Interregional contacts and geographic preconditions in the prehistoric Liangshan Region, Southwest China

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Abstract

The Liangshan region is located at the intersection of several cultural-geographic regions in Southwest China; it is dominated by the towering Hengduan Mountains, whose north-south oriented ridges channeled the early exchange along China's western frontier. The archaeological material from this region therefore provides an ideal case study for research on mechanisms of cultural contact and their environmental preconditions. This paper unlocks the research potential of the Liangshan region by first providing an overview of local prehistoric cultural developments and their geographic preconditions, focusing on signs of outside contacts and their possible origin; in a second step, it suggests routes and types of contact and their motivations. I argue that questions of cultural identity, inter-group contact, and human-environment interaction cannot be treated separately but have to be considered in combination. At the same time, the case at hand shows that the environment is not just a limiting or determining factor: even marginal environments can be used in a variety of ways and do not necessarily lead to conflict among neighboring populations. I therefore argue that in the emergence of contact networks and acceptance of foreign traits, cultural decisions are just as important as and sometimes even more important than geographic preconditions.

Keywords: Archaeology, Southwest China, Cultural Contact, Human-Environment Interaction

1. Introduction

The identification of cultural groups in the archaeological record, and the mechanisms of contact between them, have been major topics of discussion in archaeology since its beginnings as a discipline. The methodological and theoretical aspects of these issues have so

far largely been argued on the basis of ethnographic studies and social-anthropological theories. As the kind of information available to cultural anthropologists is very different from what the archaeologist is faced with, such studies are difficult to apply in archaeological research. To alleviate this problem, this study starts from the concrete body of archaeological material of the Liangshan region in southwest China, discussing various kinds of contact situations and their underlying motivations.

Located at the intersection of the Qinghai-Tibet and the Yunnan-Guizhou-Plateau and bordering on the Sichuan Basin, the Liangshan region is a connection point of several cultural-geographic regions. The multitude of different groups living in and passing through this area since the late 3rd millennium BC have left a highly complex material record that provides an ideal case study for questions of cultural contacts and their environmental preconditions.

To unlock the research potential of the region, in this paper I first provide an overview of local geographic preconditions, including the availability of natural resources and possible routes of traffic. In a second step, I describe the archaeological record, focusing on signs of outside contact and their origins. Combining computer-aided spatial analysis (GIS) with traditional archaeological methods of typology and statistics, I consider each of these foreign elements in its context, pondering their function, the reasons for their acceptance by the local populations, and the routes and mechanisms through which they arrived in the new location.

Based on these analyses, I argue that questions of environmental preconditions, inter-group contact, and local cultural and social processes are intrinsically connected, without any of them predetermining the other. The complexities of the Liangshan region exemplify how people can interact within marginal environments, thus serving as an exemplary study for theoretical and methodological issues of research on mechanisms of cultural contacts and human movement in the landscape.

2. Range of material and suggested approach

2.1. Spatial and chronological extent of the material

Geographically, this paper focuses on the southwest Sichuan, the area covered by Liangshan Yi Autonomous Prefecture, plus Panzhihua City and adjacent counties in northwest Yunnan (Fig. 1-2). This area is circumscribed by the high mountains of Muli County in the Northwest, the Dadu River in the North, and the Jinsha River in the South.

These natural boundaries make it a well-defined geographic entity covering an area of about 81,434 km^2, a little smaller than Austria (83,855 km^2).

Chronologically, this paper concentrates on the material pre-dating the onset of large-scale Han influence during the 1st century AD, which brought about dramatic cultural and social changes that are clearly reflected in the material record. To achieve a multi-dimensional picture that reflects changes throughout time and space, the study includes all available prehistoric material. The time span covered in this paper thus extends from the mid-third to the end of the first millennium BC.

2.2. State of previous research and scope of the present study

Whereas other parts of Sichuan Province have been explored by archaeologists since the late 19th century, systematic archaeological work in the Liangshan region did not start until the 1970s (Liangshan, 1977). The amount of available excavated material is thus limited and issues of chronological and cultural development remain highly debated. As most sites are single-phased and radiocarbon dates are few, the local chronology is largely based on typological comparisons with other regions. Most scholars explain the presence of objects of foreign character in the local context through "influence" or "contact", but usually without considering the nature of these connections.

This paper discusses the nature of these connections through an analysis of archaeological material and geographic preconditions. As a first step, I consider theoretical and methodological assumptions underlying research on cultural contact. Next, I provide an overview of the geographic preconditions in the research area, paying particular attention to raw material distribution and other incentives for inter-regional contacts as well as possible routes of interaction. Only then do I introduce the archaeological material, paying particular attention to evidence for outside contacts.

My study is based on information from 313 sites, including 82 settlements, 191 grave sites, 26 multi-purpose sites, and 14 deposits and single finds (Fig. 3) compiled from published excavation reports, material collections in local research institutes, and personal excavation participation and survey work (Hein, 2013). The main methods that I employ are spatial analysis, typology, and statistics, aimed at finding regular co-occurrences and mutual exclusion of material traces of past behavior that can serve to identify regional groups and signs of contact between them. Finally, I connect the archaeological evidence with the

geographic preconditions to draw conclusions on the motivations for and routes of past contacts, before reassessing methodological and theoretical issues of inter-group contact.

2.3. Theoretical and methodological considerations

The nature of cultural groups and their reflection in the material record has long been a heated topic of discussion in archaeological research. Within the Anglo-American tradition of archaeology, until the 1960s it was generally held that the repetitive occurrence of similar typological or stylistic traits could be identified with specific cultures, the cultural unit equaling an ethnic and linguistic unit (e.g., Childe, 1929, pp. v-vi). It soon became apparent, however, that differences in material remains had no such clear-cut boundaries. Later approaches therefore directed attention to smaller groups, signaling their distinctiveness through commonalities and differences in behavior, which in turn are reflected in the material record (e.g., Hodder, 1982).

A promising approach that has gained popularity since the 1990s is based on the chaîne opératoire concept, which focuses on the process of procurement, production, use, and discard (Sellet, 1993). As this approach has an active element and is informed by practical as well as cultural choices, it is very useful for understanding both functional and cultural significance of object appearance. According to this approach, the congruence and mutual exclusion of such elements indicates the existence of discrete units that could be equated with cultural groups. It is not, however, very realistic to expect such congruence. Instead of discrete units, I expect to find a range of different overlapping, intersecting, and only in some cases exclusive patterns of behavior that can be interpreted as different spheres of identity mirrored in the archaeological record. To this end, I pay attention to object groups and their function in various contexts to identify small-scale identity groups and the connections between them.

On the level of cultural contact, it is not enough to point out single objects and then jump to inferences such as "migration" or "contact," to explain similarities between material remains in different places. We have to begin by defining what "contact" is, what types of contact exist, and how we can identify them in the archaeological record. In migration studies, the term contact generally refers to one or several, singular or repeated instances of encounter between different people or groups of people (Burmeister, 2000). The types of encounter include direct and indirect exchange and trade, as well as personal interactions such as communal eating, drinking, or even marriage or adoption; furthermore, adversary exchanges such as combat and war affect the communities involved (Cusick, 1998). Contact can be both

direct and indirect, with objects, technologies, or even abstract concepts reaching a group through intermediaries by way of trade, gifts, or other kinds of exchange (Olausson, 1988). In the context of archaeological research, the term contact generally refers to various types of exchange between culture groups. The word contact is often used synonymously with "interaction" which Irving Rouse (1986, p. 11) prominently defines as "contact among individuals and social groups while carrying out cultural activities."

Originally, issues of culture contact were linked with discussions on cultural change, that in the late 19th and early 20th century were explained through processes of "migration" or "diffusion." The tendency of proponents of diffusionist-migrationist ideas to suggest far-flung contacts between places as far apart as, e.g., China and Mexico (Heine-Geldern, 1959) without considering routes or mechanisms of such exchanges, has met with much criticism. Although the term "diffusion" has largely fallen out of favor, ill-defined notions of population movement and contacts are still the standard explanation for the high diversity in the material record of Southwest China (e.g., Liangshan and Chengdu, 2009, Liu and Tang, 2006).

