The ‘Crescent-Shaped Cultural-Communication Belt’: Tong Enzheng’s Model in Retrospect

An examination of methodological, theoretical and material concerns of long-distance interactions in East Asia

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Table of Contents

Introduction: Diffusionism, Migration, and the Archaeology of the Chinese Border Regions

Anke Hein

The notion of a "crescent-shaped cultural-communication belt" (*banyuexing wenhua chuanbodai* 半月形文化傳播帶)[1] stretching from Northeast China and Korea along the Tibetan borderlands all the way to Yunnan stands as the late Tong Enzheng's 童恩正 most-cited contribution to the Chinese archaeological discourse (Tong Enzheng 1987). In the 1980s, suggesting such long-distance contact was a bold move. At the time, Chinese and Western scholars alike were afraid of being accused of diffusionistic tendencies in their work, and they thus mostly decided to concentrate on local developments. Only in recent years has it again become acceptable and even desirable to discuss far-reaching exchange networks. Interestingly, the emerging scholarship on such topics has some noticeable lacunae. Discussions on China's long-distance contacts, for instance, focus mostly on steppe connections and Western influences on the cultures of the Central Plains. By contrast, material from Southwest China has received much less attention and has but rarely been mentioned in connection with Northeast China; neither have Tong Enzheng's considerable theoretical contributions to the understanding of culture contact and cultural exchange received the consideration they deserve.

While Tong Enzheng remains a household name to anyone working in the Southwest, in other parts of China his work is less well known, and even though Tong still carries some name recognition outside of China, few scholars are fully aware of his important contributions. To remedy this situation, I organized a session entitled "Reconsidering the Crescent-Shaped Exchange Belt — Methodological, Theoretical and Material Concerns of Long-Distance Interactions in East Asia Thirty Years after Tong Enzheng" at the Fifth World Conference of the Society for East Asian Archaeology (SEAA), held in Fukuoka (Japan) in 2012. Encouraged by the interest in Tong Enzheng's work as reflected in the lively discussion at the time, the participants decided to publish the proceedings. The papers collected in the present volume touch on four main topics:

1. Tong Enzheng's life and research, and his place within the development of modern Chinese archaeology,
2. Recent developments in the archaeology of Southwest China,
3. Material traces and geographic, cultural, and historical preconditions of possible movements and inter-group contacts along Tong's crescent-shaped cultural-communication belt, and
4. Theoretical and methodological issues in the study of culture contacts and cultural exchange, and of their reflections in the material record.

To prepare the stage for the various papers in this volume, I shall now discuss the theoretical and methodological background of research on cultural contacts; my special emphasis will be on issues of migration and diffusion and on the problematic history of these notions.

Early Theories of Culture Change: Evolution vs. Influence, Diffusion, and Migration

One of the reasons why Tong Enzheng's model is not much discussed in China and largely unknown abroad may lie in his use of the word *chuanbo* 傳播, meaning "communication," "transmission," or indeed "diffusion." The term "diffusion" carries a great deal of baggage. As defined in the Natural Sciences, "diffusion" refers to the movement of particles from a higher concentration to a lower concentration as the result of spontaneous movements (Oxford et al. 1989: vol. III, 346 f.); in the Social Sciences, particularly in cultural anthropology and geography, but also in archaeology, the term diffusion refers to the spread of object forms, styles, techniques, or ideas from one (presumably more developed) culture to another. This concept, whose earliest proponents were the geographer Friedrich Ratzel (1899 and 1912) and the ethnographer Leo Frobenius (1897/98), arose in direct opposition to the cultural evolutionism of the late 19th century, which emphasized the uniformity of the human mind and thus of human development, holding that under similar environmental preconditions the human response inevitably would lead to similar results.[2]

[1] The translation of this term is riddled with problems. The final component, *dai* 帶, for instance, may be the translated as "belt", "zone", or "band;" either one of these choices is equally acceptable and does not much change the meaning. The the word *chuanbo* 傳播, however, which may mean "communication," "spread," "dissemination," "propagation," "transmission," or indeed "diffusion," is a highly-problematic term. Diffusionist-migrationist ideas of far-flung contacts and ill-defined "influences" (particularly influence of Western cultures on early cultural developments in China), which were widely held by anthropologists during the late 19th and early 20th century, have since been heavily criticized and rejected. For the purposes of the Fukuoka panel, I therefore rendered Tong's term somewhat inaccurately as "crescent-shaped exchange belt." Finding a more accurate alternative that does justice to the complexity of Tong Enzheng's model is difficult. Translating *chuanbo* as "diffusion" would indicate a single- or multi-directional movement out of a center without any feedback, while the term "transmission" is more neutral and "communication" includes a reciprocal aspect as Tong Enzheng's model does indeed intend (this point will be discussed in detail further below). For the title and the introduction of this book, I have therefore decided to render the word *chuanbo* as "communication." Each individual author was given the choice to use the translation he or she was most comfortable with.

[2] Important proponents of this theory include Lewis Henry Morgan (1818-1881), Herbert Spencer (1820-1902), and Richard Andree (1835-1912). See Andree 1878, Morgan 1877, and Spencer 1864.

The early proponents of diffusionist theories, such as Ratzel (1899), held that innovation was rare and diffusion was thus the most probable explanation for cultural change, while environmental preconditions carried little importance. Ratzel furthermore argued that there had been only a limited number of "primordial cultures" (Urkulturen), whose migration led to the current configuration of cultures. On this basis, Frobenius (1898) developed his theory of "culture circles" (Kulturkreise) that emanated from the outward movement and influence of these primordial cultures. Alfred L. Kroeber (1939 and 1940) and his students diligently compiled long lists of cultural traits, mapping them out and using frequency seriation to define culture areas and to identify trends and directions of diffusion. Some of their contemporaries, such as Wilhelm Schmidt and Wilhelm Koppers (1937), Fritz Gräbner (1911), Clark Wissler (1923), and most infamously Gustaf Kossinna (1911), argued that the primordial cultures were the most precious while the secondary cultures were inferior. They believed that diffusion came about by migration (Völkerwanderung), trade, or conquest. Kossinna, for instance, attempted to trace the movements of the Indo-Europeans. Grafton Eliot Smith (1923 and 1924) and other proponents of what has been termed "extreme diffusionism" or "hyper-diffusionism" went even further, arguing that there had been only one cultural center, namely Egypt, from which all cultural innovations emerged. Smith's claim that certain elements of ancient Mexican culture ultimately derived from the Old World was met with much critique, especially from New World scholars. Due to the racist and Eurocentric tendencies of many of these studies, cultural diffusionism has fallen largely out of favor with anthropologists and archaeologists, especially in its place of origin, Germany and Austria, for obvious historical reasons.

Besides being objectionable under ideological criteria, diffusionist-migrationist explanations have also been criticized on methodological grounds. Its proponents tended to suggest far-flung contacts between places as far apart as, for example, the Caucasus and Vietnam or China and Mexico (e.g., Heine-Geldern 1959) without giving much consideration to routes, reasons, or mechanisms of such movements and exchanges. [3] Consequently, this approach received much criticism (e.g., Rowe 1966). In reaction to such critique, Robert von Heine-Geldern (1966: esp. 13) argued that prehistoric people were already able to traverse long distances rather quickly; therefore, long distances between two similar objects or phenomena should not keep scholars from making connections. Distribution gaps, he argued, could simply be gaps in research, or may have been caused by fast migratory movements or differences in depositional practices between various regions. Nevertheless, Heine-Geldern had to admit that in many cases diffusion was as hard to prove as it was difficult to disprove. Instead of using "diffusion" as a blanket explanation for similarities between different cultures, he therefore called for a systematic typology of various forms of diffusion and advocated the meticulous analysis of every single case. Furthermore, Heine-Geldern placed considerable hope in the ability of radiocarbon dating to indicate the direction of influences.

