
ZY-9234	M24: A	LLM_1	Female?	0.710731	− 12.5	− 7.6	Single burial
ZY-9235	M28: A	M_1	Female?	0.713195	− 12.2	− 4.4	Group interment
ZY-9236	M28: B	LLM_1	Female?	0.713722	− 12.1	− 5.3	Group interment
ZY-9237	M28: C	LRM_1	Juvenile	0.713591	− 12.5	− 4.1	Group interment
ZY-9238	M28: E	M_1	Juvenile	0.713962	− 12.7	− 4.7	Group interment
ZY-9239	M28: H	LLM_1	Male	0.715239	− 12.3	− 5.6	Group interment
ZY-9240	M30-2D	LLM_3	Male	0.71229	− 12.1	− 4.6	Multilayer burial
ZY-9241	M30-4	LLM_1	Male	0.713598	− 12.6	− 4.2	Multilayer burial
ZY-9242	M51	LLM_1	Male	0.70971	− 12.6	− 6.9	Single burial
ZY-9243	M52	M_1	Male	0.71349	− 11.9	− 6.2	Single burial
ZY-9244	M57: A	LRM_1	?	0.712676	− 11.6	− 6.6	Group interment
ZY-9245	M57: B	LLM_1	?	0.713534	− 11.1	− 6	Group interment

LLM1 = lower left first molar; *LRM1* = lower right first molar; *M1* = first molar; *LLM3* = lower left third molar

Oxygen isotope analysis

For the Shamaoshan samples, the values of $\delta^{18}O$ are between − 7.6 and − 4.1‰, with an average of − 5.53 ± 1.07‰ (Table 3; Fig. 8), while those of Mayutian site average − 6.75 ± 0.46‰ (1 s.d.; $n = 14$), with far less variance and lower values than Shamaoshan (Zhang et al. 2014). The $\delta^{18}O$ values of Zhongshui sites are close to Shamaoshan, averaging − 5.56 ± 0.48‰ (1 s.d.; $n = 39$) (Zhang et al. 2018). The range of $\delta^{18}O$ of three individuals from single burials M11, M24, and M51 dating to the early phase of Shamaoshan falls between − 7.6 and − 6.9‰, lower than that of the individuals from the multiple burials (− 6.6 to − 4.1) (Table 3; Fig. 8), but similar to Mayutian. The strontium isotope ratio of these three individuals is thus different from those found in multiple burials. All samples analyzed came from the first molar which mineralizes during early childhood (0–3 years) and retains its chemical and isotopic composition throughout the life of the individual. The strontium and oxygen isotopes in the enamel thus reflect the geological and climatic characteristics of the birthplace or location where the individual in question spent their early childhood. Therefore, both strontium and oxygen isotope results suggest that M11, M24, and M51 were of nonlocal origin.

As $\delta^{18}O$ values reflect large-scale geographic changes, the results of the strontium analysis described above suggest that these three individuals came from a place fairly far away from Shamaoshan. Generally speaking, the oxygen isotope ratio of precipitation decreases with increasing latitude, altitude, and distance from the sea. However, the Yunnan–Guizhou Plateau is not only complex and diverse in terrain, but also affected by the East Asian and South Asian monsoons. The details of this oxygen isotope variation of precipitation throughout the Yunnan–Guizhou Plateau are still unclear (Zhang et al. 2014). Therefore, at present, the better approach to finding the birthplace of the three individuals would be a comparison of the oxygen isotope ratios of individuals found in archeological contexts in various locations; however, there are only very few human bone oxygen isotope data available for this region. The average value of human enamel oxygen isotope at Mayutian located in the Red River Basin, south of Shamaoshan, is 6.75 ± 0.46‰ (1 s.d.; $n = 14$), which is close to the oxygen isotope ratio of the individual from the three nonlocals at Shamaoshan, and also has some overlap in the strontium isotope ratio result. However, the carbon isotope analysis below shows that the diet of individuals from the two archeological sites differs markedly. Therefore, at present, we cannot find the birthplace of the three nonlocals from Shamaoshan only based on oxygen isotope analysis alone.