In a paper given in 1987, Tong Enzheng (1990) developed a model of a crescent-shaped exchange belt stretching from Northeast China over Qinghai Province to Yunnan Province. He emphasized that the similarities in material remains throughout this region should not be confused with the presence of a single culture. Instead he suggested the existence of a contact network between regions with similar ecological preconditions but different economies. Tong remarked that there are many possible reasons for similarities between archaeological phenomena in different regions apart from cultural unity or economic exchange.

His line of argumentation thus closely resembles that of Willey and his colleagues (1956) who developed a model distinguishing between site-unit intrusions and trait-unit intrusions, differentiating between complete replacement, different levels of amalgamation, and completely new developments. Although such a scheme is helpful for structuring one’s thoughts, it does not answer the question what kind of traces these different kinds of contact may leave in the material record and how we can infer from one on the other.

Various scholars have suggested to measure interaction by quantifying the degree of similarity of style (e.g., Longacre, 1964); however, ethnographic studies show that not all stylistic attributes reflect the intensity of intra-group interaction (e.g., Stanislawski, 1969). Gravity models proposed in geography suggest a positive relationship between amount of interaction and population size and an inverse relationship with distance; however, as Plog (1976) pointed out, there are many other factors at play, such ass the nature of the goods

exchanged, the groups involved, and the mechanisms of exchange. Furthermore, different processes may produce the same spatial pattern, and association is not the same as a causal link. Hodder and Orton (1976) therefore argued that spatial models may be used to predict the location of undiscovered sites, but their explanatory power is small.

Renfrew (1977) therefore proposed a complex model that considers abundance of the commodity in question, effective (instead of absolute) distance, energy expenditure, and distance-decay effect, as well as difference between various kinds of objects, such as transportability and value. For obsidian, his model works well, but not all kinds of exchange are as straightforward as trade in a scarce raw material with known quarries such as obsidian.

The traces left in the material record by marriage bonds, for example, may lead to the integration of foreign object forms or production techniques; however, the integration of a small number of foreigners into a community may just as well leave no recoverable traces. As Jones (1997, p. 115) put it, we cannot assume that "degrees of similarity and difference in material culture provide a straightforward index of interaction."

Nevertheless, human actions are not arbitrary, and many of them leave traces in the archaeological record. In migration studies, geographers identify push and pull factors in the place of origin and the destination, as well as obstacles on the way between both, elements which have to be taken into account in archaeological studies as well. They then use various models to calculate the probability of the decision to migrate (e.g., Lee, 1966; Kearkney, 1986). However, the reasons for movements of people are highly complex and include social and individual factors or even spiritual reasons usually not covered in these models. Furthermore, much of the information used by geographers to analyze present-day societies, is not available for archaeologists.

As far as long-distance interactions are concerned, the most common models proposed by geographers are world-system theories and globalization. However, they cannot easily be transferred from modern cases to prehistoric communities. Kohl (2007, p. 245), among others, has questioned the applicability of world-system and globalization theories to Bronze Age or earlier times, arguing that the radius of movement of prehistoric people tended to be relatively small. Furthermore, even in modern cases "globalization" easily becomes a blanket-explanation for similarities between phenomena in far-away places, thus only replacing "diffusion" but not solving the underlying issues (Hahn, 2008, pp. 191-193). Shelach (2009, p. 117) has given a similar warning for the term interaction.

The solution that Hahn (2008) suggested for the "globalization dilemma" in anthropology is useful for archaeology as well: he proposed to focus on the local perspective, studying mechanisms of cultural appropriation, rejection, or reinvention of certain cultural elements on the local level. Nevertheless, we have to be careful that we do not lose ourselves in speculations on particular actions of single individuals, a level of detail that is nearly impossible to asses from archaeological material. We therefore have to balance between close-up views and the "big picture" of long-distance interactions.

Although ancient networks of exchange are unlikely to have formed a unified whole in the sense of a full-fledged world-system, we can imagine a loose network of interconnections, some of them more important than others depending on the circumstances and people involved. As Kohl (2007, p. 249) argued, contacts “must be accounted for or modeled, even though our interpretations are likely to remain partial and approximate, always subject to necessary revision.” This, however, cannot be done by trying to frame everything into a core-periphery or world-system model, but has to emanate from a detailed, multiscalar, and multidimensional analysis of the complex archaeological record and the diversity of inter-personal and intra- and inter-group relationships it reflects.

The considerable ecological diversity and rich patchwork of local cultural developments throughout the Liangshan region force us to start from the micro-level of local analysis before moving onto middle and long-range levels of exchange. Given the abundant evidence of outside contact, we have to consider potential routes of exchange throughout the Hengduan Mountains. Approached in this fashion, the material can provide new insight into the development of the subregion in question, as well as into general problems of inter-cultural and inter-regional exchange. The present study can thus serve as an exercise for avoiding sweeping diffusionist assumptions while still keeping an open mind for possibilities of outside contact.

3. Geographic background: incentives, impediments, and routes of interaction

The high mountains of the Hengduanshan divide the region into many micro-areas with different environmental characteristics. Studies focusing on Yunnan Province reflect significant changes in climate and vegetation due to deforestation and intensification of agriculture since about 200 BC (Dearing et al., 2007; Elvin et al., 2002), but no similar studies for the Liangshan region are available. Any conclusions on human-environment interaction in the past are therefore preliminary. Currently, the Liangshan region consists of five climato-

geographical zones: the high-altitude alpine-steppe climate in the Northwest, the mountains of the Northeast with their continental climate, the temperate Anning River Valley, the temperate-subtropical Southeast, and the subtropical Southwest (Fig. 4).

The peculiar vertical ecological zonation characterizing the region places very different environments in immediate proximity to one another, requiring different forms of human adaptation. Not surprisingly, the high biodiversity of the Hengduan Mountains is matched by an equally high cultural diversity that has persists from prehistoric times until today. In spite of local idiosyncrasies, the river network opens up connecting routes in all directions, essentially demanding exchange due to the uneven distribution of natural resources (Chengdu, 2010; Sichuansheng, 1992).

Fertile regions with a warm, moist climate such as the valleys of Huili County and the Anning River, are favorable for agriculture. To people coming from the high mountains in the Northwest, even the dry and cool Yanyuan Plateau would have been attractive, as it receives many hours of sunshine and offers ample flat, fertile land supplied with river water. The river system opens up multiple North-South routes, but significantly impedes East-West traffic. The mountains in the North are especially high and rugged, but in the Southeast the terrain slopes gently downward; moving south is therefore relatively easy. Coming from the Tibetan Plateau, the Jinsha River connects the research area with the Chengdu Basin in the East, as well as with the Southwest and eventually the North.

The Anning River is the central North-South artery of the region; it flows into the Jinsha River, opening up pathways in all directions. Areas further north can only be reached by land over the mountains between the Anning and the Dadu river networks. Judging by the modern road systems, there are at least two possible routes between the Sichuan Basin and the Anning River Valley: the first through Hanyuan and Mianning Counties, along the Dadu River, the second through Yuexi and Xide Counties, following the Zhuma River. Direct routes cross the steep mountains between different river systems, running on perilous roads clinging against the mountain slopes. The whole Northeast is thus poorly connected.

The roads from Huili into the Anning River Valley use steep mountain paths as well, but they are easier to traverse. The Southeast is difficult to reach from the North or East, but well-connected to Yunnan: the terrain gently slopes down south and many rivers in Huili and Huidong County run directly into the Jinsha River, providing a link to Yanyuan County. Surrounded on three sides by mountains, the Yanyuan depression opens southwestward. The

main artery connecting Yanyuan to the north is the Yalong River, which flows into the Jinsha River.

