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澎湖群島史前陶片的岩象學分析及源區研究

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摘要

澎湖群島在地理上位居關鍵，是海峽兩岸史前文化傳播的重要樞紐。考古學研究指出在新石器時代早、中期，澎湖與臺灣西南部之間就有頻繁互動，相同時期澎湖與中國東南沿海也有相當程度的接觸。在過去的近 30 年間，中央研究院歷史語言研究所科技考古實驗室累積了數量龐大的史前陶片分析資料，是臺灣考古研究的重要資產，本研究整理該資料庫中澎湖群島出土陶片的岩象學分析數據，利用統計學方法將陶片分為 A 和 B 兩大群共 5 小群陶類，其中第 A 大類陶片是以陶土中出現大量沉積岩屑為特徵，並依據變質岩屑的數量多寡再細分為 A1 和 A2 類陶片；第 B 大類陶片則幾乎沒有岩屑成份，可再細分為以碳酸鹽質生物殼體為特徵的第 B1 類陶片、以石英顆粒為主要內含物成份的第 B2-1 類陶片，以及以含鐵土團為特徵的第 B2-2 類陶片。若參考澎湖、臺灣西南部、及中國東南部的地質資料，可知第 A 大類陶片性質與臺灣島關係密切，是在臺灣西南部製作之後輸入澎湖的外來陶片，其中第 A1 類陶片與西南部海岸沉積物性質相符，第 A2 類陶片則與西南平原上的河川沉積物有關。至於第 B 大類陶片，以海洋性生物殼體為特徵的第 B1 類陶應是澎湖當地製作的在地陶片，第 B2-1 類及第 B2-2 類則因證據不足，陶片的可能源區目前尚不確定。值得注意的是第 B2-1 類陶片因以石英顆粒為重要組成，性質接近的陶土在澎湖、臺灣西南部及中國東南部都有產出，這類陶片雖然在陶器溯源上較為困難，但可能是澎湖與海峽對岸史前文化關聯的重要證據，值得未來深入研究。

關鍵字：陶器岩象學、源區、史前文化、澎湖群島

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A Provenance Study on Prehistoric Pottery from the Archaeological Sites on the Penghu Islands from the Perspective of Ceramic Petrography

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Abstract

The strategic location of the Penghu Islands (Pescadores) has rendered it a hub of cultural interaction across the Taiwan Strait during the prehistoric era. Archaeological evidence has demonstrated frequent contacts between the Penghu Islands with southwest Taiwan in early- and mid-Neolithic times, as well as with coastal southeast China during the same period. For the past thirty years, the Archaeological Science Laboratory of the Institute of History and Philology, Academia Sinica has accumulated a large number of samples of petrographic thin sections on potsherds. In this research, we retrieved information from this database and investigated the potential provenance of 48 potsherds from Penghu. These sherds were divided into five sub-groups under two major types based on the statistical results of the petrographic characterizations. Type A consists of sherds with a considerable number of sedimentary lithic fragments. This type is further divided into A1 and A2 depending on the presence or absence of metamorphic lithics. Type B sherds have almost no rock fragments and can be further grouped into B1 (shells dominant), B2-1 (quartz grains dominant), and B2-2 (iron-stained clay pellets dominant). A reference to the geological characteristics of Penghu, southwest Taiwan, and southeast China shows that Type A sherds may have been imported to Penghu from southwest Taiwan. Specifically, the property of inclusions in

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A1 sherds matches the coastal sediments of southwest Taiwan, while that of A2 reflects the characteristics of riverine deposits on the plains in southwest Taiwan. For Type B, the marine-shell dominant B1 sherds are likely locally-made in Penghu, while the origin of B2-1 and B2-2 cannot be conclusively identified due to a lack of appropriate evidence for now. However, clay sources with inclusion character similar to the quartz dominant B2-1 sherds could can be found not only in Penghu, but also southwest Taiwan and coastal southeast China. While this presents a difficulty to pinpoint their geographic provenance, there remains a potential for this group of potsherds an archaeological evidence linking Penghu and southeast China. Further investigations on this issue would be intriguing.

Keywords: Ceramic petrography, Provenance, Prehistoric, Penghu islands

一、前言

澎湖群島位於臺灣海峽之中，由大小 90 個島嶼所組成，除了最西側的花嶼之外，均為玄武岩島（陳正宏，1990）。由於地處關鍵位置，史前澎湖與臺灣海峽兩岸之間的文化傳播和物質交流課題長期受到重視。考古學研究指出，澎湖的史前文化和臺灣西南部平原史前文化有著密切關聯，澎湖菓葉類型的文化內涵基本上與臺灣本島的大坌坑文化最為接近，可視為大坌坑文化的一個地域性類型，年代距今約 5000-4500 年前之間[1]；澎湖鎖港類型文化則與繩紋紅陶文化具有類似的特徵，年代距今 4500-3800 年前；澎湖赤崁頭類型文化的陶器則是以素面紅陶和灰黑陶為主要類型，因目前資料太少，類緣關係仍難以確定，但大致與臺灣西南部略晚於牛稠子文化的「素面紅灰陶文化」相當，年代大約距今 3800-3500 年前（臧振華，2008）。

最近數十年來隨著考古資料的不斷增加，有關澎湖與臺灣西南部沿海，或是與中國東南沿海之間史前文化關聯性的證據更加充實，包括臺南科學工業園區南關里、南關里東、和右先方遺址（臧振華等，2004）、牛稠子遺址（李德仁，1992；陳有貝，2008、2013），以及海峽對岸的福建東山島大帽山遺址（福建博物院、美國哈佛大學人類學系，2003）的發掘成果，皆顯示在生業方式、聚落型態和墓葬習俗上，澎湖菓葉類型與南關里、南關里東遺址無疑屬於同一文化傳統，而澎湖鎖港類型與右先方、牛稠子遺址以及福建大帽山遺址也具有密切的文化親緣關係（臧振華，2015）。