Likewise, other scholars proposed various solutions for some of the basic problems inherent in diffusionist-migrationist explanations. Wissler (1923) emphasized the importance of local preconditions, as did Boas. Moreover, Boas (1915) was generally opposed to the notion that the human mind was uninventive and insisted that every single case be empirically investigated in its own right. Only in a second step should the scholar widen his or her gaze to take into account outside contacts. Kroeber (1940) developed the concept of "stimulus diffusion" which describes the spread of ideas, styles, languages, technologies and the like between individuals, not through mere imitation but through active appropriation and adaptation. In Kroeber's time, this novel understanding of cultural influence, which stressed the role of individual actions or "agency" went largely unnoticed, but similar ideas came to be important with the rise of post-processualism in the 1980s.

In spite of all efforts to save it, cultural diffusionism fell quickly out of favor with the rise of the cultural-materialist and processual schools of thought since the 1950s; their evolutionist approach, their interest in system theory, and their preoccupation with single case studies left no room for intercultural contact and long-distance movements.[4] An additional problem inherent in all systemic models is their static nature. As a corrective, scholarly interest in migration and diffusion as possible explanations for change over time soon reemerged. Although the term "diffusion" is usually avoided today, it continues to be a preferred mode of explanation in contemporary Chinese scholarly practice. In connection with Southwest China, as well, scholars continually resort to ill-defined notions of population movement and long- and short-distance "contacts" to account for material-culture similarities between different regions, e.g., when discussing the widely-occurring stone-construction graves or locally discovered metal-weapon types that resemble finds from China's northern steppe zone (e.g., Liangshan and Chengdu 2009, Liu and Tang 2006). The spread of metallurgy from Central Asia and the "West" to Southeast Asia on the one hand and the Central Plains of China on the other likewise remains a hotly-debated topic. In recent years, moreover, the origin and spread of agriculture has become a major focus of research, not only in China but worldwide. Fittingly, therefore, all four topics (i.e., the origins and spread of metallurgy, the nature of the stone graves of western China, the spread of northern-style bronzes, and the origins and spread of

[3] Heine-Geldern was neither the only nor the first scholar to suggest Chinese influence in the Americas. Already Alexander von Humboldt and Ernest Fenollosa spoke of such contacts, as did Joseph Needham, Harold K. Schneider, Paul Shao, George F. Carter and others. For a short overview and references, see Carter 1988.

[4] For an overview on the history of research during this period consult Trigger 2006: 314-385.

agriculture) are among the issues addressed in the contributions to this volume.

The Origins of Metallurgy: Western Influences in China and Southeast Asia?

As early as the 1930s, Olov Jansé (1930a, 1930b, 1931, 1932, and 1934) proposed that the Chinese bronzes of the Central Plains showed signs of Siberian and Western influences. Heine-Geldern (1937) likewise argued that the "Huai-style bronzes" and the bronzes from the Đông Sơn Culture in Southeast Asia had been influenced by the Hallstatt culture as well as by various groups from the Caucasus. He believed that the Đông Sơn culture as a whole derived from foreign influences, while the Huai-style bronzes supposedly were a fusion of Chinese, Hallstatt, and Caucaso-Transylvanian elements. These influences, he argued, traveled with groups migrating from the Northern Caucasus to Central and East Asia during the 9th and 8th centuries BC. Meeting geographic barriers, they then turned south, traversing Sichuan and Yunnan until they reached the Red River Valley of northern Vietnam some time in the 6th century BC, thus becoming the forerunners of the Đông Sơn Culture.

Heine-Geldern's ideas were vehemently refuted by Bernhard Karlgren (1942), who instead held that the Đông Sơn bronzes derived from those of the local Neolithic cultures, which in turn had been influenced by the Ordos bronzes. Although he cast doubt on the origin of some of the objects Jansé and Heine-Geldern had quoted as proof of Hallstatt influence in China, Karlgren's line of argumentation was still purely style-based and diffusionistic in nature; however, he was more cautious in his conclusions, suggesting that "the Hallstatt – China legend ought to be shelved until reliable data have been furnished" (Karlgren 1942: 23). About 30 years later, Karl Jettmar (1972: esp. 223 ff.) revived Heine-Geldern's views, which he believed to have been correct in principle and only lacking adequate proof when originally proposed. Based on what he saw as traces of Chinese influence in the metal assemblages of the Minusinsk Basin and even at Hallstatt sites, Jettmar argued against a single unidirectional movement, but instead proposed "a rather intricate pattern of movements starting perhaps in the last centuries of the second millennium B.C." (Jettmar (1972:235). By painting a much more differentiated picture than his predecessors, Jettmar provided a better explanation for local variation. Nevertheless, he had to admit that the large gaps in the distribution of the cultural elements under analysis made it difficult to understand what mechanisms of contact were at play.

As one further and very problematic piece of evidence, Jettmar (1972:115) cited cranial measurements, which he employed to show that immigrants from China, which he referred to as "Sinides", had taken part in the formation of the Karasuk population. Based on linguistic evidence, Edwin G. Pulleyblank reached similar conclusions when he analyzed grammatical patterns as well as vocabulary referring to metallurgy, horse-riding, and domesticated plants and animals, to show early connections between Indo-European and Sino-Tibetan languages (Pulleyblank 1966: esp. p. 36). In the absence of contemporary textual evidence at the sites in question, however, the connection between linguistic patterns and material remains is impossible to substantiate. Moreover, the connection to cranial measurements is highly questionable. Apart from the potentially racist tendencies of such research, it has also been shown that the genetic differences between the so-called races are actually much smaller than the variations within any given population (e.g., Cavalli-Sforza 1996). Naturally enough, the ethnocentric and somewhat racist assumptions underlying some of the early claims as to the Western origins of many if not all cultural developments in ancient China were received with profound skepticism in China.

Early on, Johan Gunnar Andersson (1925:36-42), struck by the resemblance between Yangshao pottery decoration and designs from Anau, Turkmenistan, suggested that "the original home of the painted pottery was in the Near East," from where painted pottery was transmitted by "migratory waves" into China. Even though Andersson had been careful to call his statement a mere hypothesis that would need to be tested further, his views sparked an outcry among Chinese scholars. Li Ji (1927:28-29) and Pei Wenzhong (1946) questioned the reliability of Andersson's evidence, proposing instead a Chinese origin of the Yangshao ceramic tradition.[5] Under the sway of this emotional and politicized debate, the general tendency among Chinese scholars was to turn to the opposite extreme and to embrace a sinocentric view that emphasized China's independent and undisturbed development since prehistoric times. Tong Enzheng himself attributes this trend in part to the overall political atmosphere in China during the early Communist era (Tong Enzheng 1995).