Most of the rivers mentioned above as possible transit routes are not actual waterways. They are partially navigable at best, being too wild, too shallow, and/or too narrow for boats. During the dry season, however, most of them are reduced enough in width to travel along them. Only the banks of the Jinsha River are so steep that winding footpaths at higher elevations must be used. The Anning River and the Cheng River (Huili) lie in wide valleys, but most mid or long-distance connections would have run over paths too narrow for carts.

Considering the dangerous routes, people must have had compelling reasons to traverse them. One possible incentive was the uneven distribution of agricultural land and the close proximity of different environments to each other. Given the limited traversability of the roads, bulk goods such as grain might not have been negotiated far, but valuable resources exchanged in smaller amounts would have been easy to transport. This reasoning applies in particular to the rich metal sources in the Southeast and to the salt of Yanyuan.

In later historic periods, the local timber became a valid commodity for trade, but during pre-historic times Western China was likely thickly forested (Lin, 1985), and the need for timber was probably considerably lower than the availability. It is more likely that the mild climate prevalent throughout the South and the fertility of the soils of the Anning River Valley were attractive to groups from less suitable environments such as Gansu or Qinghai Province, especially during cold and dry climatic periods. These various push and pull factors must be kept in mind when discussing indicators for contact in the archaeological record.

4. Indicators for contact in the archaeological record

Most sites known so far from the research area comprise various types of burials, i.e., megalithic graves, stone construction graves, and earth pit graves, as well as object deposits (Fig. 5). Jiang Zhanghua (2007) recently proposed a widely accepted three-phase chronology of the Anning river valley consisting of: 1. the Henglangshan phase (~2500-2000 BC), 2. a transition phase represented by Xichang Lizhou, Dayangdui, and Mimilang (~2000-1000 BC), and 3. a phase dominated by the construction of megalithic graves that extends until about AD 100. The chronology of the other parts of the research area is less clear: a number of sites in Dechang, Huili, and northern Yunnan are Neolithic or even Paleolithic in nature, but their absolute date is unclear. Finds in Zhaojue and Yuexi mostly date to 200 BC - AD 100 (Hein,

2013). Overall, cultural developments differ greatly by sub-region and thus need to be discussed individually by location.

4.1. The Anning River Valley and its neighbors

4.1.1. Self-contained yet not isolated: Neolithic and Early Bronze Age sites

The material from early settlement sites is very similar throughout the Anning River Valley: coarse, low-fired ceramic jars and bowls are combined with small woodworking tools grinding stones, arrowheads, and harvesting-knives, reflecting a mixed economy (Hein 2013; Liangshan et al., 2012). The shallow settlement layers indicate seasonal or otherwise shifting habitation. Micro-regional differentiations in ceramic decoration and tool assemblage show that the communities throughout the Anning River Valley were in frequent contact (Fig. 5), but identifiable objects of exchange are lacking, indicating social rather than purely economic connections.

Based on similarity in tool assemblages and the fingertip-impressed appliqué bands, the excavators suggest that Xichang Henglanshan was culturally related to Yuanmou Dadunzi in Yunnan or Hanyuan Maiping in northwest Sichuan (Xichang, 1998). The differences in ceramic assemblage, however, are considerable; the corded-ware design, stamp impressions, and high jar forms characterizing Hanyuan Maiping never occur in the Anning River Valley, but they are extremely common throughout northern Yunnan (Zhongguo et al., 2006; Yunnansheng, 1977). This indicates that the Anning River Valley functioning as a South-North contact route, and its inhabitants thus came to know foreign pottery decoration motives.

Signs of intensified contacts can be seen in the middle-Lizhou earth-pit graves. Many vessel forms are clearly of local origin, but the double-handled vessels and footed bowls found at Xichang Lizhou and Dayangdui are reminiscent of Qijia culture ceramics, as are the wide-bodied jars from Mimilang (Fig. 6-7). The Qijia, however, produced metal objects and high-fired fine ceramics, as opposed to the low-fired coarse pottery of local Anning River tradition (Debaine-Francfort, 1995; Shui, 2001). The assemblage of the early earth-pit graves of Dayangdui, on the other hand, is nearly identical with Qijia objects, both in ceramic quality and form. In middle Dayangdui, handled vessels become rare, but newly emerging large jars with lug handles are reminiscent of objects from Mianning Gaopo/Zhaojiawan, while other forms point to northwest Sichuan (Fig. 8).

Overall, the following scenario seems most likely: the early earth-pit graves at Dayangdui probably belonged to a group from Gansu Province who migrated into the Anning River Valley, possibly attracted by its mild climate and fertile soil. This group did not move into the void but was likely preceded by pioneers. It was probably the contact between them and the local population that led to the incorporation of northern elements into the local repertoire. The ceramic technology at Lizhou continued earlier local traditions but many forms and decorations deviate considerably from those common in Qijia context; the people at Lizhou were therefore of local origin, but imitated elements they saw with the pioneers. The inhabitants of Mimilang probably likewise emulated the ceramics of their foreign neighbors at Dayangdui.

The route of contact probably ran along the Dadu River, reaching Mianning County in the utmost north of the Anning River Valley. On their way to Dayangdui, the groups from the North came into contact with the local population in northwest Sichuan and Mianning, adopting some of their object repertoire either through imitation or through integrating locals into their group. Settling at Dayangdui, they intermingled with the local population, whose involvement in ceramic production is reflected in gradual changes in form and decorative repertoire. The local ceramic technology, however, persisted in spite of the low quality of its products. The reasons for this phenomenon are unclear, but the opportunity to learn metal technology from the immigrants may have been so attractive that new techniques of ceramic production seemed uninteresting.

The continued influx of northern elements indicates that the people at Dayangdui kept in contact with their place of origin. Nevertheless, the strong resemblance between the late phase Dayangdui megalithic graves and other early megalithic graves around Xichang City shows that at this point the people of Dayangdui had been thoroughly integrated into the local culture.

The origins and movements of the population of Mianning Gaopo/Zhaojiawan are far less clear (Fig. 9). The closest site with similar pottery is Ludian Yeshishan in northeast Yunnan. The assemblage of Yeshishan shows a combination of ceramic types known from Mianning County, types from northwest Guizhou Province, and local elements (Liu and Sun, 2009). This combination indicates a mixed population of people from Mianning, Guizhou, and locals. If the people of Gaopo/Zhaojiawan are indeed local to Mianning, their ceramic repertoire is idiosyncratic and unrelated to anything seen there before or after. The reasons for such a development and the motivation for the group to leave Mianning are currently unclear.

356 *4.1.2. Wide-ranging contacts and local idiosyncrasies: megalithic graves and related sites*

357 Whereas the range of contacts with places outside the Anning River Valley seems to have
358 been limited during the 2nd and early 1st millennium BC, the assemblage from the later
359 megalithic graves indicate exchange with places as far away as Yunnan, Gansu, Northwest
360 Sichuan, and the Chengdu Plain (Sichuansheng et al., 2006). On the local level, the
361 interactions between communities living in the Anning River Valley and neighboring river
362 valleys, intensified so much that object assemblages and burial forms became nearly
363 indistinguishable.

364 Only the archaeological remains of Puge County are different. Mountainous and thickly
365 forested, Puge is separated from the Anning River Valley by high mountains. Judging from
366 the reliance on hunting and local idiosyncrasies in object assemblages, it seems that
367 connections with the Anning River Valley were limited. Nevertheless, from the middle phase
368 of the megalithic graves onward, megaliths and related ritual practices occur also in Puge and
369 Xide Counties, indicating the emergence of a new form of group identity that superseded
370 previous cultural divisions without replacing them.

