

MATERIAL REPRESENTATIONS OF STATUS IN THE DIAN CULTURE

Yun Kuen Lee

Dept. Anthropology, California State University, Fullerton, CA 92634-9480, USA

ABSTRACT

This paper investigates the development of status and its material representations in the Dian Culture of Yunnan. Two dimensions of status, including prestige and sex, and their material representations have been isolated. This paper also demonstrates the potential of multivariate statistics for the systematic study of mortuary variability in archaeology.

The wealth of archaeological information on South China and Southeast Asia during the first millennium BC has grown dramatically in the past three decades. Startling discoveries have revealed that several highly distinctive Bronze Age cultures flourished in this region in late pre-historic and protohistoric times. The most widely-known discovery is that of the bronze drums, which were first seen in western private collections in the late seventeenth century. Recent archaeological findings link the bronze drums to burial and habitation sites of highly elaborated bronze-using cultures distributed throughout South China and Vietnam. One of the most spectacular findings has been the Dian Culture in Yunnan, southwestern China.

The Dian Culture is distributed around Lake Dianchi (Figure 1). The primary source of information on the Dian Culture derives almost exclusively from cemetery sites. There are eight Dian cemeteries that have been extensively excavated and reported (Figure 2). They include Shizhaishan (Rudolph 1960; Yunnan Provincial Museum 1959, 1963), Lijiashan (Yunnan Provincial Museum 1975), Taijishan (Yunnan Provincial Council of Cultural Relics 1963), Shibeicun (Yunnan Provincial Museum 1980), Tianzimiao (CPAM, Kunming 1985), Wutaishan (Yunnan Provincial Council of Cultural Relics 1984), Pujuhe (Xiong 1985) and Batatai (Yunnan

Provincial Museum 1982). A total of about 600 burials have been exposed and several thousand bronze artifacts have been recovered. The dating of the cemeteries, though controversial, can be bracketed between 1000 BC and AD 100.

This tremendously rich dataset of the Dian Culture has been under intensive investigation by archaeologists. One of the most intriguing issues about the Dian Culture is its socio-political organization. The present discussion depends heavily on the interpretation of historical records (e.g., Hu 1989) and one unique source of information: the scenes cast on the bronze artifacts (e.g., Li 1991; Yi 1991). These endeavors have correctly indicated that Dian was a highly complex society, although the detailed socio-political aspects of this complexity encoded in mortuary contexts are generally overlooked. Archaeologists have demonstrated that mortuary analysis is one of the most powerful tools in the detection of socio-political differentiation (see O'Shea 1984 for a summary). This paper makes use of the theoretical advances in mortuary analysis to study systematically the differentiation of status in one of the Dian cemeteries.

There are several dimensions of social status (Weber 1968), for instance, wealth (economic status), prestige (social status) and power (political status). These statuses are often cross-cut by biological characteristics such as age and sex (Peebles and Kus 1977; O'Shea 1984:34). As my initial step in examining the socio-political organization of the Dian Culture it is critical to identify the material representations of different statuses as reflected in mortuary contexts. These status symbols can then be used as diagnostic indicators for understanding the complexity of Dian society. In the context of an extremely diverse dataset like that from Lijiashan, multivariate techniques are used for the identification of patterning in mortuary treatment.