Since the 1960s, discussions among Chinese archaeologists on inter-group interaction were thus largely confined to relationships between different parts of the Chinese territory itself, with a strong preference for the Central Plains as center and origin of all cultural developments. K.C. Chang's [Zhang Guangzhi's 张光直] (1986:234-294) influential model of the Chinese interaction sphere was probably the first study that questioned the primary importance of the Central Plains. Instead, he suggested that Chinese culture had arisen from the interplay of a number of different regional cultures. Nevertheless, this model was mainly geared to the core areas of early Chinese civilization in the east, while the so-called "border regions" were not taken into consideration, possibly because reliable data from those areas was lacking at the time. During recent decades, however, research in Southwest China and Southeast Asia has intensified significantly, bringing to light a

[5] The stratigraphic proof was obtained by Xia Nai 夏鼐 in his 1940s fieldwork in Gansu and pointedly discussed in an English-language article (Hsia 1952).

substantial amount of objects resembling finds from the Ordos region, Central Asia, and the Eurasian steppes. Furthermore, very early (and later refuted) radiocarbon dates associated with bronze objects from Thailand reopened the discussion on the origin of metallurgy previously debated in connection with early diffusionist ideas.

When exceptionally early radiocarbon dates from the site of Non Nok Tha were published in the late 1960s, they caused considerable agitation in the scholarly world. These faulty dates not only suggested that in Thailand rice had been domesticated from 3500 BC onward, about 1,000 years earlier than in any part of China, but also that bronze casting was already practiced during the early 3rd millennium BC, i.e. more than 500 years earlier than in India and as much as 1,000 years earlier than in China. The antiquity of these dates seemed to rival even that of the earliest evidence of bronze casting in the Near East, suggesting that this technique had originated from Southeast Asia from where it spread to the West, and not the other way around. Wilhelm Solheim, Donn Bayard, and Pisit Charoenwongsa argued for this "long chronology," while H.H.E. Loofs-Wissowa (1983a:4-6) and others questioned the reliability of the samples used for radiocarbon dating and proposed a "short chronology," holding that bronze metallurgy was adopted in Thailand between 1500 and 1000 BC at the earliest. Spawned by conflicting 14C- dates, uneven archaeological evidence, and personal animosities, the debate soon turned polemic and continued over several decades (Loofs-Wissowa 1983a: esp. 10-11, and 1983b: 26-31; Bayard and Charoenwongsa 1983: 70).[6]

In the late 1990s, it finally became evident that the early dates were the outcome of systematic errors in the analysis and flaws during data collection (Bayard 1996/7, Piggott and Natapintu 1996/7, Spriggs 1996/7). Newly acquired radiocarbon dates supported the "short chronology." Nevertheless, many details concerning the emergence and spread of early bronze working in Southeast Asia are still unclear. There is ample evidence for early bronze casting from the first half of the second millennium BC, mainly in the form of small implements (chisels, arrowheads, fishhooks, and ear ornaments) made of copper and tin from mines in Vietnam. However, these finds all came to light in the northeastern part of Southeast Asia, while contemporary sites in central Thailand, such as Khok Phanom Di, did not reveal a single metal object (Higham 1996/7). Traces of intense mining activities in that area are also of a later date (about 1500-1000 BC) and bronze objects remain rare in cemeteries from Thailand even at that time (Higham 2004: 18). The limited development of metallurgy in the region is surprising because the area is not only rich in copper ore but also located on the massive tin belt running across Southeast Asia from Indonesia by way of Singapore, West Malaysia, Mainland Southeast Asia, and into Southwest China. Furthermore, both types of metals were demonstrably extracted in various parts of Southeast Asia and Southwest China during the first millennium BC at the latest (Selimkhanov 1996/7). This goes to show that Heine-Geldern was quite correct in remarking that the lack of a certain type of material in the burial record does not mean that no such objects circulated, but only reflects the specific deposition practices of a given period.

These particularities of the archaeological record are one of the reasons why the beginnings of bronze production in Southeast Asia and the causes of its sudden increase around 1000 BC are still largely unclear. In the late 1990s, Higham (1996/7) suggested a rapid spread of bronze metallurgy within the well-connected network of local cultures between 1500-1000 BC. He argued that bronze production in Southeast Asia was a timely local development which happened "coincidentally at the very time when Neolithic societies were being exposed to imports and presumably ideas" (Higham 2002: 118); however, this rather vague statement does not explain the mechanisms of exchange or the nature and origins of these foreign "ideas."

Overall, it is now clear that traces of bronze metallurgy in Central Asia precede any such evidence in Northwest China, which in turn predates the emergence of bronze metallurgy in Southwest China and Southeast Asia (Higham 2002:118-163, Yao 2010). A single wave of influence or diffusion moving from north to south would thus be the easiest explanation, but there are arguments speaking against such a simple model. As various scholars have pointed out, early bronze assemblages found in the upper Jinsha River Valley as well as in Northern Vietnam and the lower Mekong region are experimental in nature: they consist of a very limited array of implements resembling local Neolithic forms and are made from uneven alloys of tin and copper using both stone molds and forging techniques (Loofs-Wissowa 1983a and 1983b, Min Rui 2009, Yao 2010, Yunnansheng 1995, Yunnansheng et al. 2009a and 2009b). A combination of outside influence and local experimentation, at least during this early phase of metalworking in Southwest China and Southeast Asia, is therefore not unlikely. Indicators for northern influence do not stop here, however, but are even more numerous at later sites, where they are visible not only in metal objects, but also in burial customs, ceramic forms, and decoration motives.

The Northern Connection: Stone Graves, Double-Handled Vessels, and Animal Designs

In Western China, graves with stone installations are densely distributed especially in the upper Minjiang 岷江 River Valley, but also in other parts of Western Sichuan and even in Northwest Yunnan and eastern Tibet (Aba

[6] The debate apparently still continues. When I organized a panel on "Technology in Southwest China and Southeast Asia: The Origins, Spread, and Development of Metal Production in Southwest China, Southeast Asia, and Beyond" at the 2013 meeting of the Society for American Archaeology (SAA), some invitees from both sides of the debate refused to attend as soon as they learned that proponents of the opposite viewpoints would be present.

and Chengdu 2009). Given the considerable variation in the actual construction of the graves as well as in mortuary practice and grave goods, it is unclear whether all of these graves should be attributed to the same culture. Liu Hong 劉宏 (1992) counts all small to mid-sized graves with stone installations as manifestations of a unified stone-cist grave culture; Wang Yanfang 王艳芳 (1996) sees graves from different regions with varying forms and contents as completely different phenomena; Liu Shixu 劉世旭 (1992) points at the possibility of very different local developments due to the long time-range and vast territory in which these tombs occur; and Adam Smith (2001) argues that the data are insufficient to answer any questions of cultural affiliation. In spite of these differences in opinion, the mode of explanation that these scholars have been using is largely the same: similarities between grave forms and objects found in different regions are generally attributed to migratory movements over long distances (e.g., Lang Jianfeng 2006: esp. 55-58); only a small number of scholars pronounce themselves in favor of local development over outside influence (e.g., Liu and Tang 2006). Furthermore, those in favor of migration theories usually advocate movements from North to South, with the exception of Guo Jiyan 郭繼豔 (2002) who suggested a local development in Yunnan followed by migration toward the North. Considering the lack of reliable absolute dates and the ongoing discussions about the relative chronological position of the stone graves in western China, further research is needed before the issue can be resolved. The traditional approach to the problem — especially in the absence of absolute dates — is the compilation of object typologies and cross-dating through artifacts identified as imports from regions with an established chronological framework.