371 How and why the tradition of building megalithic graves arose is unclear. Megalithic
372 constructions are known throughout what Tong Enzheng (1990) called the crescent-shaped
373 exchange belt and beyond, but this does not mean that they are all related. Considering the
374 particularities of the megalithic graves in the research area, I suggest that they reflect a
375 tradition of local origin. Many of the objects retrieved from megalithic graves, however, bear
376 signs of outside contact, most prominently double-handled vessels resembling objects from
377 Gansu Province attributed to the late Qijia, Xindian, Siwa, and Kayue cultures (Fig. 10).
378 Double-handled vessels are commonly found in stone graves throughout Southwest China
379 (Aba and Chengdu, 2009) but differ in execution from place to place. In the case of the
380 megalithic graves, the ceramic production techniques are local, as are the decorations and
381 most ceramic forms, stone tools, metal weapons, and hair combs (Fig. 11).

382 Other kinds of personal ornaments such as bronze bracelets, agate and turquoise beads, and
383 metal or bone earrings occur throughout southwest China, but the forms are generic and
384 cannot be interpreted as clear signs of contact. Of greater interest are the bronze buttons and
385 small bells that occur in megalithic contexts as well as in graves along the upper Min River, in
386 northern Yunnan Province, Yanyuan, and Huili County. The forms common in megalithic
387 graves strongly resemble objects from northwest Sichuan, Huili, and Yanyuan (Feng and
388 Tong, 1973; Sichuansheng et al., 1999). Furthermore, arch-back shaped and fish-tail handled

daggers found in megalithic graves show strong similarities with objects from northwest Sichuan (Baoxingxian, 1982) and Northwest Yunnan (Yunnansheng, 1983a; Liangshan and Chengdu, 2009).

Rare instances of northeastern contacts are reflected in Han coins, ring-pommel iron swords, Han-style ceramic vessels, and one belt hook in shape of a tiger head (Sichuansheng et al., 2006, fig. 84- 90). The similarity of the *gu* goblets in megalithic graves with ceramics and bronzes from the Central Plains is not very close and might reflect a case of independent development. The belt hook is so far the singular indicator of a Ba/Shu-connection and even there the similarities are not very strong (Pu, 1978, p. 9). The signs of later Han connections (coins, iron swords, and characteristic ceramic vessels) are much clearer; they all occur together in a small number of megalithic graves (i.e., Xichang Huangshuitang, Wannao, Xide Lake Sihe, and Guluqiao), and there are many close comparanda in the Sichuan Basin and beyond (Mengoni, 2003).

It is not possible to assign the objects in megalithic graves to separate individuals. The foreign objects may have belonged to single foreigners who relocated to the Anning River Valley and were buried in the local fashion but with their own ornaments. Another possible scenario is one of increasing outside contacts in which the local population followed general trends in personal decoration prevalent throughout Southwest China, while at the same time adopting metallurgy and developing their own set of metal ornaments. The special local characteristics of the ceramic assemblage, hair decoration, and burial customs speak for the latter alternative.

Single individuals from northern regions may have found a new home in the Anning River Valley, but many simply passed through on their way to Yunnan and beyond, possibly in search of metal resources. It may have been people from Northwest Sichuan or groups of Qijia-culture origin who introduced metallurgy to the Anning River Valley, but local mastery of the technique remained low and objects of higher quality all show foreign forms and are probably imports.

The relationship between the stone graves of northwest Sichuan and northern Yunnan is a point of heated discussion that cannot be resolved here. It is likely, though, that the contact routes between the two areas ran through the Anning River Valley. At a later point in time, the Anning River Valley also became the entry point to the Southwest for the Han, which explains the presence of coins and other objects of clear Han origin in the megalithic graves just before this local burial tradition was discontinued. For the Han, the Anning River Valley

became both an agreeable place to settle and an entrance to Yunnan and beyond. but there are no clear signs of the local population venturing out. The same seems to hold true for the people living in the Southeast.

4.2 The Southeast: Huili County and its neighbors

As the Paleolithic sites in Panzhihua City show, the Southeast was inhabited earlier than other parts of the research area. The mountains there are rich in wildlife and provide caves ideal for a hunting-and-gathering population. For agriculturalists, the wide river valleys of Huili and Huidong Counties are the more natural choice. These valleys attracted people from Yunnan, as the close similarity in ceramic forms between Huili County and Luquan County shows (Kunmingshi et al., 2007; Sichuansheng et al., 2009) (Fig. 12-13).

The assemblage from Huili Dongzui is very different, showing hardly any similarities with other local sites, but so strongly resembling material from Yongren County that an foreign origin of the inhabitants is likely (Chengdu et al., 2008; Yunnansheng et al., 2003). At the same time, the ceramics from Dongzui bear resemblance to those from Dechang Wangjiaping (Chengdushi, 2009), but no other sites along the Anning River show connections with Huili, indicating that contact at that time was limited (Fig. 14).

This isolation changed only at the time of Huili Fenjiwan, whose ceramics combine local jar forms with decoration patterns and vessels very similar to those from the late Lizhou graves (Fig. 15). The yellow color characteristic to local clay show that the vessels at Fenjiwan were produced locally (Huilixian et al., 2004). The forms and decoration motives of the pottery of Huili Leijiashan (Chengdu et al., 2009) and Miaozi Laobao combines types known from Fenjiwan with forms typical to megalithic graves, and types common in Yunnan (Fig. 16). The few bronze weapons found at Fenjiwan and Washitian likewise resemble finds from northern Yunnan (Yang et al., 2009: 207-211). The later graves of Huili Guojiabao (~3rd century BC), are rich in metal weapons, ornaments, and horse gear foreign to Huili but nearly identical with finds from Yanyuan (Chengdu et al., 2008).

In connection with the lack of characteristic Huili objects elsewhere, the presence of these foreign forms indicates that an increasing number of people moved from the Anning River Valley and to a lesser extent Yanyuan County and Yunnan Province to Huili. The initial incentive for contact may have been the rich local metal quarries; some people may have stayed to facilitate exchange, but the pleasant local environment may have been a point of attraction as well. While most newcomers seem to have been integrated into local groups, the

people buried at Guojiabao kept themselves apart from the local population, who conversely seems not to have been interested in the lavishly decorated metal ornaments and weapons of the foreigners.

The majority of metal objects found in Huili are coarse and utilitarian in nature (axes, arrowheads, spears), amended only by a few bracelets. The exception are the objects from Guojiabao and a small number of high-quality bronze drums in deposits, probably imports from the Dian cultural realm, and local imitations of Dian bronze bells deposited in a similar fashion (Bao, 1989; Huilixian, 1977; Tao, 1982). Bronze drums have a wide distribution throughout Yunnan and Southeast Asia (Li, 1978; Yunnansheng, 1959), and it has been suggested that they symbolized formalized alliance networks (Yao, 2010). It is possible that the drums were gifts from Dian people to groups in Huili, who commemorated the special occasion by depositing them in the ground. Given the small number of similar instances, the case currently remains unclear.

In spite of this apparent lack of interest in metal objects as grave goods, the stone moulds from Washitian show that metalworking was conducted in Huili. Later sites furthermore show that metal extraction took place at least since the 2nd century AD, but mostly under Han control. Metal may have been extracted and traded during earlier periods as well, but this hypothesis remains to be tested through survey work and comparative metal analysis.

4.3. The Southwest: Yanyuan County and Ninglang County

The Southwest is characterized by graves with or without stone installations dating between the 4th and the 1st century BC (Liangshan and Chengdu, 2009; Yunnansheng, 1983b). They are equipped with few, usually double-handled vessels and many metal weapons and ornaments, among them a large number of foreign elements (Fig. 17).

4.3.1. Looking East: connections with the Anning River Valley, Shu, and Dian

The graves in Yanyuan and Ninglang County and the megalithic graves of the Anning River Valley share stout double-handled vessels as well as stone grinding rods. Some megalithic graves contain metal weapon types common to Yanyuan and northwest Yunnan. The occurrence of domestic pottery of foreign types in Yanyuan and Ninglang indicates that people from the Anning River Valley were integrated into local communities, but whether permanent relocation of people in the opposite direction took place is unclear.