The $\delta^{18}O$ values of the individual from a single burial of the late phase fall within the range of those of the individuals in multiple burials. Considering the result of the strontium analysis, it therefore can be concluded that these people were local. The individual with higher $^{87}Sr/^{86}Sr$ ratios from M28: H does not show any differences in $\delta^{18}O$ value from the occupants of the multiple burials, indicating that even though he may be nonlocal, he would have come from not too far away.

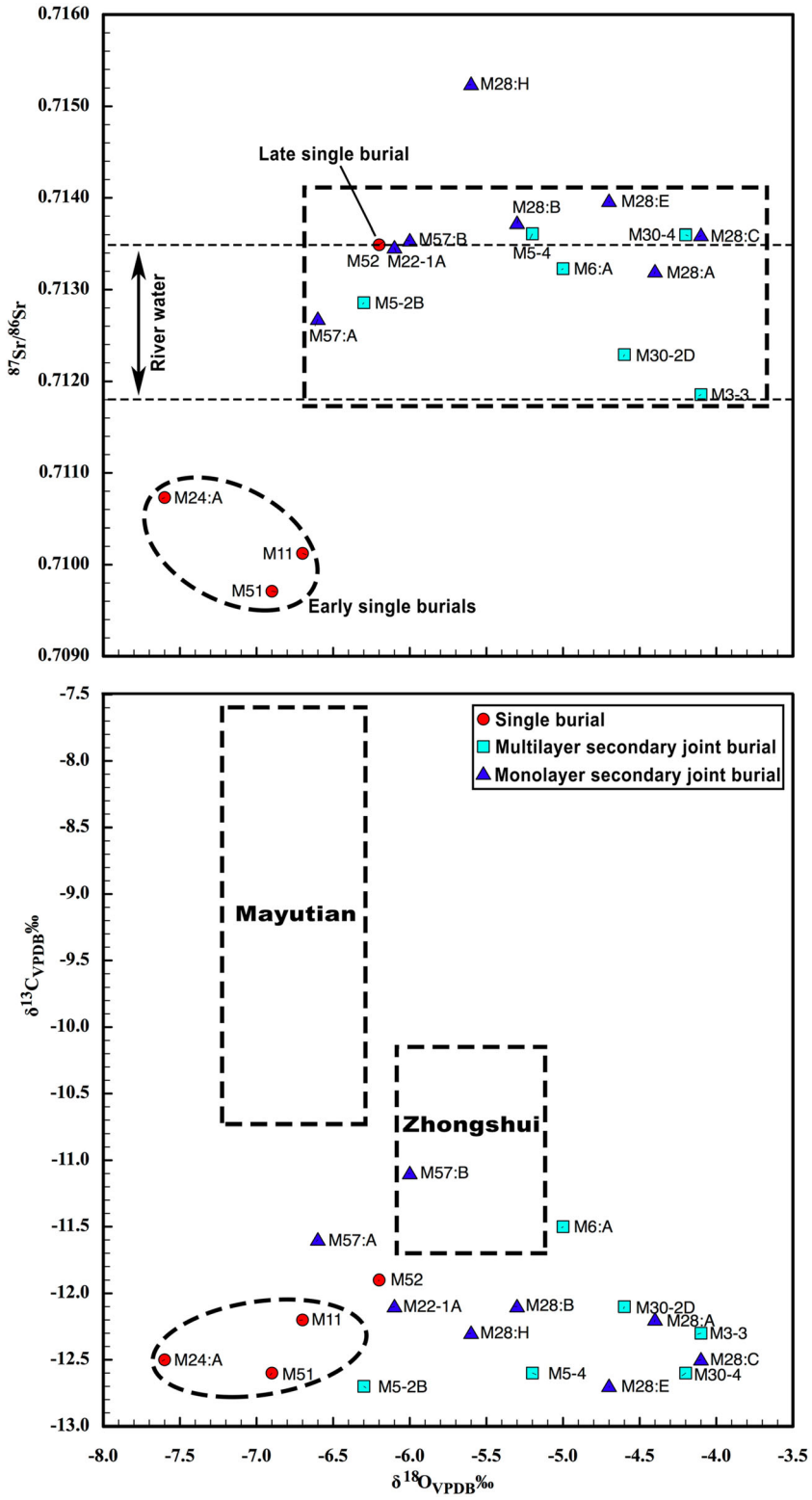

Fig. 8 Scatter plot of $^{87}Sr/^{86}Sr$ vs $\delta^{18}O$ and $\delta^{13}C$ vs $\delta^{18}O$ for the Shamaoshan burials