For example, many of the stone graves contain various kinds of double-handled jars (*shuang'erguan* 雙耳罐) that commonly appear in various types of graves and settlement sites throughout all of western China from ca. 1700 BC to AD 100. The origin of this object type is generally traced back to finds in Gansu associated with the people of the Qijia culture 齊傢文化 (2400-1900 BC), who supposedly migrated southward, as did the successors of the Siba 四垻 (1900-1500), Siwa 寺窪 (1300-1000 BC), and Kayue 卡約 cultures (900-600 BC), each bringing with them new varieties of double-handled vessels (Xie Chong'an 2005). The distribution of early Majiayao-type (馬傢窯類型) painted pottery (3100-2700 BC) in the upper reaches of the river valleys adjacent to the Sichuan Basin has been discussed along similar lines (e.g., Hung Ling-yu 2011, Hung et al. 2012), but this type of pottery is mainly concentrated in the northwestern border areas of Southwest China, while the double-handled jars have been found as far south as northern Yunnan.

This ceramic evidence is not often discussed in studies of cultural diffusion into Southwest China. Instead, scholarly interest has centered mostly on northern-style metal weapons and decorative ornaments found in the region, e.g., at the Dian-culture 滇文化 cemetery of Shizhaishan 石寨山, in Jinning 晋宁 County, Yunnan (~250 BC to 1 AD) (Yunnansheng Bowuguan 1959, Yunnansheng et al. 2009). Emma Bunker was one of the first Western scholars to introduce these finds to a wider audience at the 1967 symposium on "Early Chinese Art and its Possible Influence in the Pacific Basin." As the title indicates, the participants in this symposium were interested in far-reaching connections that were not limited to a West-East exchange through the Eurasian steppes, but extending farther into Melanesia, the Admiralty Islands, and even to the Americas. Bunker (1972) herself was considerably more cautious: she pointed out parallels in bronze work and decoration between the finds from Shizhaishan and the so-called "animal style" of the steppes, but also remarked on differences in execution, potentially indicating differences in meaning and function as well as production techniques. In spite of these discrepancies, she considered the similarities with objects from the Black Sea to be substantial enough to argue that tribes "of northwestern origin" were present in Yunnan.

In her influential study of the Shizhaishan finds of 1974, Michèle Pirazzoli-t'Serstevens carefully reconsidered the evidence for steppe influence in the Đông Sơn and Dian cultural spheres. Although she agreed that there were clear signs of contact, she pointed out that the actual channels of influence were unclear and had to be more thoroughly investigated. While Zheng Dekun 郑德坤 (Cheng Te-k'un 1946) and K.C. Chang (1964:372) had proposed that the builders of the stone-cist tombs in Northwest Sichuan were the intermediary between the steppe and Shizhaishan, Pirazzoli-t'Serstevens (1974:125-127) argued that the evidence for this idea was insufficient and that the most striking elements of apparent steppe origin found in the Dian region, such as animal motives, were lacking in Northwest Sichuan. She therefore suggested a different route of influence coming from the East through Han and Chu intermediaries. Arguing from historical texts and archaeological sources, she held that Iranian and western Asian influences were transmitted through the Śaka 塞, a group that dwelled in today's Kazakh steppe, to the Yuezhi 月支. Some of the Yuezhi in turn brought these traits further into the Ordos region, while others moved into Gansu, Xinjiang, Sichuan, and Tibet. Evidently, Pirazzoli t'Serstevens was by no means averse to the notion of migration as the explanation of similarities in metal-object forms between the steppe and Southwest China. In contrast to her Western predecessors, however, she did not argue for long-distance influences from the far West but concentrated on evidence for regional and interregional contacts within China instead. Additionally, she tried to connect the archaeological material with ethnic groups mentioned in Chinese historical sources. Both lines of argument closely match general trends among Chinese scholars, who were (and to a certain extent still are) engaged in a discussion largely separate from that of Western scholars. Much of this internal discussion is

informed by an overriding concern with historical texts, a characteristic of Chinese archaeology since its early beginnings (Falkenhausen 1993).

The Chinese Perspective: Textual Evidence, Ethnic Attributions, and Regional Interaction

The first Asian scholar to suggest steppe influences on Yunnan bronzes was not a Chinese but a Japanese researcher, Shiratori Kurakichi 白鳥庫吉 (1865-1942). He connected the animal motives seen on bronzes from Yunnan to the Scythians 斯基泰人, suggesting that the Yuezhi had transmitted them to the Qiang 羌 tribes living in Gansu (Shiratori 1935). Arguing from historical sources (mainly the *Shiji* 史記), Shiratori equated the Qiang with the Kunming 昆明 or Kunmi 坤米, a subgroup who, according to him, migrated into Yunnan, where they became the ancestors of the Dian. Based on linguistic evidence, he furthermore linked the Kunming to the Kunmi and the Naxi 納西族 and Yi 彝族 populations of today. Although reaching different conclusions, Zhang Zengqi 張增祺 (1991) took a similar approach, connecting decorative elements and object types from Yunnan with specific ethnic groups mentioned in Chinese historical sources. Zhang pointed especially to bronze plaques and cowrie containers from Shizhaishan bearing human figures distinguished by different hairstyles and dress, arguing that they were signs of the presence of people of northern origin in Southwest China. Feng Hanji 馮漢驥 [Feng Han-yi] (1961) distinguished seven distinct groups among the people depicted on these containers, and Wang Ningsheng 汪寧生 (1979) divided them into four main phenotypes and ten sub-groups. Only one group did not match with any written evidence: figures with long trousers and swords at their sides, additionally characterized by their prominent noses. Feng and Wang interpreted them as "Westerners", perhaps members of a northwestern nomadic tribe, while Zhang Zengqi saw them as depictions of Scythians whom he believed to have migrated into Yunnan.

There are several problems with this line of argument: for one, the terms "West" and "steppe" are used rather vaguely for a huge land mass stretching over large parts of Eurasia. Although certain types of decoration and objects such as animal motives and certain weapon types were widely used throughout this area, the inhabitants of Central Asia and the Eurasian steppes most certainly did not identify themselves as a single cultural or ethnic group. Furthermore, the name "Scythians", taken from early historical sources such as Herodotus' *Histories* (c. 440 BC), has been historically applied to a number of different ethnic groups whose connection with concrete archaeological evidence is likewise problematic. The same holds true for the peoples mentioned in Chinese historical texts — texts that, furthermore, are of significantly later date than most of the archaeological evidence in question. In the case of Southwest China, the considerable diversity of archaeological material makes it difficult to draw firm boundaries between archaeological cultures, let alone connect them securely to ethnic units mentioned in later texts. The Shizhaishan finds provide a remarkable exception: the seal of the King of Dian found at this side provides a solid link to a specific group mentioned in the *Shiji*. For the so-called stone-cist graves encountered in Sichuan and Yunnan, however, no such link exists, and their ethnic attribution remains a point of heated discussion.