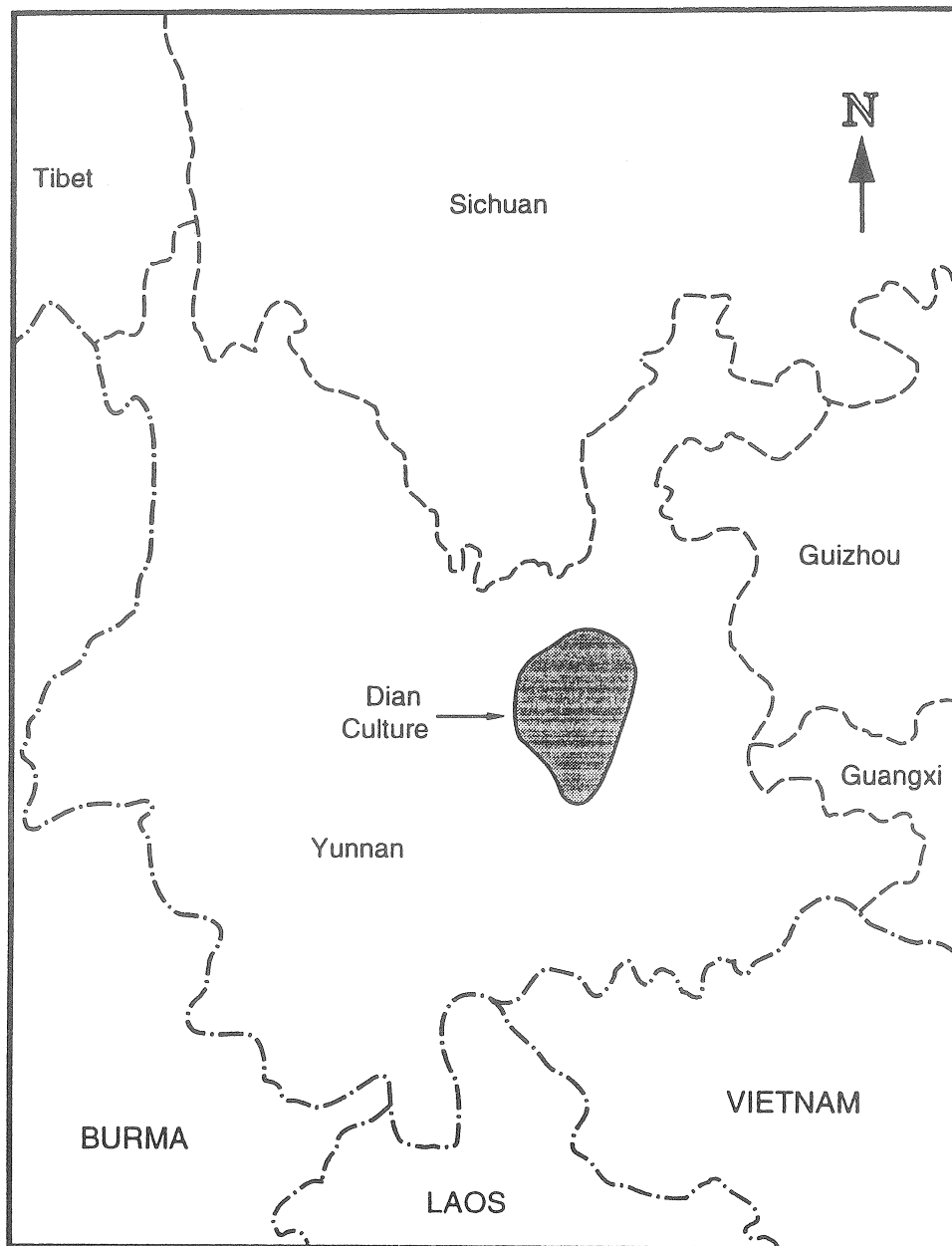


Figure 1: The distribution of the Dian culture

THE LIJIASHAN CEMETERY SITE

The Lijiashan cemetery site (Figure 2) is located about 80 kilometers south of Kunming City, over 40 kilometers to the southeast of Shizhaishan itself and about three kilometers from the northwestern tip of Lake Xingyunhu. Lijiashan itself is a low-lying hill which rises about 100 meters above the surrounding lowlands. The top of the hill has been cultivated by the local farmers recently and

has become flat-topped, measuring about 200 square meters in area. The general area of Lijiashan is presently a strategic location in the control of traffic from a number of counties in southern Yunnan to Kunming, the provincial capital. This may well be one of the reasons why Lijiashan was such an important site in prehistory.

The cemetery occupies an extensive area. Burial objects, such as bronze and jade artifacts, have been peri