Carbon isotope analysis

The range of $\delta^{13}C$ values for all 18 samples is −12.7 to −11.1‰, averaging −12.2 ± 0.44‰ (1 s.d.; $n = 18$) (Table 3; Fig. 8). According to Cerling et al. (2003, 2004), the $\delta^{13}C$ values in bioapatite are generally 12‰ less concentrated than that of foods ingested by humans; thus, the range of $\delta^{13}C$ values of human diets in Shamaoshan is −24.7 to −23.1‰.

The range of $\delta^{13}C$ values of C_3 plants is 32–24‰ (Cerling and Harris 1999), but due to fossil fuel combustion, the $\delta^{13}C$ values of modern plants are enriched by over 1.5‰ compared to ancient plants. Therefore, we conclude that all individuals from Shamaoshan lived on C_3 plants and/or domestic animals fed rice as their principle food source. Previous carbon isotope analysis on the coetaneous same period bone collagen from Jinlianshan (Fig. 3), a contemporaneous site not far from Shamaoshan, has shown that the consumption of C_3 plants accounted for 85.85–94.87‰ of the diet of the people buried there (Jiang 2013), suggesting a close similarity in dietary patterns with central Yunnan. Related archeobotanical research has shown that during the Bronze Age (3400–2300 BP), crop-use patterns on the Yunnan–Guizhou Plateau were varied, with millet, rice, wheat, and barley planted simultaneously (Li et al. 2016). Among the botanical remains unearthed from the late Bronze Age Xueshan site only 30 km away from Shamaoshan, wheat and rice account for 64.7%, while millet only accounts for 2.25% (Jilin et al. 2010; Li 2016; Wang 2014).

The three individuals of single burials with lower $^{87}Sr/^{86}Sr$ and $\delta^{18}O$ values compared with those of individuals of multiburials are in accord with those of individuals of multiburials in $\delta^{13}C$ ratios, belonging to the range of C_3 plants. Therefore, we suppose these three individuals came from the areas where rice and wheat are staple food. Another option would be that they were local but for some reason had a different diet, but that seems less likely. The average $\delta^{13}C$ value of the enamel carbonates of the individuals from Mayutian is 9.14 ± 1.6‰ (1 s.d.; $n = 14$), and Zhongshui is -10.73 ± 0.77‰ (1 s.d.; $n = 39$), showing a mixture of C_3 and C_4 plants in their diets (Zhang et al. 2014), which indicates that the proportion of millet consumption in the Red River Basin and junction of Yunnan and Guizhou Provinces is higher than in the central Dian area (Fig. 8). Although the $^{87}Sr/^{86}Sr$ and $\delta^{18}O$ values of three single burial individuals fall into Mayutian range, there are obvious differences in diets between these sites. Thus, it is unlikely that these three individuals originated from the Red River Basin or the junction of Yunnan and Guizhou Provinces.

The $\delta^{13}C$ values (-8.7 ± 1.5‰) of human bone of Qin–Han period from the Guanzhong Region show a predominant C_4 diet (Ma et al. 2016; Zhang et al. 2014), indicating millet was the main staple crop in north China at the time. It is thus unlikely that the three individuals came from northern China. The principal plant food in the Yangtze River Basin, on the other hand, has been C_3 crops (rice) since the Neolithic. Hence, these three individuals in single burials could have come from somewhere in Yangtze River Basin, however, as a mixed crop practice with a predominance of rice is common in various parts of Yunnan as well, such patterns could also have developed there with uneven access to various types of crops for people of different social status.