Following the earlier argument of Tong Enzheng, Wang Ningsheng (1989) and Zhang Zengqi (1994), for example, have argued that these graves were built by the Di 氐 or Qiang 羌. Tzehuey Chiou-Peng furthermore suggested that these groups were related to participants in the Andronovo culture (1800-1400 BC) in southern Siberia, who had moved into Northwest Sichuan and then further south to Yunnan (e.g., Chiou-Peng 1998 and 2004). These groups supposedly brought with them certain types of bronzes and the custom of building stone tombs; in the course of their migration they adopted farming and other foreign elements from people they encountered on their way. For a time, contact with the original homelands may have been maintained, explaining later influences in both directions (Chiou-Peng 2004). This big-picture narrative bridging huge spans of time and space fits in with the pattern of migratory-diffusionist theories described above. Although allowing for a larger number of groups, local developments, and multi-directional movements, it is inevitably a very simplified model and replete with problems.

In his paper on the crescent-shape cultural-communication belt from 1987 (reprinted in 1990 and 1998), Tong Enzheng explicitly warned against such simplistic explanatory models. Although he used the term *chuanbo* 傳播, he did not claim that the similarities in stone tools (especially microliths), metal-weapon forms, and stone graves throughout this zone stretching from Northeast to Southwest China should all be attributed to the same culture or be interpreted as having been "diffused" from Northeast to Southwest or the other way around. Instead, Tong suggested the existence of a contact network between regions with similar ecological and topographical preconditions but with different economies, which prompted various forms of exchange along the pathways laid out by the rivers and mountain ridges connecting them. Tong Enzheng also pointed out that cultural unity or "contact" as blanket terms were insufficient explanations in themselves, but that there were many possible reasons for similarities between the archaeological phenomena of different regions. Aside from migration and direct economic exchange, he mentioned the transmission of pure "ideas" and/or independent development as possibilities. As this cautionary note is often overlooked, it therefore deserves a full quotation here:

Based on type and style of excavated artifacts, building remains, burial implements, burial customs, and all kinds

of other archaeological elements, we have discussed the relationship between various ancient cultures that existed throughout the crescent-shaped zone stretching from the Northeast to the Southwest [of China]. We by no means want to claim that all of these connections are the outcome of direct migration or exchange. Considering the geographic expanse of many thousand miles and the chronological expanse of several thousand years, solely based on the rather weak material evidence, it is difficult to paint a complete picture of movements of ethnic groups. Our preliminary view thus is the following: the reasons for the emergence of the phenomena [discussed above] comprise actual migration, fusion, and exchange between various ethnic groups, as well as the indirect exchange of ideas; even independent development in different locations cannot be excluded as an explanation. But regardless of whether it was direct or indirect transmission, there must have been certain observable preconditions involved. Only if at the point of origin and at the point of reception there exist similar needs and a similar material environment can such forms of diffusion take place. Even in cases of independent development in two different places, similar objective and subjective preconditions are an inalienable premise for similar inventions (Tong 1990b:266-267, translation mine).

This passage makes it clear that Tong was not actually talking about processes of diffusion (even though the choice of words for the title of his paper could be interpreted in this fashion), but about a zone of various forms of contact, exchange, movement of people and goods, as well as independent local development. For the title of the present volume and my own contributions, I have therefore decided on the translation of "cultural-communication belt" but left it open to each individual author to choose the translation with which they were most comfortable.

Apart from this semantic problem, Tong did not discuss what the "ideas" exchanged might have been and how they were transferred, nor did he suggest how we might distinguish between the different forms of contact and exchange. Furthermore, in spite of his important words of warning, in his own case studies of various types of bronze objects and their origin and spread, Tong Enzheng (1990a) nevertheless relied on the purely stylistic comparison of single objects or decorative elements, often disregarding the contexts in which they were used. Although his model is far more sophisticated and nuanced than the sweeping idea of movements of diffusion proposed many decades earlier by Heine-Geldern, the notion of the transmission of ideas from one place to another thus still remains rather vague.

The contributions in this volume approach this issue from a variety of angles. Some discuss Tong Enzheng's life and work to understand the background and thrust of his model and seeing how his ideas were received and interpreted by contemporaries and later scholars. Others present case studies on material from various sub-regions of this contact zone, thus discussing Tong's model by way of application. Below, each of the contributions is introduced in turn, placed within the context of this volume, and related to the preceding discussion of "diffusion," cultural contact, and exchange.

The Conference, the Papers, and their Scholarly Significance

The original conference session — like this volume — opened with an overview of Tong Enzheng's life and work presented by Lothar von Falkenhausen who once met Tong Enzheng personally (albeit briefly) in Taiwan. Inspired by the session, for this volume Falkenhausen decided to hunt down all available works by and remarks on Tong Enzheng, including all of his scholarly articles, novels and other literary products, as well as obituaries, letters, and miscellaneous online sources. This contribution provides an overview of Tong Enzheng's personal, literary, and scholarly background and achievements (including a comprehensive bibliography). Moreover, throughout his account of Tong's life and work, Falkenhausen probes into the possible motivations underlying Tong's actions, considering political and social as well as personal circumstances. In this fashion, his paper not only describes the life of an extraordinary scholar and writer, but it also tells the history of the field of archaeology during the 20th century as seen from a marginal region in China.

The historical background thus having been established, the rest of the volume is devoted to archaeological studies illuminating aspects of Tong Enzheng's most-quoted idea — the crescent-shaped cultural-communication belt. In their paper entitled "Rethinking the Crescent-Shaped Exchange Belt — A Short Overview of the History of Research Since Tong Enzheng," Lü Hongliang 呂紅亮 and Zha Xiaoying 查曉英 point out that Tong was not the first person to suggest connections between Northeast and Southwest China. Although Tong Enzheng does not quote any predecessors, his theoretical framework was borrowed from the work of American ethnologists, especially Boas and Wissler, whose ideas of cultural diffusion and migration have been described above. In China, where at the time theoretical and methodological discussions were not very common in archaeology, Tong's advances in this field went largely unnoticed. Nevertheless, as Lü and Zha show convincingly, there are other aspects of Tong's work that greatly influenced other specialists and possibly even left their mark on the general trajectory of archaeological research in China. Among other things, Tong showed again and again that there were other centers of cultural development outside of the Central Plains, that archaeological research must transcend the political and administrative boundaries within China as well as those between China and the outside world, and that its focus should be on ecologically defined units instead of artificial ones.

Lü and Zha as well as Falkenhausen point out that local pride and personal attachment to his place of residence may have led Tong Enzheng to emphasize the importance

of regional developments in Southwest China. This observation might also be extended to include both Lü and Zha as well as Li Yongxian 李永憲, another contributor to this volume; all three are associated with Sichuan University, Tong Enzheng's *alma mater*, and are conducting research on the archaeology of Southwest China. Li Yongxian, himself a native of Sichuan, has been a professor of archaeology at Sichuan University for over 30 years; Lü Hongliang was Li's student, received his PhD from Sichuan University in 2007, and is now associate professor at the same institution; Zha Xiaoying — originally a master's student at Sichuan University — has recently returned there as a lecturer after having received her PhD from Sun Yat-sen University. Li, Lü, and Zha therefore represent three cohorts of scholars following in the footsteps of Tong Enzheng, Li being his younger college, and Lü and Zha being Li's younger fellow students (literally, "younger brothers and sisters in study," *xuedi* 學弟 and *xuemei* 學妹), albeit several cohorts removed. It is interesting to note that none of the students that Tong himself trained subsequently made their careers at Sichuan University. Instead, the entire department faculty today was educated in the intellectual lineage of Zhang Xunliao 張勛燎 who took a much more traditional approach,[7] combining textual with material-culture studies and concentrating on the history of Daoism.[8] Nevertheless, Li and Lü in particular have been continuing Tong Enzheng's work for many years, doing archaeological research in the eastern part of the Tibetan Plateau, an important section of the crescent-shaped cultural-communication belt that had been largely unexplored at the time of Tong Enzheng.