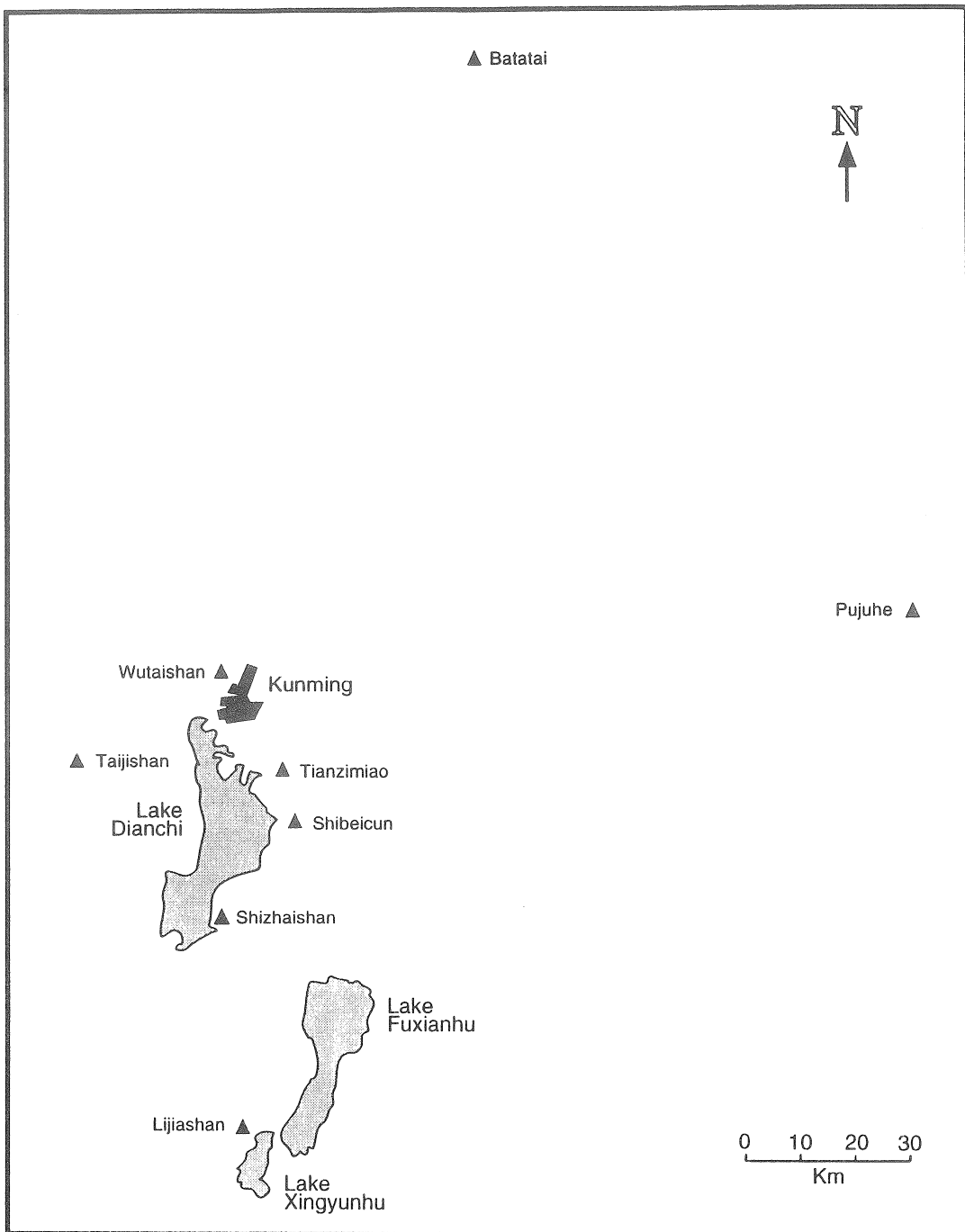


Figure 2: The major sites of the Dian culture

odically washed out by rainfall. It is fortunate that the center of the cemetery on the hilltop was covered by dense vegetation up to a few decades ago, which sheltered it from erosion and destruction.

Excavation of the site was conducted in 1972. A total of 27 graves were exposed (Figure 3) and more than 1000 artifacts were recovered. All the graves were pit burials. The 22 graves located on the top of the hill share a lot of