Discussion: insights into Shamaoshan as a case study

After this separate analysis of textual, archeological, and isotope evidence for the Han imperial expansion into southwest China, the three strands of evidence can now be combined. Focusing on the case study first, it has become clear that Shamaoshan is in a unique geographic location at the northeastern edge of the Central Lakes Basin, thus close to the early center at the northern edge of Lake Dian and on the one side and the mountains of Qujing on the other. Similarities in burial customs and assemblages with both areas as well as with locales on the northern edge of Lake Fuxian and to a lesser extent Lake Xingyun suggest that Shamaoshan was well connected with the rest of the Central Lakes Basin and may even have been a node in the network connecting the Dian Basin with the outside world—albeit a minor one. Nevertheless, based on the limited size of its graves and burial goods and the relatively low quality of its metal objects, the community burying their dead at Shamaoshan does not seem to have been particularly rich or important in political terms. In spite of being well-connected to the outside, the site also exhibits marked local particularities such as the large percentage of complex multilayer burials with various forms of body treatment. While other contemporary sites show evidence for multilayered burials as well, they are by far not ubiquitous and occur nowhere in as high a percentage as at Shamaoshan. They furthermore decrease in prevalence over time even at Shamaoshan, while multiple burials increase in number. During the middle and late Western to early Eastern Han (Shamaoshan phases 4–5), the number of primary interments increases significantly, a potential sign of the arrival of Han immigrants, especially considering that at the same time Han-style items become considerably more common. This does not necessarily mean Han immigration from the Central Plains, though. As textual accounts show, individual migration as well as forced or voluntary state-organized population resettlement occurred throughout the Empire, moving people in stages or directly, from the Central Plains or outlying areas, often in the wake of disaster relief. An individual or group might thus have a complicated migration history, changing eating habits and picking up items or customs on the way, making the resultant picture significantly more complex.

Not surprisingly, object assemblages and isotope data at times provide seemingly conflicting information. As expected, there were cowrie shells in early graves with Dian-style metal items and ceramics of distinct local style (M3-3, M5-2B, M5-4, M6) (Appendix IV). The largest observed amount of Han items, however, among them 145 *wuzhu* coins in one grave, was placed in the graves of individuals of local origin (M22-1A; M30-2D, M30-4). There are four individuals of nonlocal origin, one identified as having come from somewhere close-by (M28: H, male, age 25–30) and buried

secondarily in a single-layer group burial with eight other primary and secondary interments. Considering the large number of interments, the grave, though not small, was poorly furnished, containing only one loom weight and a low-stemmed bowl resembling finds from stone-cist graves in Sichuan. A similar bowl, associated with a jar with constricted neck and outward-curving rim likewise suggesting a southwest Sichuan connection and a Dian-type bronze halberd but also six cowrie shells appeared in a single grave holding one of the nonlocal individuals coming from further away (M52; male, age 30–35). The other two nonlocals were likewise laid to rest in extended supine position in individual graves and accompanied by two ceramic loom weights in one case (M24, female?, age 40) and a combination of a generic jar and various bronze weapons, tools, personal ornaments, and a stone net weight in the other (M11, male, age 25–30), all simple in form and fairly generic with no clear sign of a foreign origin of object or type.

When considering all 57 excavated graves, there is no clear correlation between specific object, grave, burial, or interment types, and also sex and age do not seem to have played a decisive role. Han coins occur not only in single primary or group interments, but also in local-style multilayer interments. Conversely, cowrie shells occur in just as high a number in multilayer burials as in single interments. Contrary to most other Dian sites, cowries and Han coins furthermore co-occur, but only in the smaller and less well-equipped graves. Here, objects and customs of local, Han, and northern mountain origin appear happily side by side; in contrast, the largest and even the medium-sized graves always contain cowries but no Han coins. This seems to tally with Yao's (2016) assessment that members of the Dian elite expressed resistance against the Han through graves lavishly furnished with local items and cowrie shells but excluding Han coins. Some of these graves did include small numbers of other Han items, however, which may have been gifts or items acquired to various other means rather than common grave items. Proportionally, such Han items would naturally be rather rare in rich Dian graves lavishly equipped with items of local origin. The small number of Han items may thus not necessarily be a sign of active resistance against items of Han cultural pedigree. At Shamaoshan, there furthermore is a chronological component at play. The largest, most well-equipped grave, M1, is the earliest, and the lack of Han-style items may thus not be a sign of resistance but rather lack of contact. Similarly, the smallest graves are late in date and the presence of Han-style items is thus not surprising. It is also noteworthy that the graves with nonlocals dated between the third century BC and first century AD, so some of them arrived before the Han conquest.