The *yue* axes and belt buckles reported from Yanyuan have typical Shu forms and decoration motives, but the *ge* dagger-axes combine Shu decoration with an elongated form commonly found in Dian culture context (Jing, 2011). The belt buckles from Yanyuan are largely identical with objects of Shu origin, but such items have been found in Yunnan and northwest Sichuan as well; they are therefore not necessarily a sign of direct contact with the Chengdu Plain but might have been exchanged through intermediaries.

Objects showing connections to the Dian cultural realm fall into two groups: likely imports and local imitations. Judging by form, execution, and metal composition, the drums found at Yanyuan Laolongtou and Maojiaba, the three-dimensional staff head from Laolongtou, and some of the dagger-axes from both sites are probably Dian imports. The metal composition of the bell from Laolongtou M4, on the other hand, makes it unfit to play, indicating that it was a local imitation made without real understanding of its purpose. Many weapons show form and decoration elements typical for Dian objects, but the execution identifies them as local products (Yunnansheng, 1995). The highly decorative and/or ritual nature of these objects and their rare occurrence indicate that they reached Yanyuan through elite exchange.

4.3.2. Looking South: connections with Northern Yunnan

The grave form, burial mode, and metal assemblage of Ninglang Daxingzhen are largely identical with that from Deqin Yongzhi, indicating. that the people in both places shared the same cultural traditions. The assemblages from sites in Yanyuan show a close affinity with northwest Yunnan as well, especially in metal weapon and ornament types, but similar objects occur in stone-cist graves along the Min and Dadu Rivers as well, making it difficult to decide were the actual source was (Aba and Chengdu, 2009).

The combination of three dagger/sword types (spiral-handled with three-pronged hilt, double-circle pommeled, fish-tail handled) is particularly common in the mountains of Yongsheng and Deqin Counties, but it occurs in Yanyuan and Ninglang Counties as well. The same weapon set is frequently found in graves in Xiangyun and Chuxiong Counties, but nearly always in combination with daggers with double-curved blades, Dian-style spearheads, and local axe types (Guo, 2002). It is noteworthy that in Xiangyun, such assemblages frequently contain bird-shaped ornaments resembling the simple staff heads found in Yanyuan (Li, 1983; Guo, 2002; Aba and Chengdu 2009, pp.409-436). Swallow-shaped applications and complex staff-heads with horses and men typical to Yanyuan, find no counterpart in Yunnan.

4.3.3. Looking North: Northwest Sichuan and beyond

Stout double-handled vessels are common throughout southwest China, but the variety with large double-spiral motive occurs exclusively in northwest Sichuan, Yanyuan, and Deqin. The button-shaped ornaments from Yanyuan and Huili Guojiabao closely resemble objects found in northwest Sichuan. Other objects types common to Yanyuan and northwest Sichuan but not Yunnan are ring-pommel knives, scabbard tips, and belt hooks.

The specific type of composite swords seen at Yanyuan is closely matched by objects from the upper Min River as well, but such weapons are also common in Ningxia and Inner Mongolia (Jiang, 2009). Ring-pommel knives, arch-backed knives, and double-circle headed daggers occur all throughout the northern zone, often in connection with horse gear, mirror ornaments, and clothing applications similar to those from Yanyuan (Yang, 2004). The daggers with fish-tail shaped handle likely have a northern origin as well. The interment of horse bones and heads as seen in Yanyuan has no counterpart anywhere else in southwest China, but it is not uncommon throughout the northern steppe, the Ordos region, and Central Asia, mostly with pastoralist groups. Furthermore, the type of horse gear found in Yanyuan and at Huili Guojiabao is similar to objects that occur in Upper Xiajiadian Culture context (~1000-600 BC) and in the Seima-Trubino Complex (~2000-1500 BC) (Kohl, 2007, pp. 168-171).

Throughout the northern realm, horse depictions are common, but they mostly occur on dagger handles or plaques and not on staff heads as in Yanyuan. Yoke ornaments appear in the Ordos region around the 9th to 7th century BC, but they have three-dimensional single horse, ram, or bird figures, not a flat arrangement of two horses and one or several people (Wu'en, 2008). The Luristan bronzes from Iran (1500-500 BC) include three-dimensional staff heads with two juxtaposed rams or horses, but the overall form and execution are very different from the Yanyuan bronzes (Moorey, 1974, Tenri, 1998). Juxtaposed horses are a common motive throughout northern China, Central Asia, and the Near East (Lin, 2000, pp. 28-32), but in overall shape and execution, the staff heads from Yanyuan are unique.

4.3.4. Summary: local particularities and outside connections

Overall, the assemblage from Yanyuan has a few particularities of its own, such as bronze stands, bird applications, and various forms of staff heads depicting horses with or without human figures. The complex set of burial customs involving earth-pits, wooden coffins, stone cists, stone lids, or a combination thereof, small-group interment, cremation, application of

cinnabar, burning of objects in the grave, interment of horse bones, skulls, and other animal bones, seems to be unique to Yanyuan as well.

Connections with places in the Shu or the Dian cultural realm were sparse and likely indirect, occurring through intermediaries. Contact with the Anning River Valley was likely more direct, with a small number of people relocating to Yanyuan and being integrated into local communities. A movement out of Yanyuan becomes clear from the graves of Huili Guojiabao whose assemblages are virtually identical with those in Yanyuan. If the salt of Yanyuan and the metal of Huili were indeed exploited at the time, it is likely that the people buried at Guojiabao were involved in an exchange of those raw materials. Regardless of the actual items of exchange, the rich object assemblages at Huili Guojiabao indicate elite-level transactions. The same likely holds true for the contact with the Dian culture realm that is reflected in high-quality ritual objects and weapons that may have served as prestige goods.

Most weapon types seen in Yanyuan as well as clothing ornaments and ceramics (i.e., object categories that are usually seen as particularly closely linked to cultural, social, and individual identity), find their closest parallels in northwest Sichuan and the northern Steppe. At the same time, the interment of horse gear, skulls, and bones, as well as horse depictions in graves in Yanyuan is matched by similar customs in the northern zone. All these elements indicate that the people who settled in the Yanyuan Basin were of northern origin.

These groups likely moved along the Dadu and the Yalong Rivers, possibly staying in northwest Sichuan for a while and adopting local ceramic traditions, before moving further south. After they settled in Yanyuan, new traditions developed, such as complex rituals involving staffs, special tables, and horse and bird imagery. It may have been the exploitation of salt quarries in Yanyuan that enabled the immigrants to gather considerable wealth through exchange. A least part of this network was likely based on elite-level exchange, as the few particularly rich graves from Yanyuan indicate. These burials include large numbers of personal ornaments, weapons, and horse gear, suggesting the presence of a highly stratified society in which elite status was connected to abilities in armed combat and horse riding, a kind of society extremely different to what we see in other parts of the research area.

The wide variety of foreign objects of various dates indicates that the interaction between Yanyuan and the North continued. I would highly doubt, however, that special ritual objects such as the staff heads are directly related to cultural developments as far away as Central Asia or even the Near East, as some scholars have suggested (Liangshan and Chengdu, 2009), especially as the execution and quality are so different. It is much more likely that a

comparable status attached to horse-riding and combat combined with a similar environment and economy led to parallel developments in customs and material expressions.

4.4. The Northeast: Zhaojue County and its neighbors

The Northeast with its steep mountains, dense forests, and cold winters is difficult to access even today. The few known prehistoric settlement remains show that hunting was an important subsistence practice, but was supplemented by agriculture and livestock-rearing. The region is characterized by a great diversity of grave forms occurring in close vicinity to each other, with assemblages combining objects from different traditions.

Zhaojue and Meigu Counties hold Han brick graves next to various types of small stone-construction graves of differing and often unclear dates. The usual burial mode for all types of stone graves but not the Han brick graves was secondary burial, often accompanied by calcinated ropes and beads and pendants made of nephrite, turquoise, bone, or shell. Later graves hold Han coins, ceramics, and metal vessels (Liangshan et al., 2011).