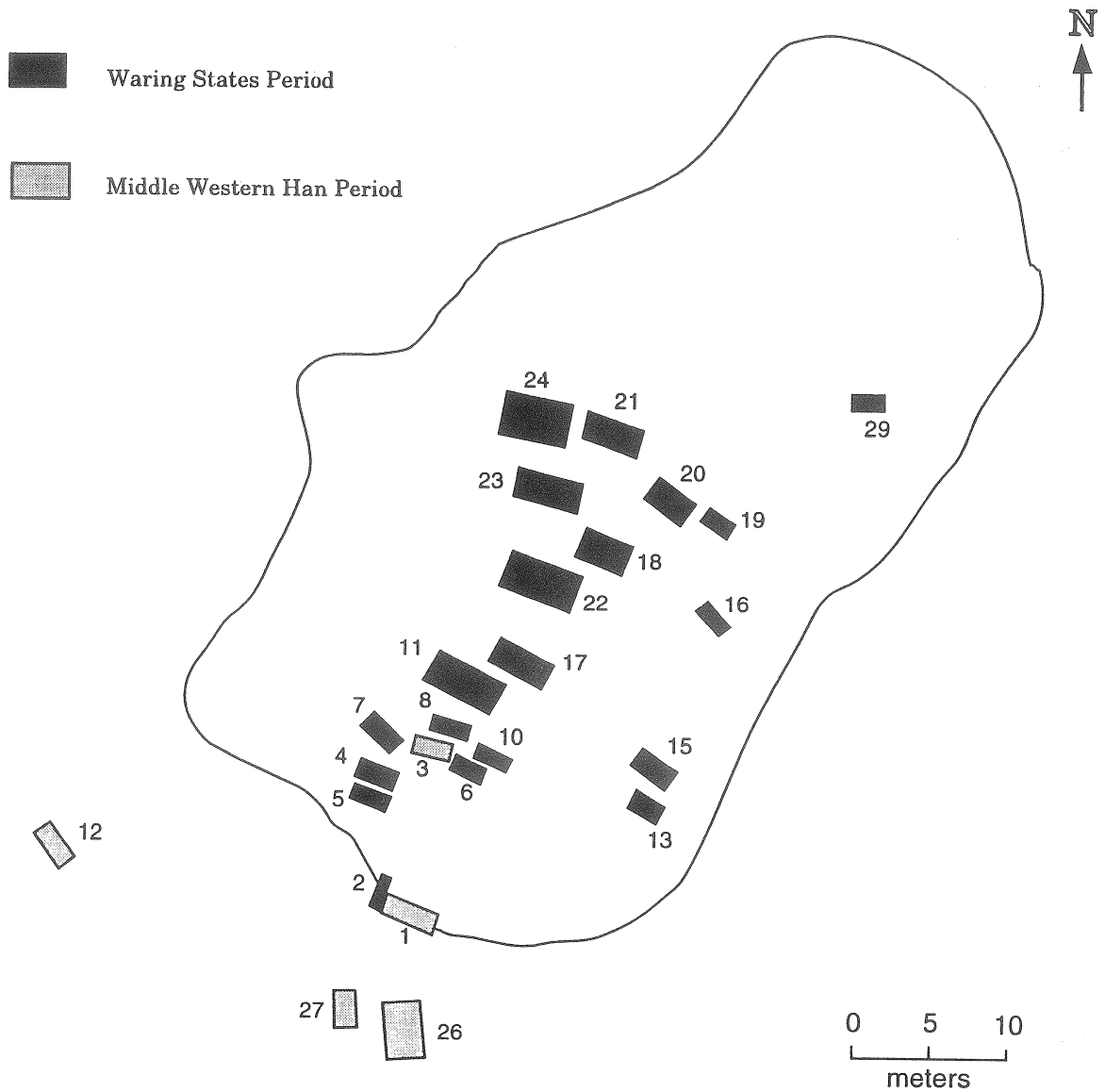


Figure 3: The locations of the graves in the Lijiashan site

similarities in the styles of burial goods. Therefore, the authors of the site report group them together as Class I burials. In addition the burial goods, primarily bronze artifacts, lack diagnostic Han objects, for instance mirrors and coins, which are commonly found in the later phases of Dian Culture. The authors, and I think they are quite correct, interpret this absence of Han Chinese artifacts as an indication of an early chronological phase. The direct political contact of the Dian Culture with Han civilization is signified by the recorded incident of the Han Emperor's bestowal upon the Dian paramount leader

of a gold seal inscribed with the words "Seal of the Prince of Dian" in 109 BC. From then on, various Han artifacts made their appearance in the Dian Culture and eventually dominated and replaced the local bronze tradition. Therefore, the Class I burials of Lijiashan should be dated at least a few decades, or up to a few centuries, prior to the early second century BC. Thus they fall most likely within the late Waring States Period and can be used to study Dian Culture before direct political interaction with Northern Chinese imperial expansion.

On the other hand, the remaining five graves at Lijiashan were clearly of a later period because of the presence of diagnostic Han artifacts. It is expected that dramatic socio-political change should have occurred within Dian society after direct contact with the Han Empire. This paper focuses only on the investigation of status differentiation among the 22 pre-Han burials, as witnesses of the social complexity of Dian society before direct Han contact.

THE MORTUARY ANALYSIS

The original site report (Yunnan Provincial Museum 1975) provides detailed information on the Lijiashan cemetery site. The variability of burial goods among the 22 burials is first analyzed using principal components analysis. The principal component scores are subjected to cluster analysis in the second step. The computation of statistics was carried out using the statistical package SAS version 6.06 on the Michigan Terminal System at the University of Michigan. The *FACTOR* and *CLUSTER* procedures are used.

Principal components analysis

In principal components analysis we start with a matrix of correlation coefficients between variables, the aim being to produce from these a new set of variables (principal components) which are uncorrelated with one another (Shennan 1988:249). Principal components analysis is appropriate for our study here because it can detect significant correlations between artifact classes so that it is possible to talk about the meanings of sets of grave goods rather than individual artifacts. The first principal component explains the largest proportion of the total variance, the second principal component explains the second largest proportion of the total variance, and so on and so forth. Therefore, it is possible to use a few principal components to represent the majority of variation in the dataset, which simplifies the pattern for easy interpretation.

The *FACTOR* procedure of SAS performs both factor and principal components analyses. The method is specified as *PRINCIPAL* in this study. In addition, an orthogonal transformation is also specified.

The raw counts of burial goods recovered from individual graves are used for the principal components analysis. The total number of variables (artifact classes) used for the principal components analysis is 38, therefore, a total of 38 principal components are generated. Table 1 is the summary of the eigenvalues and proportions of variance explained by the first ten principal components. When the eigenvalues are plotted on a

graph it is clear that, starting from the fifth step, the curve becomes flat. Therefore, the first five principal components are the optimal solutions in this study and are used for the cluster analysis in the next step. Although we leave out 33 of the 38 principal components in due course, we are quite confident with the first five principal components because they combine to explain 87% of the total variance. The remaining 33 principal components can be regarded as trivial since they share between them only 13% of the total variance.