Overall, it thus appears that from the mid-Western Han at the latest, foreigners arrived and were integrated into the community burying their dead at Shizhaishan, some from close-by, and others from further away, but the precise place of origin is unknown. Immigrants seem to have been buried the same way as the locals, merrily mixing local burial customs and objects with items from the northwestern mountains as well as from the Central Plains. The number of immigrants seems relatively high, 4 out of 18; however, as they were chosen based on preservation condition from 299 excavated skeletons, the sample may not be entirely representative. It is remarkable that both male and female adults were present among the immigrants, precluding unilateral marriage patterns. The three nonlocals in the single burials stand out in terms of dietary patterns, though, having been more reliant on C_3 plants than the other individuals at the site who—like the immigrant coming from a place closer by—subsisted on a mixture of C_3 and C_4 plants. In the mountains of southwest China, from the Neolithic, a mixed subsistence of C_3 and C_4 crops is common, usually with a stronger reliance on millet and wheat in the later periods, while people in the Dian Basin rely heavily on rice, though not as exclusively as in the Yangzi River Basin or the Chengdu Plains. These three individuals are thus more likely to have come from a lower-elevation local with a focus on rice agriculture than from the surrounding mountains.

If some of these foreigners self-identified as Han, they may have come from Shu, Lingnan, or the middle Yangzi, not necessarily from the Central Plains. They furthermore likely did not come in a large group as they seem to have been integrated fully into the local community without trying to stand out or being set apart from the locals in death, be it in attire or burial custom. The only aspect that suggests an increasingly stronger Han connection is the gradual emergence of single interments as the main form of burial from the late Western Han. The nonlocal individuals in M11, M24, and M51 are among the early owners of single burials, albeit in the form of southeast–northwest-oriented earth-pit graves as the local custom dictated. If they were of Han origin, they may thus have found a compromise between their own and local traditions, adopting also the local dress and object repertoire. Considering that people do not bury themselves, their local attire in death also signals their acceptance by the burying group, who nevertheless may have respected their wish to be buried individually. This is only one possible scenario, though, as there are many possible reasons for burying an individual alone. The custom of single burial may furthermore have developed locally, especially considering that single interments appeared at Shamaoshan already from phase 2 onward with no inclusion of Han items. The same can be seen at other sites in the Central Lakes Basin. The next step would be to conduct systematic isotope studies on skeletons from individual interments from various sites to see if these are early immigrants who came on their

own before large-scale state-organized population movements or if it is a case of local, independent development of a new burial practice. Combined with a comparative analysis of burial assemblages, this would also help determine the range of behavioral patterns within communities, distinguishing between shared customs, habits, or general behaviors and individual decisions and singular actions.

Even though the Shamaoshan cemetery continued to be used until the first century AD, no Han-style brick or rock-cut graves appear, suggesting that the waves of Han colonialists may not have reach this specific locale. The Han-style items may thus have arrived at the site through intermediaries who had a migration background and/or connections to Han territories. The case of Shamaoshan thus shows that the encounter with the Han as individuals and through their objects and customs, both prior to and after the Han annexation of Dian, took many different forms and led to a variety of reactions both by locals and nonlocals, some of them showing shared attitudes toward "the other," others reflecting individual preferences and decisions. It also shows that the arrival of nonlocals presumably used to different forms of dress and food may not leave a clear signature in the archeological record; however, archeological evidence may help to interpret the isotope results and prevent us from jumping to quick conclusions on long-distance migrations solely based on the identification of individuals as nonlocal. At the same time, the presence of Han-style objects are by no means a clear sign of foreign origin of the dead whom they accompanied, but they were chosen deliberately by both locals and nonlocals in an eclectic fashion, combining them with local items to have both the rare and the familiar in their last resting place.