In fact, the site of Changdu Karuo 昌都卡若 (Chamdo Kharo) that Li Yongxian discusses in his contribution to this volume, was first excavated by Tong Enzheng in two campaigns in 1978 and 1979, the first-ever excavation on the Tibetan Plateau. In 1985, Tong and his colleges published the results of their work in an excavation report that is remarkable for its high quality and great detail of information on dwelling structures (including reconstructions based on ethnographic studies) and animal bones that allowed inferences on early subsistence practices, reflecting a rather progressive approach to settlement archaeology that was not at all common at the time (Xizang and Sichuan 1985; for a preliminary excavation report consult Tong and Leng 1983, and for a short report in English see Tong, Leng, and Suolong 1982). After a hiatus of over ten years, in the early 1990s Li took up Tong Enzheng's field research on the Tibetan Plateau, and in 2002 he and Lü conducted new survey and excavation work at and around the site of Karuo (Li Yongxian 2007). The main aim of their project was to understand early settlement activities and subsistence practices on the Tibetan Plateau, issues that have received increasing international attention over the last ten years (e.g., Aldenderfer and Zhang 2004, Aldenderfer 2011, Brantingham et al. 2007, d'Alpoim Guedes et al. 2013). In his paper in the present volume, Li Yongxian uses the accumulated materials from Karuo to explain the emergence of agriculture on the Tibetan Plateau.

When Tong Enzheng discussed the emergence of agriculture in southern China (Tong 1989) as well as general issues of the archaeology of agriculture (Tong 1984), he argued for an independent development of agriculture in various parts of the world and against the north Chinese origin of either this mode of subsistence or the various crops that were cultivated. By contrast, at least for the prehistoric inhabitants of the Tibetan Plateau, Li Yongxian holds that they learned the practice of millet agriculture from groups on the Loess Plateau. The flow of goods, planting techniques, and crops (and naturally also people, be they alone or in larger groups) is most clearly reflected in the ceramic assemblages, Li argues, but he points out that the reasons for this kind of exchange or movement of people need to be explored further. The evidence Li cites are house construction, stone and bone tools, and painted ceramics, all showing close similarity with Neolithic cultures of the upper Yellow River Valley, especially with the millet-growing groups associated with the Yangshao and Majiayao cultures.

Based on the physicochemical and typological analysis of ceramic vessels, Hung Ling-yu has reached similar conclusions in her dissertation research on ceramics from the Tibetan Plateau, which she compared with Yangshao and Majiayao ceramics (Hung 2011, Hung et al. 2012).[9] In the case of Southwest Sichuan, which Hung discusses in her contribution to the present volume, the results of geochemical analysis indicate that the Majiayao-type vessels found at Neolithic sites in the mountain of Sichuan were imported goods. As they are very numerous and occur in association with ceramic products of local manufacture and form tradition, Hung suggests that these foreign objects may have reached their place of deposition through long-standing exchange networks. In light of other types of material evidence (ceramic forms, burial customs, subsistence systems, and the like), Hung argues for a complex combination of human migration, technical transmission, style imitation, trade, concluding that connections between western Sichuan and Gansu were close as early as the Neolithic period.

The existence of various kinds of contact networks throughout western China and beyond becomes even more apparent in the archaeological material of later

[7] Personal communication by Lothar von Falkenhausen.

[8] His main works comprise *Zhongguo daojiao kaogu* 中國道教考古 (The Archaeology of Daoism), *Guwenxian luncong* 古文獻論叢 (Collected essays on ancient texts), and *Zhongguo lishi kaoguxue lunwenji* 中國歷史考古學論文集 (Collected essays on the historical archaeology of China) (Zhang Xunliao 1988, 2006, and 2013).

[9] Hung's 2012 SEAA paper was not originally part of the panel on Tong's "crescent-shaped cultural-contact belt," but it is included here because it closes an important gap both geographically (by connecting the Loess Plateau and the mountains of Sichuan) and methodologically (by adding material analysis and discussions on techniques of ceramic production as further avenues of gaining insight into the nature of pre-historic intercultural contacts).

periods, especially in bronze objects, as discussed by Kazuo Miyamoto and other contributors to this volume. In his paper, Miyamoto presents new evidence from burial sites along the upper and middle Yalong River to discuss the emergence of bronze metallurgy in Southwest China. The results of a joint Sino-Japanese project in this region (Miyamoto and Gao 2103; Sichuansheng et al. 2013), combined with minute typological comparisons of various metal-weapon and grave forms and a number of new 14C-dates, enable Miyamoto to propose a new chronological scheme for the development of stone-cist graves on the eastern rim of the Tibetan Plateau that spans from the 15th to the 5th c. BC.

Miyamoto furthermore argues that bronze production in Northeast China and Southwest China developed independently through contact with the Northern Zone. Although located on opposite ends of the same cultural-communication belt defined by Tong Enzheng, the Northeast and the Southwest, according to Miyamoto, were not in direct contact but only shared a common exchange partner. Miyamoto thus adjusts Tong's model to encompass two routes of contact running in opposite directions and intersecting in the Northern Zone. He furthermore argues that the northeastern route extended into the Korean Peninsula (Miyamoto 2000). If Miyamoto's modifications to the model are correct, then one of the major (but admittedly shakier) points of Tong Enzheng's model — namely the idea that similar environmental preconditions will lead to similar needs and therefore provide a basis for exchange and contact (or for the independent development of similar cultural features) — is not met by all regions along the contact zone. In any case, Miyamoto's study confirms the existence of longstanding contacts linking the Northern Zone to Northeast China on the one hand and to Southwest China (and, by extension, Southeast Asia) on the other. The situation thus seems to have been even more complicated than Tong envisioned.

Another important contribution of Miyamoto's paper is the new chronology of the stone-cist graves of Southwest China that he proposes. As various scholars have argued, the concept of the stone-cist grave complex — not to mention a "stone-cist culture" — as a single unit is highly problematic, mostly because of the great variety of grave forms and associated burial goods and customs (e.g., Hein 2013: esp. 306f. and 632f., Shen and Li 1996). In contrast to a recent summary publication on the "stone-cist grave culture" (*shiguanzang wenhua* 石棺葬文化), which covers graves with varying amounts of stone-construction parts (and even some without any stone elements) from all over western China (Aba and Chengdu 2009), Miyamoto uses the term stone-cist grave culture (or stone-cist culture) in a more narrow sense, limiting it to small-sized earth pits lined with regular stone slabs and containing specific kinds of object assemblages (double-handled vessels and various types of bronze weapons) typical for the mountains of western Sichuan and neighboring provinces. Following Li Shuicheng 李水城 (2011), Miyamoto argues that the tradition of building stone-cist graves originated with groups in the Gansu-Qinghai region, but he does not claim that all groups building stone-cist graves belonged to one culture. But what does the term "culture" refer to in this context? An archaeological culture (in the sense of a recurring set of specific objects and other material traces in a particular region), a supra-local group with a shared communal identity, or a specific tradition or practice (such as the building of stone-cist graves) shared by various groups in different regions?