The stone-construction graves of Zhaojue Pusu Bohuang contain jars and narrow-necked vases strongly resembling objects from graves in southern Huili and Luquan Counties; the graves of Eba Buji on the other side of the hill are irregular constructions of large stone slabs yielding imported Han bronze vessels and local personal ornaments, and both kinds of grave held calcinated ropes, a particular local custom (Liangshan, 1981) (Fig. 18).

The slight spatial separation between graves of different construction types indicates that they were built for and by people belonging to different identity groups. The stone-cist graves at Zhaojue Fuchengqu contained ceramics and stone tools similar to finds from Puge Wadaluo, in some cases combined with metal vessels of Han origin (Liangshan et al., 2009). The brick-wall like construction of the stone graves of Chike Boxixian clearly imitates Han graves; they contain ornaments of local types as well as Han ceramics and coins (Liangshan et al., 2010).

While foreign objects are thus common in the graves of the Northeast, objects from Zhaojue or Meigu seem not to have travelled far. Only the graves at Puge Wadaluo contained bone and shell ornaments largely identical with those known from Zhaojue. The interment practices are likewise similar, indicating that these graves might have held people from Zhaojue.

The area thus acted as a thoroughfare and meeting-place for people from different regions from the 1st century BC onward at the latest. The coexistence of different grave forms next to

each other combined with ceramics indicating outside influence and local traditions of group-interment indicates that groups of various origins lived next to each other; they respected each other's monuments and were in sufficiently close contact to adopt certain object forms and customs. In the beginning, the Han seem to have been just one of these many groups, but the emulation of Han grave forms and the inclusion of Han metal vessels wrapped in fine cloth in graves of local style indicate that soon the Han came to enjoy a relatively high status. With the arrival of increasingly large number of Han settlers from around 100 AD onward, the dynamics thus changed from a situation of relative equality to a colonial situation with acculturation and partial replacement of the local population.

The reasons for movements through and into the Northeast in prehistoric times are not quite clear, particularly considering the forbidding nature of its mountains. Judging from the object assemblages in Zhaojue, the contact network must have stretched from the Chengdu Plain through Meigu and Zhaojue to Puge and Huili, finally linking up to a larger exchange network connecting Yunnan Province with places as far away as the Indian Ocean, as the presence of cowries shells in Zhaojue indicates. There are no clear signs that people or goods from Zhaojue moved much further than Puge. The Han, on the other hand, entering through both the Northeast and the Anning River Valley, eventually spread through all of Southwest China, settling in Zhaojue, the Anning River Valley, Yanyuan County, and Huili, where they were majorly involved in metal extraction and production.

So far, no excavation work has been conducted in Yuexi; surveys show that stone-construction graves, megalithic graves, and earth-pit graves with assemblages nearly identical to those from the upper Min River and Han-style objects occur next to each other (Mao and Zou, 1981). Similar to Zhaojue, Yuexi thus seems to have been an area in-between where people, objects, and traditions from different places met in a variety of ways. From a geographical point of view, Yuexi is a natural transit region between the Anning and Dadu River Valleys; Yuexi furthermore lies on one of the possible routes between the Chengdu Plain and Zhaojue along the Dadu River. The parallel route through Meigu is considerably shorter but more hazardous. To fully understand this network of different connections and local particularities, more extensive fieldwork is needed.

5. Results: contact network(s) in the Liangshan Region through time and space

As has become clear from the analyses conducted above, the research area falls into four sub-regions with distinct geographic and cultural characteristics. The high mountains of the

Hengduanshan separate them from each other as well as from the outside world. Nevertheless, in the past these sub-regions were by no means isolated; they were part of various short, medium, and long-distance exchange networks whose importance fluctuated over time.

The Anning River Valley was fairly self-contained during most of the 3rd and 2nd millennium BC. The early local communities seem to have belonged to three main groups who came in close contact, probably through various forms of social interaction such as marriage or communal celebrations. Economic exchange likely was of less importance as all groups exploited the local environment in a mixed economy that should have provided a reliable basis for subsistence. Only the groups living in Puge with its steep forested hills concentrated on hunting, and probably had exchange relationships with the Anning River Valley.

In spite of its attractive environment, during the late 3rd millennium BC, the Anning River Valley was less a place to relocate to but rather a region to move through. The passers-by naturally came into contact with the local population, who adopted ceramic decoration elements from them. Only from the mid 2nd millennium BC onward do we see evidence for people of foreign origin settling in this sub-region. They came not only from neighboring Puge, but also from places further away such as the upper Min River or even Gansu Province. Coming from the North, the route of travel probably led along the Jinchuan and Dadu River Valleys, reaching the Anning River in Mianning County.

The relatively rapid acculturation of the foreign groups visible in ceramic technology, forms, and even burial customs indicates that contact was close, involving various kinds of social interaction including intermarriage. At the rise of the new megalithic grave tradition, these foreigners seem to have been fully integrated. The new type of graves and the increasingly complex rituals surrounding them are probably a local development that united people throughout the valley and even the adjacent mountains.

The megalithic graves contain evidence for a wide range of outside contacts, mostly toward northwest Sichuan, to a lesser extent northern Yunnan and Yanyuan, and only rarely toward the East. Many of these connections are reflected only in single objects, indicating exchange relationships through intermediaries rather than instances of immigration. This changed only with the advent of the Han, for whom the Anning River Valley was both an important entryway into Yunnan Province and a place to set up a new stronghold on routes for trade and military campaigns throughout the Southwest.

In spite of the hazardous nature of the access route through Meigu and Zhaojue, the Northeast served as the main entryway for eastern groups. A safer but apparently less-used option was the North-South route through the Anning River Valley and into Shimian County before turning east toward Hanyuan County and the Chengdu Basin. Why the more cumbersome route through the mountains was chosen is not clear. It is obvious, however, that the Northeast served as a thoroughfare, making it a meeting place for people of diverse origins. The relationship of the various groups that decided to settle there was characterized by mutual acceptance, allowing for different burial traditions to exist side by side.

Some people left Zhaojue and Meigu, moving into the less forbidding mountains of Puge. They likely followed the Mashui River which connects to the Jinsha River and thus provides access to Huidong and Huili. From the Anning River Valley, Huili is not easily accessible. Nevertheless, slight similarities in ceramic decoration show that even in the late 3rd millennium there was some exchange between both regions. People might have followed the Anning to the Jinsha River, entering Huili through the moderate hills of the South; another option would be to cut directly through the mountains between Dechang and Huili as the modern road does.

As the terrain of the Southeast slopes down gently toward Yunnan, the close connection between communities on either side of the Jinsha River is not surprising. The Jinsha River and its tributaries furthermore connect the area with western Yunnan, Yanyuan, and the Tibetan Plateau in one direction and the Sichuan Basin in the other. The road to Lake Dian would have followed one of the side-arms of the Jinsha River or it might have run over the hills of northern Yunnan. These routes, however, were apparently not much travelled: the Southeast shows many local particularities, and the lack of typical southeastern material in other places indicates that the locals did not venture out much.

The rich metal resources of the Southeast were probably a great attraction to metal-working groups, although the local interest in metal seems to have remained low. Nevertheless, metal was extracted and smelted locally, as the finds from Huili Washitian show (Tao, 1981). Furthermore, the presence of objects reminding of assemblages in Yanyuan County, the Lake Dian area, and even the Sichuan Basin show the connection of the Southeast to an extensive exchange network; however, these contacts are only reflected in a small number of objects that may have reached Huili through intermediaries.