The material presented here thus highlights the difficulties of determining origins from burial assemblages. Shamaoshan specifically has shown that the presence of Han items alone is not a clear sign of a foreign origin of the people interred with them, nor is the use of single primary burials. Even though immigration clearly took place, in death, there is no clear pitching of the local against the foreign but an eclectic mix of elements from several worlds (Han, Shu, stone-cist grave complex, local) among locals and immigrants alike. Interestingly, historical and archeological evidence for modern-period Chinese overseas communities similar suggest that in everyday life, these immigrants "did not always experience their lives through oppositions between East and West or between tradition and modernity" but that gender, social inequality, and other group and individual identities, and even individual preferences were of considerably great importance (Voss 2005, p. 436). Both cases thus emphasize the well-known complexity of identity, especially in contact situations, be they asymmetrical-colonialist, diaspora-driven, or on seemingly equal footing.

Conclusion: Han imperial expansion and the study of colonialism and migration

Through the focal lens of Shamaoshan as a case study, the present paper has shown that the incorporation of parts of southwest China into the Han Empire was a complex process involving more than a century of people movement, conflicts, resistance, "creative misunderstandings," but also integration, acceptance, and change among the many individuals and groups involved in contact situations. The insights gained here show that the long-accepted story-line of "Sinicization" through mass migration and one-directional "civilizing influence" furthered by the perceived natural attractiveness of Central-Plains goods and ways of life is far from accurate. Trying to replace the text-driven, colonialist-dominated narrative and move beyond events history does not mean ignoring historical events, though. In the present study, we have followed Dietler's (2005, p. 67) call "to consider temporal and spatial dimensions and think of historical processes." We went beyond this, however, combining archeological, textual, environmental, and isotope data to provide a nuanced, multisource view of migration and identity in the early imperial southwest. In the following, we attempt a summary of wider developments in southwest China beyond Shamaoshan that combines both local and Central-Plains perspectives, integrating various angles and sources of data to paint a picture of Han imperial expansion into southwest China.

As previous studies have shown, the various groups inhabiting southwest China have been part of long-distance contact networks since the late Neolithic at the latest (Hein 2014a, b). These networks at first ran in north–south direction following the direction of the mountain ranges, in the Bronze Age expanding as far as the northern steppe on the one end and Southeast Asia on the other. From the late Bronze Age, the network branched out toward the west and east reaching as far as the Central Plains. Many of these contacts were indirect in the form of down-the-line trade and short-distance migrations rather than long-range movements and direct contact. This changed during the Qin period when colonists were sent into Sichuan and Lingnan; archeologically, their presence is reflected in Central-Plains-style objects and burial customs occurring in combination with local traditions and objects (Allard 2005). The Central Lakes Basin of Yunnan was more difficult to integrate into the empire as there was a strong elite present long before the Qin. That elite gained its wealth and power from control over long-distance exchange routes as well as the technology and raw materials needed to produce ritual objects and weapons employed in burials and in the increasing number of conflicts over resources that the region experienced.

The Qin never succeeded in establishing domination in Yunnan, and even after the Han conquest, imperial control was only nominal at first. From the local point of view, social and political structures stayed largely as they were, only with an added—probably mutually beneficial—connection between the local elite and the Han rulers. Making use of these connections, the number of foreign traders and individual migrants probably increased, though not dramatically. As members of trade diasporas tend to be "distinct from both the societies in which they originated and those in which they live" (Eckardt et al. 2014, p. 536), these traders may not have left too strong an impression on local communities and are thus difficult to identify archeologically. After all, an increase in Han-style items (especially an increase as marginal as the one seen after Han conquest) only reflects an intensification in connection with the Central Plains, directly or indirectly; it does not prove the presence of Han migrants.