Li Shuicheng, who recently presented a new evaluation of the stone-grave material from Southwest China, mostly avoids the term "stone-cist grave culture" but in the end points out that "several different ethnic groups may use the same culture, [and] one and the same ethnic group may appropriate or use several different cultures" (不同民族可以使用同一文化，同一民族可接受或使用不同的文化) (Li Shuicheng 2011:68). This definition of culture can be interpreted either as a wide one (as human behaviors dictated by customs and norms common to certain groups of people), or as a specific one (referring only to single aspects of material culture or archaeological features that can be shared by various groups). In either case, at the current state of research, Li Shuicheng's assessment that these graves belonged to a variety of different traditions and came about in various ways, is reasonable. Much further research is needed to understand the relationship between groups in different parts of western China and beyond that were building more or less similar graves with stone linings. Also needed are in-depth discussions of the relationships between material culture, burial customs, settlement communities, various forms of identity, and human behavior in general.

Another major point besides theoretical discussions is the question of chronology. To be able to compare these outwardly-similar phenomena in different regions and assess their relationship to each other, their relative and absolute dates need to be established. This is where Miyamoto's study makes a particularly important contribution by proposing his new chronological scheme for the development of stone-cist graves as well as bimetallic swords. In their contribution to this volume, Li Kunsheng and Min Rui likewise suggest a new chronological framework of the early Bronze Age of Yunnan at the southern end of the crescent-shaped cultural-communication belt. Recent years have seen the careful excavation of several deeply-layered prehistoric sites in Yunnan that have greatly advanced the field by providing large amounts of material, including ceramics, bronzes, and radiocarbon dates. Of particularly great importance is the very well-preserved site of Haimenkou 海門口 in Jianchuan 劍川 County in Northwest Yunnan, which lies at the core of the paper by Li and Min.

As mentioned above, the emergence and development of bronze production in Southwest China and even more so Southeast Asia has long been a point of heated discussion. While previous scholars have argued that bronze

metallurgy on the eastern rim of the Tibetan Plateau began only during the eighth c. BC, in the present volume, Miyamoto suggests that the metallurgy of Southwest China emerged under influence from Northwest China as early as the 15th c. BC. Similarly, in the present volume, Li and Min reach the conclusion that the bronze metallurgy of Yunnan already developed by 1700 BC, likewise under influences from Northwest China — apparently earlier than in the Sichuan Basin, in spite of the fact that Yunnan is located further south and thus geographically further away from the "source." Comparing the finds from Yunnan with those from Sichuan, it becomes immediately clear that the earliest bronzes from Haimenkou are only coarse, simple tools, while the objects from the later graves of Aofengshan 鰲鳳山 and Nagu 納古 in Northwest Yunnan (many of them graves with stone lining) contain weapon types of clear steppe origin as they are also common in stone graves of Northwest Sichuan. At the same time, there are other object types in the graves in Yunnan that are clearly very different from those in Sichuan. Furthermore, earlier sites in Yunnan and even more so Sichuan already show signs of northern connections, reflected in ceramic-form types usually associated with the Qijia culture of Northwest China, probably the earliest bronze-carrying group in China (Debaine-Francfort 1995, Shui Tao 2001).

The connections between North and South were thus complex, long-standing and apparently ran along various routes, with some groups passing by or through western Sichuan without leaving traces in the material record and others stopping in Sichuan but never reaching Yunnan or at least not leaving any traces there. The archaeological assemblage from the remote Yanyuan Basin 鹽源盆地, which I discuss in the present volume, reflects both local particularities and an astonishing number connections in all directions (especially to the steppe region in the North and central Yunnan in the South) and from a wide range of different periods, all combined in lavishly-furnished graves dating between 400 BC and AD 9.[10] The cemeteries reflect a highly stratified society with the richest burials containing numerous weapons as well as horse skulls and horse gear, which are otherwise un-common to Southwest China but customarily found in Northwest China and Central Asia. I therefore argue that the inhabitants may have been of northern origin. Considering the local availability of salt, as well as the lack of local metal sources (especially of tin), I furthermore suggest that it was likely the salt resources that attracted people to this remote place, triggering the development of a wide-ranging elite-level exchange network.

While most other papers in this volume concentrate on assemblages, sites, or even whole regions, Tzehuey Chiou-Peng approaches the topic of long-distance contacts from a specific object type. In her paper, she analyzes the bimetallic (bronze and iron) swords and daggers with three-pronged guards and torqued handles that were found on both ends of the crescent-shaped cultural-communication belt, i.e., in Northeast China and Yunnan. Just like Tong Enzheng, who compared various kinds of weapons occurring throughout the region, Chiou-Peng conducts a traditional typological analysis of the bimetallic weapons, but she also considers the development and function of the distinctive characteristics from a technical perspective, and she discusses the technical preconditions for producing such objects in the first place. Based on this, Chiou-Peng suggests a developmental sequence for the swords from Southwest China that goes back to local antecedents predating the seventh c. BC. It follows that the seemingly similar objects in Northeast and Southwest China were not directly related but emerged independently. Chiou-Peng argues that similarities in the ecosystems of both regions prompted the emergence of similar forms of subsistence (i.e., a pastoralist lifestyle) and, by extension, similar forms of social organization and technological adaptation, accounting for the emergence of similar objects in places so distant from each other. In emphasizing the geographic preconditions for long-distance contacts and for the acceptance of foreign goods, and in highlighting the importance of local developments when such overall circumstances are similar, her line of argument is essentially the same as Tong Enzheng's.

The local environment is of even greater importance when discussing the adoption of specific forms of subsistence in China's border regions. Recently, it has become clear that the grinding stones found at early Neolithic sites throughout China had mainly been used to grind acorns and tubers and not grains, calling the conventional understanding of the subsistence systems at these early settlements into question (e.g., Liu et al. 2010a and 2010b, Werning 2003). This has fuelled a new debate on such questions as the emergence of agriculture and the nature of the Neolithic in China. The date of the earliest cultivation of rice in China and other parts of East Asia is likewise contested (e.g., Fuller et al. 2007a and 2007b). As far as Southwest China is concerned, Tong Enzheng (1984, 1985, and 1989) had suggested that agriculture may not have spread from the Yellow River Valley to the South, but that a Neolithic mode of subsistence may have developed independently in various parts of China. In Southern China and Southeast Asia, he argued, environmental preconditions were ideal for developing an agricultural mode of subsistence. Although it is by now clear that Southwest China received various crops and livestock from outside, it is also obvious that Tong Enzheng was right in emphasizing the importance of local preconditions for the adoption of farming or other modes of subsistence, whether they were wholly or partially inspired by outside contacts or took the form of independent local developments.