Cluster Analysis

"Cluster analysis" is the generic name for a variety of procedures that can be used to create a classification (Aldenderfer and Blashfield 1987:7). It is particularly useful for this study because we can group the graves that used similar sets of burial goods together. The Lijiashan study uses a hierarchical grouping method based on the similarities among the burial goods of individual graves. The distance matrix is calculated by Ward's method. The clustering results are then used to construct a dendrogram. The dataset for the cluster analysis is the principal component scores derived by the earlier statistical procedures.

The dendrogram (Figure 4) of the clustering results clearly indicates that the variation of grave offerings in the 22 Lijiashan burials can be divided into two large groups (A and B) and that the first group can be further subdivided into two groups (A₁ and A₂). The difference between group A and group B is both quantitative and qualitative. The sheer number of total burial goods in group A well exceeds those in group B. The box-and-whisker plots of the two groups gives a visual representation of the difference (Figure 5). The median of the total number of burial goods in group A is 73, in contrast to 8 in group B. Grave M20 of group B is an outlier which has a total of 47. This is mainly attributable to the high number of ear rings (n=17) recovered from this grave. The difference in the numbers of burial goods between group A and group B is remarkable.

INTERPRETATIONS

Interpretation of the principal component results is difficult. Although each principal component is heavily loaded on several artifact classes, their combinations do not present readily interpretable patterns from an archaeological perspective (Table 2). In other words, it is difficult to give cultural or behavioral labels to the principal components. This difficulty is attributable, I believe, to the imprecise and equivocal measurement of the data. Raw counts of burial goods are used in the analysis.

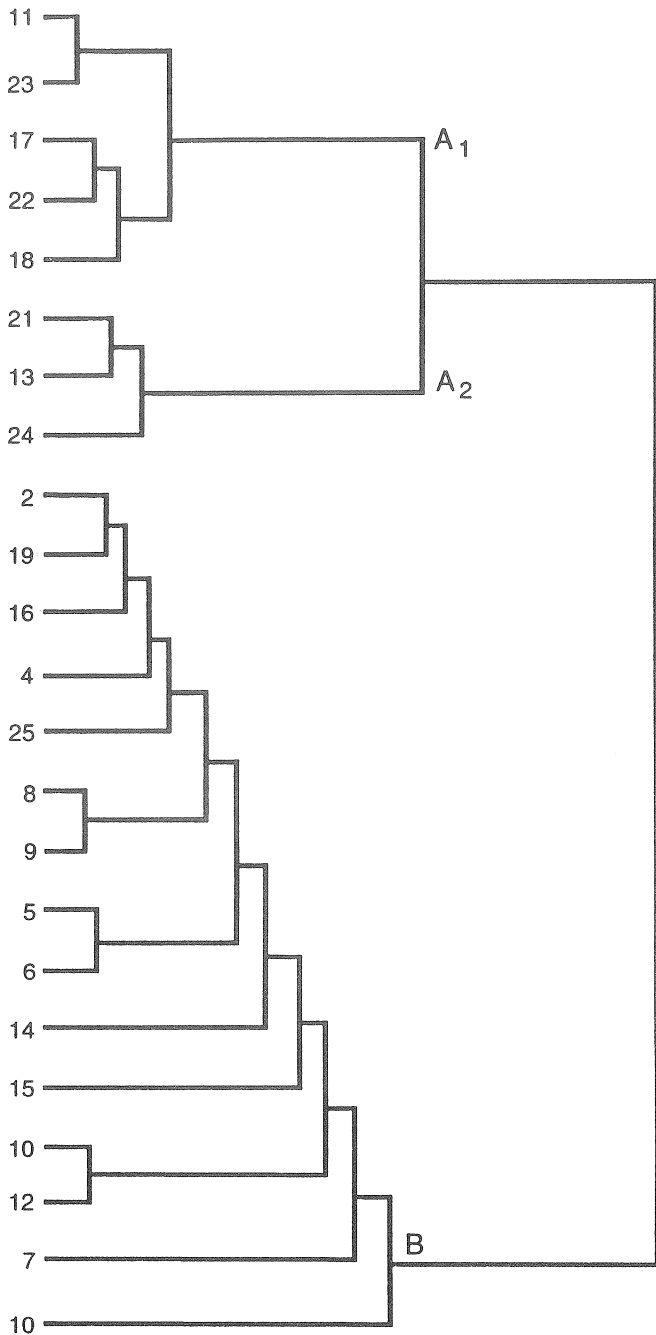


Figure 4: Dendrogram of the clusters within the Lijiashan burials

Hence, burial objects are treated equally in the analysis regardless of differentiation in energy expenditure and the cultural value of the artifact classes. For instance, a bronze bracelet is weighted the same as a bronze drum, a

bronze sword or a jade ear ring in the principal component analysis. This certainly masks the cultural pattern.