The only finds reflecting a more direct kind of contact are the Yanyuan-style bronzes in the graves of Huili Guojiabao and the Dian bronze drums in the deposits in Huili. The burying

group of Guojiabao probably moved there from Yanyuan, possibly to facilitate exchange of salt and metal between the two sub-regions, and the drums likely reached Huili through a network of elite exchange. At the current stage of research it is by no means proven that metal from Huili was traded outside of the area prior to the advent of the Han, and it is likewise unsure if the salt of Yanyuan was exploited at this time. Nevertheless, considering the clear indicators for wide-ranging exchange networks for both of these places, it is a likely supposition that salt and metal were the *movens* behind these contacts. At this point, substantial survey work, excavations, and metal analyses are necessary to move this suggestion from mere speculation to certainty — or to refute it.

Whatever the source of wealth in the Yanyuan Basin was, it led to the development of a highly stratified society and allowed the local elite to amass a large number of valuable objects of various origins. The road from the Anning River Valley leads either directly through the mountains and across the Yalong River or in a long detour along the Jinsha River, entering the Yanyuan Basin from the Southwest. It is therefore not surprising that contact between these two sub-regions was limited. Connections with places even further East such as the Shu culture realm were likely indirect. The large drums, if they were indeed part of an elite exchange network, might have come in a more direct way, be it through emissaries or members of the Dian elite themselves, possibly along the Jinsha River.

Connections with central Yunnan remained limited, but the mountains of northwest Yunnan Province and Ninglang County were essentially inhabited by the same culture group. The connections between the Yanyuan Basin and northwest Yunnan were close as well but of a different nature. The burial customs observed in the Yanyuan Basin combined with the importance attached to horses and armed combat, indicate that the group who settled there was of northern origin. The main artery connecting Yanyuan County to the north is the Yalong River. It reaches Yanyuan through the Meiyu River, which enters it from the Southwest. On all other sides, the basin is surrounded by high mountains, leading to a combination of strong local characteristics with northern and southern connections but little eastern contact.

It is noteworthy that the date of objects of northern origin observed in Yanyuan spans a wide time period, but all are present in the same graves of the 2nd century BC. One possible explanation is that the relative seclusion of the basin may have allowed for the continued use of design elements and forms long after they had fallen out of fashion in their place of origin.

Elements such as the depiction of juxtaposed horses may also have developed independently without imitating objects from places and times as far away as the Luristan bronzes of Iran.

Overall, various routes of contact have been outlined here in a preliminary fashion. There is an obvious need for further survey and excavation work to help clarify the relationship between the groups identified in this study. At the present juncture, it has nevertheless become clear that the research area has long attracted many people to settle, obtain resources, and as a thoroughfare to other regions. This study therefore provides an opportunity to reconsider general questions of human-environment interaction and inter-group contact.

6. Discussion: reconsidering questions of culture, contact, and human-environment interaction

Throughout this study, it has become clear that questions of cultural identity, inter-group contact, and human-environment interaction cannot be treated separately but have to be considered in concert. The environment is more than a backdrop or a stage on which the story of inter-group contact is played, and it is also more than a limiting or determining factor. The geographic preconditions of any location can be met with a number of different economic strategies that may or may not require outside contact. Living in marginal environments can lead to a wide range of reactions, as does living in particularly favorable environments.

Neither people in Huili nor in the Anning River Valley seem to have felt a need to venture far outside their own sub-region, but their reactions to foreign groups and influences differed. In Huili, foreign influence was not readily received and foreign groups largely remained separate from the local population. In the Anning River Valley, on the other hand, a variety of strategies were adopted including 1. cooperation between culturally related groups in different parts of the sub-region, 2. imitation of ceramic decoration seen with passing groups and/or integration of single foreigners in the community, 3. gradual acculturation of foreign groups who moved into the area, and 4. acceptance of some of their cultural traits.

The material from the Anning River Valley furthermore shows that shared religious beliefs connected with complex rituals such as those surrounding the megalithic graves can unite a variety of different groups, leading to the emergence of a new supra-group identity transcending previous cultural boundaries without obliterating them. At the same time, the fact the megalithic-grave tradition did not spread further shows that ritual traditions do not travel completely freely either. Exchange relationships between people in the mountains and in the valley were close, and people from Puge likely encountered these new practices when

coming to Xichang. The adoption of foreign religious traditions — especially if they require large communal efforts such as the megalithic graves — may thus require personal experience rather than just oral transmission through intermediaries.

If such an experience exists, as the case of Puge County shows, foreign practices can be adopted by people with a different cultural identity living in a region where these practices are exceedingly cumbersome. In the wide Anning River Valley, blocking off some of the abundant fertile land by building megalithic graves would not endanger the groups living there. In Puge, however, where flat ground is scarce, building megalithic graves on some of the best parcels of land can be problematic. The direct connection between the graves in the Anning River Valley and those in the surrounding mountains is fairly clear, but the presence of megalithic structures around the world in various cultural and temporal contexts shows that similar ritual practices may arise independently in different regions (Adams, 2007; Furholt, 2011; Kim, 1982).

Another example of independent development of outwardly similar practices is the creation of horse imagery in Yanyuan County, the steppe region, and ancient Iran many hundred years and thousands of miles apart. The connecting factor between the groups who created these images was possibly a similar mode of living or at least a shared cultural emphasis on horse-riding that independently led to similar material expressions. The occurrence of different types of stone-construction graves throughout Southwest China and beyond is more difficult to explain. The graves from northwest Sichuan and northwest Yunnan, for example, show similarities both in form and assemblage, but they are completely different from those in Huili and Zhaojue. What we see throughout western China is therefore probably not the outcome of one but several stone-grave traditions, some of them related, others emerging independently under similar geographic and cultural preconditions.

It is thus not only the natural environment but also the attitude of the local groups that is an important factor both in local cultural developments and in contact situations. As a comparison between Huili and Yanyuan shows, the presence of a valuable and widely-traded resources (i.e., the salt in Yanyuan and the metal in Huili can but does not have to lead to the emergence of a highly stratified society. Other factors in this equation are the natural environment and the attitude of the local population. Objects can be received in many different ways, depending on where they come from and how they fit into the local repertoire.

For people in Yanyuan, weapons, personal ornaments, and foreign objects were apparently of great importance to express social status, and foreign metal objects were thus readily

adopted. In Huili, weapons and any type of metal objects were not generally interred in graves. Nevertheless, Dian-style bronze drums and bells were highly valued in both places. One possible explanation is that objects were received in some form of special exchange (e.g., elite-level gift-exchange, forming of alliance networks, or specific ritual practices) that made them important to people in both areas, regardless of their general attitude toward bronzes.

The case of Yanyuan County furthermore shows that in secluded and marginal environments, far-reaching contacts and particular local developments can go hand in hand: the material reflects a wide variety of different forms of exchange, combined with local imitations of foreign objects, and unique local forms. The somewhat isolated geography of the Yanyuan Basin would have greatly facilitated such selectivity in contacts. The particular local burial customs furthermore indicate that the group represented in the elite burials in Yanyuan had moved there from the North, either assimilating with or replacing the local population.

Possible reactions of the local population to foreign immigrants include adjusting to them to the point of assimilation (as seen with the northern group moving into Yanyuan), assimilating them in turn (which might not be visible in the archaeological record), keeping apart from them (as seen in Puge and Huili), or entering into various forms of social relations that lead to reciprocal influence (as seen in the Anning River Valley and Huili). A particularly fascinating example of mutual acceptance is Zhaojue, where various groups lived next to each other, respecting each others monuments and incorporating selected features of the other's object repertoire and burial tradition while at the same time preserving separate group identities. This duality demonstrates that contact zones and marginal environments with limited resources are not necessarily places of conflict where contrasting identities are displayed in a conspicuous manner, but they can foster coexistence and interaction.