The relatively late onset of actual Han control in the Central Lakes region is clearly reflected in the settlement material. Large Han settlement appear from the first century BC onward, but only at the very edge of the Basin, not in its heart, and supported by garrison posts throughout the Qujing Valley reflecting a strive for military control—much-needed preparations, as the many upheavals suggest—rather than administrative or economic considerations. Especially resource extraction seems to have been in the hands of the locals into the Eastern Han. In spite of historical texts claiming large-scale intensification of agriculture in the Dian Basin by the Han, extended forest clearing took place already prior to the Han conquest and a dip in pine coupled with a large spike in grains occurred only during the ninth century AD. Changes in subsistence and local economy were thus caused by an interplay of locals and new arrivals, Han and non-Han inhabitants, over an extended period.

Textual accounts testify that large-scale state-organized and/or disaster-driven population movements did take place, however, reaching also the southwest especially in the later Han. Already the Qin had sent several ten thousand people to Shu, as settler communities helped to colonize the newly won territories through dominance by numbers. A similar approach was taken to southern China. Not surprisingly, Lingnan and Sichuan see the emergence of Han-style buildings and graves that replace local forms prior to the second century BC. Many of the colonists had not come from the Qin heartland, however, but from newly conquered territories (Sage 1992, p. 134), quite similar to migration patterns in the Roman Empire. For Shu under the Qin, it has been suggested that the first migrants were traders, followed by large numbers of peasants sent there to colonize the place; only once a sizable population had settled, officials would move in to establish a local bureaucracy and levy taxes, so Sage (1992, p. 134) suggests.

In the case of the Han encroachment on Dian, the sequence seems to have been somewhat different. Traders may have come first, followed by Qin and later Han envoys, then followed by military conquest by troops moved in from Shu. The first census in Yizhou at AD 2 suggests that there must have been some level of administrative control, but only the second census at AD 140 shows a considerable population increase. Pushing for tighter control, planned large-scale resettlement took place, pulling from both forced and voluntary migrants from various parts of the empire. Following the upheavals and natural catastrophes after the rise of Wang Mang, even more migrants came to the southwest. The sequence here thus seems to have been as follows: trade diaspora – military encroachment – administrative diaspora – settler diaspora(s). The settlers were not one unified group but came from various parts of the empire, for a variety of reason and in several waves, thus, the plural, "diasporas." Cohen's concept of imperial diasporas as a combination of military and administration thus does not fit the case at hand, though. Under both Qin and Han and later Chinese empires, state officials were a highly mobile group, usually dispatched to one place for only a few years and then being deployed to a different location (Ge 1997). These officials were a close-knit group, linked by profession, education, family background, and social status, and quite separate from the military, let alone the peasant or convict settlers or the traders. The administrators were thus a true diaspora maintaining their own traditions and keeping apart from locals as well as other immigrants. Likewise being a tight-knit group by nature, though of more diverse origin, the military may have kept to themselves as well. It was thus neither the elite nor the military, but the heterogeneous group of nonelite settlers from throughout the empire that intermingled most with the locals.

In the burial material, Han items start appearing in greater number and in smaller, more moderately equipped graves throughout wider parts of Yunnan from the first century BC onward. They become very common in the early eastern Han, now also including ceramic models. At this point, Han-style brick graves appear in greater number, albeit with local particularities. That they are at first in the form of simple vertical pits, sometimes cut in stone if no bricks were available, suggests a certain amount of intermingling (maybe even intermarriage) leading to the adoption of local customs by immigrants and vice versa. In terms of burial objects, the immigrants imitated local customs by including large numbers of metal weapons, tools, and ornaments, thus participating in a competitive form of conspicuous consumption. Western Han period immigrants thus adopted some local burial customs while later arrivals largely kept to Han customs, adding only few local modifications. At the same time, locals included increasingly more Han-style items in their graves, continuing a tradition that had started already during the Western Han, possibly to show wealth and/or power reflected in access foreign

goods. Now that the Han were not in the far-away Central Plains any more but right there, as immigrants, neighbors, potentially even oppressors or at least less-than-popular administrators extracting taxes and services, Han-style items would have acquired new meanings.