Secondly, the excavated Lijiashan cemetery site may well be the graveyard of an elite group of the Dian society. The burial goods recovered from Lijiashan are spectacular when compared to those recovered from Taijishan (Yunnan Provincial Council of Cultural Relics 1963), Shibeicun (Yunnan Provincial Museum 1980), Tianzimidiao (CPAM, Kunming 1985), Wutaishan (Yunnan Provincial Council of Cultural Relics 1984) and Pujuhe (Xiong 1985). For these cemetery sites, bronze artifacts were rarely recovered and the majority of grave goods comprised pottery vessels. Although there were occasionally a few rich graves that bore some bronze artifacts in these sites, the richness of their grave goods is hardly comparable to that of the rich graves of Lijiashan. Thus, they were most likely the graveyards of low status individuals. On the contrary, most of the Warring States period Lijiashan graves yielded at least a few bronze artifacts. The fact that all the 22 graves are situated on the top of a small hill also points to the relative social homogeneity of this group. It is no surprise that the principal components are difficult to interpret. This shortcoming may be resolved if we can improve the precision of measurements, and incorporate the data of other cemetery sites. At any rate, the clustering results, which are derived from the principal component scores, provide an intriguing pattern.

There are several artifact classes that are exclusively distributed in group A (Table 2). They include the following bronze artifacts: weaving tools, ladles, cups, jars, headrests, sunshades, cowrie-shell containers, drums, trumpet-shaped artifacts, oxen ornaments, staff handles and "ritual artifacts". The ladles, cups and jars are all wine-serving implements. The headrests and sunshades were probably used only in mortuary contexts. For the burials that yielded headrests and sunshades, the skulls were all placed in-between the two artifacts. The drums and cowrie-shell containers were primarily used in ritual contexts and are very restricted and concentrated in distribution. The function of the trumpet-shaped artifacts was probably ritual display. The oxen ornaments of bronze may indicate that cattle were prestigious commodities in Lijiashan society. Staff handles may have been used as status or authority symbols that people carried around. The "ritual artifacts" include several rare bronze classes which obviously do not have any utilitarian function. They include fish-shaped artifacts, T-shaped artifacts, bronze sticks with curved tips and hammer-shaped artifacts. All are either large in size, like the bronze drums, or extremely elaborate in workmanship

LEE, MATERIAL REPRESENTATIONS OF STATUS IN THE DIAN CULTURE

Table 1: Lijiashan burials: variance explained by the first ten principal components

Principal component	Eigenvalue	Proportion	Cumulative
1	15.70	.41	.41
2	9.90	.26	.67
3	3.44	.09	.76
4	2.38	.06	.83
5	1.49	.04	.87
6	1.25	.04	.90
7	0.87	.02	.92
8	0.69	.02	.94
9	0.50	.01	.95
10	3.40	.01	.96

Table 2: Lijiashan burials: summary of the loadings of the first five principal components and distributions of artefact types by burial group

Artifact	Comp 1	Comp 2	Comp 3	Comp 4	Comp 5	Group
Bronze Weapons	**					A ₂ B
Bronze productive tools	**					A ₁ A ₂ B
Bronze weaving tools		**				A ₁
Bronze ladle		**			**	A ₁ A ₂
Bronze cup		**	**			A ₁ A ₂
Bronze jar			**		**	A ₁
Bronze headrest		**			**	A ₁ A ₂
Bronze sunshade		**				A ₁ A ₂
Cowrie-shell container					**	A ₁ A ₂
Bronze drum	**					A ₁ A ₂
Jade ear ring			**			A ₁ A ₂ B
Jade tube			**			A ₁ A ₂ B
Marine shell			**			A ₁ A ₂ B
Bracelet		**	**			A ₁ A ₂ B
Bronze buckle	**					A ₂ B
Agate object			**			A ₁ A ₂ B
Bimetallic object				**		A ₂ B
Trumpet shape object		**				A ₁ A ₂
Oxen figurine				**		A ₁ A ₂
Staff handle	**					A ₁ A ₂
Bronze ritual artifact	**					A ₂