It is furthermore remarkable that one of the least accessible parts of the research area (i.e., Yanyuan County) displays the largest number of indicators for outside connections, and that the most dangerous thoroughfare into the Anning River Valley (i.e., Zhaojue County) was the most travelled. These contradictions show clearly that a simple calculation of routes based on geomorphological characteristics (e.g., through least-cost-path analysis (Howey, 2011)) cannot explain all nuances of past avenues and mechanisms of exchange. Even the identification of natural resources and other pull factors are not enough, especially when it is not clear if they have been exploited in the past. In the emergence of contact networks and acceptance of foreign traits, cultural decisions are just as important as and sometimes even more important than geographic preconditions.

7. Conclusions and suggestions for future research

The highly complex case of the prehistoric Liangshan region discussed in this study has been used to illustrate that a wide variety of different types of inter-group interaction — including different forms of migration, direct or indirect trade, social relations (e.g., intermarriage, adoption, communal events), elite-level exchange, integration, acculturation, imitation, and emulation — can take place simultaneously, leaving distinct traces in the material record. To ascertain the nature of this exchange, every object and feature identified as foreign needs to be considered in its local context; questions of function, both at its presupposed origin and its place of occurrence, have to be addressed, as do mechanisms of reception and adaptation.

I have therefore started from the local geographic preconditions and cultural developments. Objects and features identified as foreign I have analyzed in their local context, making suggestions about their origin and the roads and processes through which they arrived in their new location. At the same time, I have used this opportunity to discuss various models of cultural exchange and their applicability to the material in question. Throughout this study, it has become clear that more question-driven fieldwork is necessary to establish a reliable chronology and framework of local cultural developments.

This study has furthermore shown that the research area has a few particularities that make it especially suitable to better understand mechanisms of cultural contact and exchange in general: the significant ecological diversity and the rich patchwork of local cultural developments force us to start from the micro-level of local analysis. At the same time, the large number of indicators for outside contact forces us to investigate the nature of and reasons for this contact. The present research on the Liangshan region thus serves as a useful exercise of combining concrete analysis with theoretical considerations, connecting the local with the supra-local and avoiding sweeping assumptions on far-distance interaction, while still keeping in mind the possibilities and patterns of outside contact.

As exemplified in this study, environmental factors, local cultural developments, and methodological and theoretical issues of group identity and cultural interaction therefore have to be considered together. This complex approach has allowed me to provide some insight into the development of the research area in question while at the same time discussing theoretical and methodological problems of inter-cultural and inter-regional contact, thus helping to advance the field of archaeology.

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Figure captions

Fig. 1 Map showing the location of the research area in East Asia.

Fig. 2 Map of administrative units comprising the research area.

Fig. 3. Site distribution by site type.

Fig. 4 Climato-geographical zones of the Liangshan area with sites for reference. 1. temperate Anning River Valley, 2. high-altitude alpine-steppe climate of the Northwest, 3. continental climate of the mountains in the Northeast, 4. temperate-subtropical Southeast, 5. subtropical Southwest.

Fig. 5 Assemblages from Xichang Henglanshan (after Chengdu, Liangshan, Xichangshi 2006: 1. Fig. 8.7, 2. Fig. 15.7, 3. Fig. 15.12, 4. Fig. 11.2, 6. Fig. 9.3, 7. Fig. 10.5, 8. Fig. 16.2, 9. Fig. 10.3) and Xichang Ma'anshan (after, Chengdu, Liangshan, Xichangshi 2007: 10. Fig. 17.1, 11. Fig. 17.10, 12. Fig. 22.6, 13. Fig. 19.14, 14. Fig. 19.11, 15. Fig. 21.3, 16. Fig. 18.2, 17. Fig. 18.1, 18. Fig. 18.3).

Fig. 6 Ceramics from earth-pit graves in Lizhou (after Jiang, 2007: Fig. 2 [1-6] and Fig. 3 [7-12]).

Fig. 7 Comparison between ceramics from Xichang Dayangdui (1-5) and material from Qijia sites (6-10) (after Jiang, 2007: Fig. 5).

Fig. 8 Ceramic assemblage from Xichang Dayangdui (after Xichangshi, Sichuansheng, Liangshan, 2004: Fig. 18 [1-12] and Fig. 25 [13-25]).

Fig. 9 Ceramic from Mianning Gaopo (1-5) and Zhaojiawan (16-27).

Fig. 10 Ceramic repertoire of megalithic graves in the Anning River Valley (after Jiang, 2007: Fig. 6 [1-12] and Fig. 7 [13-21]).

Fig. 11 Metal objects from Xichang Bahe Baozi (Sichuansheng and Anninghe, 1976: Fig. 2).

Fig. 12 Ceramics and stone tools from Huili Houzidong (Sichuansheng et al., 2009: Fig. 3 [1-11] and Fig. 4 [12-19]).

Fig. 13 Objects from graves at Luquan Yingpanbao (1-5) (Kunmingshi et al., 2007: Fig. 8), Huili Xiaoyingpan (6-10) (Kunmingshi et al., 2007: Fig. 18; Sichuansheng et al., 2009: Fig. 7).

Fig. 14 Ceramics and stone tools from Huili Dongzui layer 5 (after Chengdu et al., 2008: Fig. 13) and Dechang Wangjiaping (after Chengdushi et al., 2009: Fig. 10-15).

Fig. 15 Ceramic assemblage from the Graves of Huili Fenjiwan (after Huilixian et al., 2004: Fig. 11 [1-17] and Fig. 12 [19-29]).

Fig. 16 Assemblage from Huili Leijiashan M1 and its connections (after Chengdu et al., 2009: 1. Fig. 6.1, 2. Fig. 3.5, 3. Fig. 3.3, 4. Fig. 13.10, 5. Fig. 4.5, 6. 7.2, 7. Fig. 13.10, 8. Fig. 15.5, 9. Fig. 19.2, 10. Fig. 5.3, 11. Fig. 8.2, 12. Fig. 14.3, 13. Fig. 13.1, 15. Fig. 19.3).

Fig. 17 Artifacts from Yanyuan and their Parallels (after Liangshan and Chengdu, 2009: 1. Fig. 10.2, 2. Fig. 107.1, 3. Fig. 5.3, 4. Fig. 14.9, 5. Fig. 69.2, 6. Fig. 48.2, 7. Fig. 59.3, 8. Fig. 67.9, 9. Fig. 4.5, 10. Fig. 5.2, 11. Fig. 40.9, 12. Fig. 53.3, 13. Fig. 93, 14. Fig. 6.8, 15. Fig. 27.1, 16. Fig. 63.1, 17. Fig. 36.4, 18. Fig. 118.2, 19. Fig. 72.3, 20. Fig. 31.3, 21. Fig. 24.7, 22. Fig. 24.1, 23. Fig. 100.3, 24. Fig. 42.8, 26. Fig. 44.3, 27. Fig. 68.6, 28. Fig. 99.2, 29. Fig. 100.4, 30. Fig. 69.2, 31. Fig. 72.3, 32. Fig. 88, 33. Fig. 89, 34. Fig. 94.8, 35. Fig. 95.3, 36. Fig. 95.1, 37. Fig. 114.2, 38. Fig. 114.9, 39. Fig. 115.1, 40. Fig. 86, 41. Fig. 111.2, 42. Fig. 111.3; and after Tang 1996: 25. Fig. 1.2)

Fig. 18 Finds from Zhaojue Eba Buji (after Liangshan et al., 2009: 1. Fig. 12.1, 2. Fig. 12.2, 3.-8. Fig. 13), Zhaojue Pusu Bohuang (after Liangshan et al., 2009: 9. Fig. 11.1, 10. Fig. 11.2, 11. Fig. 11.4, 12. Fig. 11.8, 13. Fig. 12.3, 14. Fig. 12.4), Zhaojue Erba Keku (after Liangshan, 1981: 15. Fig. 7.4, 16. Fig. 6.4, 17. Fig. 6.1, 18. Fig. 6.2), and Zhaojue Fuchengqu (after Liangshan, 1981: 19. Fig. 7.1, 20. Fig. 7.2, 21. Fig. 7.5, 22. Fig. 6.3).