At this point, the upper ranks of Dian society started constructing increasingly more lavish graves in separate burial areas, keeping the Han at arm's length at least in death. The inclusion of large numbers of local-style ritual objects, weapons, and large numbers of cowrie shells (i.e., what may be deemed a local currency of more than monetary value), while deliberately excluding Han coins, a symbol of the new monetary system and economic power of the empire and its administrative personnel in the "colonies," even seems like a deliberate act of resistance. The Han approach to control the local elite through forced acculturation by teaching them Han customs thus seems not to have been particularly successful. The small number of seals with phantasy characters and ink stones without other writing utensils found in a few elite graves at Lijiashan (Yao 2016, pp. 192–4) indicates that the local elite's grasp of Han culture must have been superficial at best, reducing symbols of Han elite culture to mere curiosities rather than signs of acculturation.

At lower levels, people may have been less aware of the political implications of including or excluding Han-style items. At least in larger settlements, coins may have become part of daily exchanges, while various Han-style items may have been perceived as esthetically attractive luxury items rather than objects associated with the colonizers in a negative way. In locations farther away from the major Han settlements, coins may have been seen simply as exotic goods as well. All in all, the locals felt free to pick and choose items based on perceived usefulness, esthetics, or personal preferences without always considering political agendas. The inclusion of clay models shows an intermingling of locals and Han on a deeper level, though, initiating an adaptation of Han grave forms and interment customs at an increasingly rapid pace. By 100 AD, in the middle of a large wave of Han immigration, in the Central Lakes Basin, Dian-style items had all but disappeared from the graves. In the western mountains, similar changes took place only around the third century AD, the time lag being caused by the geographic remoteness of the area.

While in the beginning it was the upper echelons of society who were in contact first with the Qin and then the Han, in the end, it was thus the lower and middle classes of both immigrants and locals who finished the colonialization of the Dian. The case of Shamaoshan indicates earlier middle- or lower-class immigrants to the region—be they from the Central Plains or other regions—may actually have been "Dianified," and only when the Han arrived in large numbers, they "Sinicized" the locals instead, but from the bottom up instead of from the top down as originally planned. While the textual accounts—the story as told by the colonizers, so to speak—emphasize the contrast between the foreign and the local, the material remains provide a different view. While the Dian elite may have emphasized their own burial traditions and Han officials and military personnel may have stayed within their diasporas, the wider populous among locals and immigrants alike were buried with an eclectic mix of elements from various worlds (Han, Shu, stone-cist grave complex, local). At least in death, they did not perceive their existence within a dichotomy of local/foreign but within a more complex framework of perceptions, identities, and actions.

Within such frameworks, foreign and local customs and objects alike undergo reinterpretation, making it impossible to use single items as reliable identity markers for the people they accompany. Objects do not have a fixed meaning but are constantly reinterpreted within frameworks of creative (miss)understanding, especially in contact situations, asymmetrical or otherwise. Having drawn from previous discussions on the importance of material culture in colonial encounters, this study has shown that we have to move beyond this strong focus on objects, be they as desired items, prestige goods, tools of colonialization or resistance, or even agents in their own right, and discuss actions and behavior in context. Just like objects, behavioral codes undergo reinterpretation and negotiation in actions, not only in crucial events such as burials but in daily activities. Although such encounters happen locally, they are also shaped by the larger social, political, and economic framework and historical context which they shape in turn. The contextual, multisource approach taken here has proven to be a promising avenue.

Moving away from the exclusive focus on exceptional graves and large sites, the present study has furthermore shown the great value of approaching small, poorly equipped graves with new techniques of assessing origin, combining isotope research with a nuanced analysis of burial remains. Evaluated together with the evidence from the well-known exceptional graves, lesser-known settlement material, and historical accounts, the Shamaoshan case study has made it clear that various types of contact, colonial and otherwise, play out quite differently within different social groups and historic situations. While rulers and administrators of colonizing forces may be the ones making high-level decisions and writing historical accounts, it is the myriad of individual decisions of the mass of nonelite migrants and locals alike who seem to induce major shifts in behavioral patterns and material culture in colonial situations. In future studies, be it the Chinese "border regions" or other parts of the world, it may thus be advisable to focus on the difficult-to-interpret small and near empty graves and small settlements to provide a multivoiced view of the past that allows deeper insights into mechanisms and processes of migration and culture contact in past and present societies.

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