** Heavy loading

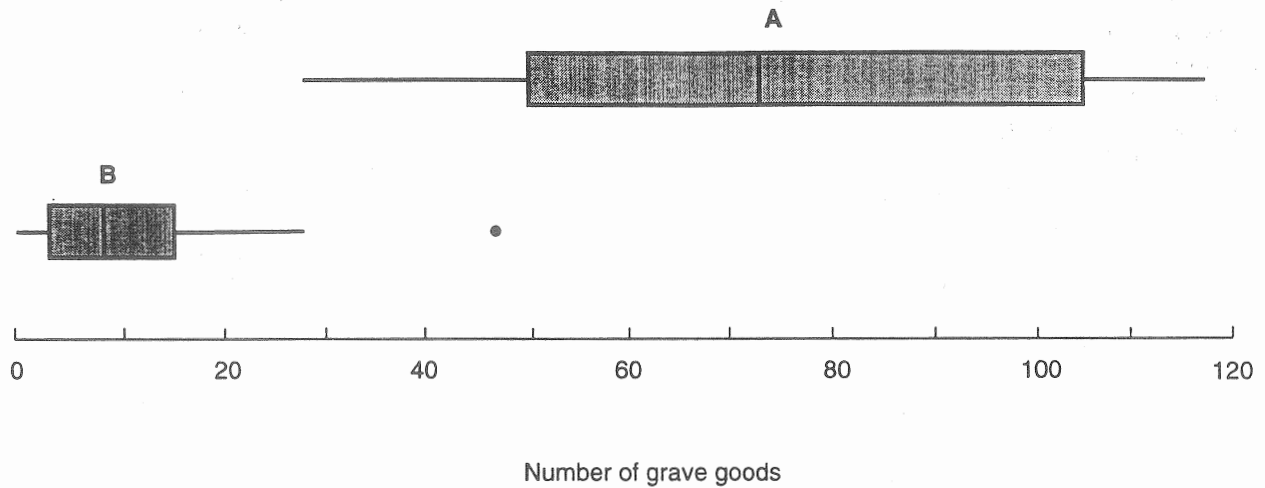


Figure 5: The distribution of the numbers of grave goods in the Lijiashan graves

like the headrests. I argue that this differential and exclusive distribution pattern is an indication that they were the material representations of high prestige in the Lijiashan society.

The other artifact classes, including agate ornaments, jade ear rings, jade tubes, marine shells, bronze and jade bracelets, bronze garment buckles, bronze weapons, bronze productive tools and bimetallic artifacts (objects with bronze handles and iron blades) are present in both groups A and B. Nevertheless, the numbers of these artifact classes vary a great deal among burials of the two groups. They are rarely seen in the cemeteries of low status individuals, such as those at Taijishan, Shibeicun, Tianzimiao, Wutaishan and Pujuhe, which indicates their differential distribution in Dian society. Hence, they are very likely the material representations of relatively low prestige among a generally high prestige group in Lijiashan.

The bronze weapons include a number of different weapon shapes. A careful inspection of the original data suggests that several classes of weapons are exclusive to group A, or more specifically, group A₂. They comprise the following: curved axes (*yue*), rounded axes (*qi*), "wolf's fang sticks" and arrow cases. These, again, can be regarded as high-prestige goods.

The subdividing of group A into A₁ and A₂ is characterized by the mutually exclusive distribution of several artifact classes. Bronze weaving tools and bronze jars are exclusive to group A₁. Bronze weapons, bronze buckles, bimetallic artifacts and the four bronze ritual artifacts are almost exclusive to group A₂. Among them, bronze jars

may not be significant because they have very low occurrence rates. Hence, the defining artifact assemblage of group A₁ comprises bronze weaving tools, while the defining artifact assemblages of A₂ include weapons, buckles and some highly ritualistic objects.

The identification of bronze weaving tools by the authors of the Lijiashan report is intriguing since it is based on a scene cast on the lid of a cowrie-shell container recovered from grave M1 in Shizhaishan (Yunnan Provincial Museum 1975). The scene depicts a group of domestic workers in action. A gilded female figure seated on a low platform at the edge of the lid is slightly larger than the other figures. She is resting her hands on her knees, supervising the spinning and weaving of a group of 17 female workers (Rawson 1983:219). The so-called weaving tools recovered from the Lijiashan site resemble the tools depicted on this scene. The restricted distribution of the bronze weaving tools in a few burials of A₁ possibly suggests the existence of craft specialization in Lijiashan society. Access to woven products was likely exclusive and restricted to the elites.

The mass consumption of specialized craft goods can be seen in several group A burials. The most spectacular is M24, which occupied a large pit measuring 4.5 meters in length, 2.6 meters in width and 2.7 meters in depth. About 300 bronze artifacts were recovered from the grave. Among them were four bronze drums containing numerous cowrie-shells, one tiger and cow sacrificial table which exhibited fascinating workmanship, 48 swords, and many other artifacts. Most sensational of all was a bead blanket covering the skeleton (Wang

1986:106). The strings connecting the beads had rotted and the beads were scattered. Nevertheless, the blanket was made of tens of thousands of semi-precious stone beads of green malachite, red and white agate and cream soft jade. The time and energy involved in the manufacture and accumulation of the grave assemblage of M24 suggests organized production. The organized weaving scene depicted on the above cowrie-shell container can now be put in the socio-political context of Lijiashan. As a matter of fact, a cluster analysis of the standardized raw counts of the burial goods indicates that M24 is in a class by itself because of the tremendous wealth of its burial goods. This probably was the grave of a very high ranking elite or the paramount leader of the Dian society.