[10] At the conference, I originally presented a paper on the Liangshan region in Southwest Sichuan, discussing the interplay of complex and long-standing contact networks throughout that area. The paper has since been accepted for publication elsewhere (Hein in press); in my paper for the present volume I therefore decided to focus on the part of the Liangshan region that showed the most evidence for outside contacts, the Yanyuan Basin

Excavations conducted throughout Southwest China in recent years have thrown some light on local subsistence practices and their origins. Of particular importance in this discussion is the deeply-stratified site of Haimenkou (Yunnansheng et al. 2009a and 2009b). Thanks to the excellent preservation conditions at this water-logged site, large amounts of paleobotanical remains could be recovered. At the conference in Fukuoka, Jin Hetian presented the results of her analysis of these remains:[11] the earliest layers (Layers 10 and 9, dated to 1600-1400 BC) contained rice and foxtail millet, with Layer 10 yielding only rice and Layer 9 mainly foxtail millet; in Layer 8 small amounts of wheat were combined with approximately even proportions of millet and rice; in Layers 7, 6, and 5 (1400-1100 BC), rice decreased significantly while wheat increased; in Layer 4 (~800 BC), rice vanished almost completely and millet was reduced as well, while wheat came to dominate. Additionally, buckwheat and barley appeared from Layer 8 onward, but in small proportions, and amaranth (*chenopodium*) increased from Layer 7 onward, but decreased sharply in Layer 5.

Based on these results, Jin (2012) argued that there had been three waves of outside influence. The first wave brought rice agriculture to Haimenkou, possibly via the Anning River Valley 安寧河流域 and coming from an unknown point of origin further north. The second wave, which introduced millet to Haimenkou, probably originated with the Majiayao cultural sphere in the upper Yellow River Valley, reaching Yunnan by way of Northwest Sichuan or possibly even the Tibetan Plateau [i.e., Karuo]; from Haimenkou, the custom of planting millet and the grains themselves then spread further into southern Yunnan. According to Jin's model, the third wave came from the upper Yellow River as well, bringing with it the wheat-dominated form of agriculture that is still practiced around Haimenkou today; the origin of this practice lay likely with the Qjia culture and entered Yunnan through western Sichuan.

To test this model of development, Jin Hetian et al. analyzed the paleobotanical material from another important site in northern Yunnan, Dadunzi 大墩子 in Yuanmou County 元謀縣, in northern-central Yunnan near the border with Sichuan. The results of this study are the subject of their contribution to this volume. As the object assemblage at Dadunzi shows similarities with Northwest Sichuan as well as Haimenkou, Dadunzi may have been a transit point for the transmission either of agricultural techniques in general or of specific crops (Yunnansheng 1977). According to the analysis conducted by Jin et al., Dadunzi dates to about 2000 BC, i.e., somewhat earlier than Haimenkou, and its inhabitants practiced a mixed agriculture of dry-field foxtail and broomcorn millet and wetland-rice farming. Based on the dates and the similarities in ceramic and stone-tool assemblages, the authors are fairly confident that the inspiration (and perhaps the first seeds) for planting millet had come from the North and were transmitted gradually further west and south through multiple steps of exchange; however, the source of the complex rice-planting techniques and seeds is unclear. Recent research has shown that during the mid-third millennium BC, the inhabitants of the Chengdu Plain came to know rice-cultivation techniques likely by way of contact with the Middle Yangzi region (d'Alpoim Guedes et al. 2011), and this may also have been the ultimate origin of the rice agriculture practiced in other parts of Southwest China.

Interestingly, according to an analysis of growing-degree days (i.e., the number of days above a certain temperature needed for a plant to germinate, grow, and bear fruit) and risk of crop failure for different kinds of plants in Southwest China conducted by Jade D'Alpoim Guedes (2013), Haimenkou as well as Dadunzi and most sites in the mountains of Southwest China are outside of the normal range of cultivation of *Oryza japonica*. Only the introduction of rice varieties with lower growing-degree days and the implementation of extensive irrigation during the Song dynasty (960-1279) seem to have made Yunnan the land of terraced paddy-fields that it is today. In the case of Haimenkou, d'Alpoim Guedes (2013) argues that its inhabitants experimented with various crops, soon abandoning rice in favor of foxtail millet and finally wheat, whose sturdy winter varieties are still common crops in the area. Millet requires relatively high temperatures, but has a short growing season and can grow in dry climates and fairly high altitudes. Barley, as well, has a very short growing season, can withstand dry climates, and grows well on poor soils (Gardner, Pearce, and Mitchell 1985). Barley and wheat have an even higher tolerance to frost than millet, ripen faster and at lower temperatures, and can withstand droughts after germination, allowing them to grow even on the Tibetan Plateau, where they are still planted today.

Local preconditions thus play a major role in the adoption of specific crops, forms of subsistence, and also object types. This is precisely what Tong Enzheng argued in many of his papers. The local preconditions that he pointed to are not merely environmental, but encompass social structures and beliefs as well. In the present volume, the pertinence of Tong's ideas is particularly evident from Hung's study of the distribution of Majiayao-type ceramics and my treatment of the culture of the horse-riders of Yanyuan with its combination of northern origins and influences and local developments.

Another point that becomes clear throughout the volume is the presence of various forms of interaction between the many different groups that inhabited Tong's crescent-shaped cultural-communication belt over the centuries. None of these contacts, however, seems to have stretched

[11] Jin Hetian presented her study at a different session in Fukuoka but partook in discussions during and after the panel on the "crescent-shaped exchange belt." Originally, the results of her study on Haimenkou were to be published in this volume, but this was not possible due to issues concerning the rights to the data underlying her study. Instead, the present volume contains a paper on Jin Hetian et al.'s recent research on the site of Dadunzi and Li and Min's discussion of the chronology of Haimenkou.

all the way from the Northeast to the Southwest, nor were the contacts confined to the "belt" as described by Tong Enzheng. In fact, the situation was even more complex than he had envisioned. Movements of people, goods, and information took place between various parts of the Chinese border region as well as between the border and the center and between China and the outside world; furthermore, differences in reception and deposition of specific foreign goods between different regions make it difficult to identify the origin of specific trends and object types. The chronological component renders the picture even more complex: different routes and kinds of interaction were of varying importance at different points in time and to different groups of people. Furthermore, what we are seeing in the material record are by no means traces of a uni-directional "diffusion" of ideas, techniques, or form types, but indicators for reciprocal exchange relationships. At the same time, several of the papers in this volume identify cases of independent development of outwardly similar phenomena in different regions, just as Tong Enzheng had suggested.

Tong Enzheng took up the inspirational idea of the possibility of long-distance contacts, but he did not fall into the trap of taking diffusion as a blanket-explanation for local change and for similarities in assemblages between far-away places. He did not use the — unfortunately misleading — word *chuanbo* in the sense of a merely one-sided "diffusion," but in the sense of mutual contact and exchange. His cautionary tale of the importance of local developments and geographic preconditions as well as his — admittedly rather vague — typology of various kinds of contact, migration, and independent development are still worth keeping in mind. Even though the word "diffusion" has fallen out of favor with most scholars, we have to be equally careful when using words such as "contact" or "interaction"; as Gideon Shelach (2009:117) has pointed out: "If we are not careful, 'interaction', the new fashionable term, may easily become just a new replacement for the 'diffusion' term of 50 years ago."

The present volume presents an outline for a solution to this dilemma: keeping in mind Tong Enzheng's insights on the different types of contact and the importance of local preconditions, there is now a need for detailed micro-analyses of single object types, specific cultural phenomena, and various aspects of the life of past communities (including, e.g., subsistence practices, social structures, burial rituals, patterns of inter-group exchange, and movements of individuals and groups). Such studies should be conducted alongside comparative regional and supra-regional analyses. Naturally, such complex and multi-facetted research cannot be conducted by one researcher alone but has to be undertaken as an interdisciplinary effort. Conferences and publications such as the present one offer an opportunity to share the preliminary results.

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