The complete absence of bronze garment buckles in group A₁ is intriguing. It may indicate the differential stylistic dressing of different social groups. Based on the polarized distribution of bronze weaving tools and bronze weapons among burials of groups A₁ and A₂ and the aforementioned spinning and weaving scene, some scholars interpret this pattern as due to differential mortuary treatment according to sex (Yunnan Provincial Museum 1975). The recognition of the exclusive distribution of bronze buckles further supports this proposition. In other words, members of group A₂ were males who used buckles in their dress, while members of group A₁ were females who did not use buckles in their dress. In addition, this dichotomized pattern is also seen in group B. Among the 11 graves of group B that yielded at least one bronze weapon, all but one was also associated with bronze garment buckles. Among the four graves that did not have bronze weapons as offerings, none of them produced a single buckle. Therefore, it is plausible that bronze garment buckles are archaeological indicators of sex among the high status individuals of Lijiashan society.

CONCLUSIONS

Principal components analysis and cluster analysis combine to successfully identify material representations of status in the Lijiashan culture system. Two dimensions of status, including prestige and sex, and their material representations have been isolated. We can further distinguish high prestige and low prestige statuses and their material representations. High prestige is represented by an exclusive assemblage of bronze artifacts present in only a small number of burials. Therefore, differential access to some quality burial goods signified high prestige. Low prestige is represented by an assemblage of bronze and semi-precious stone ornaments. They are differentially distributed in quantity among all the Lijiashan

graves. Finally, sex is represented by two assemblages of artifacts that exhibit mutually exclusive distribution patterns.

The part of the Lijiashan cemetery site that we have investigated comprises 22 more or less contemporary single burials. It is only a very small portion of the Dian society. Preliminary investigation of the other Dian cemeteries indicates that only a limited number of the social strata of Dian society are represented in the Lijiashan site. This paper is the author's initial step in an effort to study Dian society. Nevertheless, it is clear that social complexity and ranking had already developed in the Lijiashan phase of Dian Culture, a few centuries before direct interaction with Han Chinese civilization.

REFERENCES

- Aldenderfer, M. and Blashfield, R. 1987. *Cluster Analysis*. Fourth printing. Beverly Hills, CA: Sage Publications.
- CPAM, Kunming 1985. Ancient Dian tombs at Tianzimiao, Chenggong County. *Kaogu Xuebo* 4:507-545.
- Hu, Z.D. 1989. The boundary of Dian Kingdom and its political relationship with Western Han Dynasty. In Yunnan Provincial Museum, *A Collection of Research Papers of Yunnan Provincial Museum*, pp. 200-209. Kunming: Yunnan Peoples Press.
- Li, W.Q. 1991. The society reflected in the designs on the bronze drums of Dianchi area. In Yunnan Provincial Museum (ed), *A Collection of Papers on Yunnan Bronze Culture*. Kunming: Yunnan Peoples Press, 411-418.
- O'Shea, J. 1984. *Mortuary Variability: An Archaeological Investigation*. Orlando: Academic Press.
- Peebles, C. and Kus, S. 1977. Some archaeological correlates of ranked societies. *American Antiquity* 42:421-448.
- Rawson, J. 1983. *The Chinese Bronzes of Yunnan*. London: Sidgwick and Jackson.
- Rudolph, R. 1960. An important Dongson site in Yunnan. *Asian Perspectives*, 4(1-2):41-54
- Shennan, S. 1988. *Quantifying Archaeology*. San Diego: Academic Press.
- Wang, D.D. 1986. *Bronze Drums of Yunnan*. Kunming: Yunnan Education Press.
- Weber, M. 1968. *Economy and Society*. (Translated by E. Fischhoff et al.) New York: Bedminster Press.
- Xiong, Z.Y. 1985. The preliminary report on the excavation at Pujuhe. *Yunnan Wenwu* 18.
- Yi X. Z. 1991. On the anthropomorphic sculptures of a cowrie-container recovered from tomb 1 of Shizhaishan site in Jinning. In Yunnan Provincial Museum (ed), *A Collection of Papers on Yunnan Bronze Culture*, pp. 279-297. Kunming: Yunnan People's Press.

- Yunnan Provincial Council of Cultural Relics 1963. The preliminary report on the excavation at Taijishan. *Kaogu* 9:451-458.
- 1984. The preliminary report on the excavation of Wutaishan, Shangmacun, Kunming, Yunnan. *Kaogu* 3:213-218.
- Yunnan Provincial Museum 1959. *The Report of the Excavation at Shizhaishan Site, Jinning, Yunnan*. Beijing: Wen Wu Press.
- 1963. The preliminary report of the fourth season excavation of the Shizhaishan cemetery site, Jinning, Yunnan. *Kaogu* 9:480-485.
- 1975. Excavation of an ancient cemetery at Lijiashan in Jiangchuan County, Yunnan Province. *Kaogu Xuebo* 2:97-140.
- 1982. A brief report on the excavation of the ancient cemetery at Batatai, Zhujie, Qujing. *Yunnan Wenwu* 11.
- 1980. A preliminary report on the excavation at Shi-beicun, Chenggong, Yunnan. *Wewu Zhiliao Congkai* 3:86-94.