科學分析提供了討論澎湖與海峽兩岸史前文化關聯性的另一項管道。Rolett 等人（2000）曾利用 X 光螢光分析法（XRF）對臺灣西南部出土的玄武岩石器進行成分分析，透過石器化學組成與既有地質分析數據進行比對，Rolett 等人認為這些玄武岩石器很可能來自澎湖七美島（Rolett *et al.*，2000；Rolett *et al.*，2002）。郭正府等人（2005）也對福建東山島大帽山遺址出土的 6 件玄武岩石鋤，以 X 光螢光分析（XRF）、感應耦合電漿分光質譜分析（ICP-MS）及切片岩象分析等方法進行石材產地研究。在與三件採集自東山島當地石材進行比較之後，他們認為所分析的玄武岩石器皆非以東山島的在地石材所製作，透過與福建、浙江、澎湖和臺灣的玄武岩分析數據進行比對，作者提出大帽山出土石器與澎湖群島及福建牛頭山的玄武岩在材質上最為類似，稀土

[1] 臧振華（2008）曾提到，澎湖各文化時期的絕對年代可能因新資料的出現再作調整。

元素（REE）資料的比對結果則支持來自澎湖群島的可能性，但因牛頭山玄武岩並無稀土元素資料可供比較，暫時無法將其排除（Guo *et al.*，2005）。

綜合上述考古及科學分析結果，臧振華（2015）提出由玄武岩石器研究所建立的古代貿易體系。他指出由澎湖七美島史前玄武岩石器工業的內涵重建，說明在 4500 到 3800 年前，產自澎湖七美島的石器被運送到 80 公里外的臺灣西南部，甚而到達 140 公里遠的福建東山島。這不但提供了史前時代臺灣海峽長距離海上航行以及史前石器貿易體系的具體證據，對於南島民族海上擴散的歷史也有重要意義（臧振華，2015）。

表一：陳正宏教授分析澎湖史前陶片之礦物組成表（彙整自 Tsang，1992：336-337）

	遺址	樣品號	紋飾	黏土%	石英%	長石%	玄武岩屑%	碳酸鹽%	砂岩岩屑%	不透光礦物%
1	菓葉A	KY-A-1	粗繩紋	63	35				2	
2	菓葉A	KY-A-2	粗繩紋	82	16					2
3	菓葉A	KY-A-3	粗繩紋	60	40					
4	鎖港	SK-1	細繩紋	85	7				8	
5	鎖港	SK-2	細繩紋	62	19		6	13		
6	鎖港	SK-3	細繩紋	80	15				5	
7	南港	NK-1	細繩紋	80	10				10	
8	南港	NK-2	細繩紋	63	10			2	25	
9	內垵B	NA-B-1	細繩紋	70	17		6	5		2
10	內垵B	NA-B-2	細繩紋	58	34			2	2	4
11	赤崁B	CK-B-1	細繩紋	72	28(粒大)					
12	鯉魚山A	LYS-A-1	素面	66	12				22	
13	鯉魚山A	LYS-A-3	細繩紋	80	7				13	
14	赤崁頭	CKT-1	素面	67	13	2			18	
15	赤崁頭	CKT-2	素面	47	15		8	30		
16	網寮	WL-1	細繩紋	60					40	
17	網寮	WL-2	粗繩紋	50					50	
18	牛稠子	NCT-1	細繩紋	73	25				2	
19	牛稠子	NCT-2	細繩紋	83	15	2				

相對於玄武岩石器的科學分析成為論證澎湖與海峽兩岸史前文化關聯性的重要手段，陶片研究卻是相對稀少。其實澎湖史前陶片的科學分析工作早有進行，過去臧振華（1992）曾委託臺灣大學地質科學系陳正宏教授對澎湖出土陶器以顯微鏡方法進行分析（表一），根據陶片的礦物組成，陳教授指出由於所分析的樣品中多數含有大量石英，部分樣品同時夾有砂岩岩屑，這樣的礦物組成與澎湖群島以玄武岩為主的地質背景並不符合，相較之下反而與臺灣西南部網寮與牛稠子遺址出土陶片的成分類似，因此推測這樣性質的陶片並非澎湖的產物；另外他也提到有 3 件陶片中含有玄武岩屑、

石英和碳酸鹽生物碎屑，這些樣品的來源物質則與澎湖密切相關（Tsang，1992：333-337）。當時的研究成果實已透露出澎湖史前陶片具有多種來源的特性，之後在澎湖地區的遺址普查或發掘計畫中，也先後進行了陶片切片分析，只是不曾進行系統性的資料整理與研究，分析數據也不曾公開發表。

在考古學研究上，陶器分類經常依據器型及表面紋飾等與古代製作面或消費面有關的屬性，陶器質地也是觀察重點之一，但陶器的陶土性質往往反映的是製陶地點的大自然特性（Quinn，2013：117）。根據民族學田野調查的結果，在以陶器作為日常用品的地區，由於對陶土（包括黏土和摻和料）的需求量大，遠距離運輸相形不便，通常會以就地取材方式獲得，較少跋山涉水到很遠的地方取土，因此陶器的陶土性質能夠適度反映製陶地點的地質特性（Quinn，2013：119）。再者，就地質而言，最近數千年內的地表地質通常沒有太大變化，因此對於臺灣新石器時代的陶器樣品，產自相同地質區但在不同考古年代製作或屬於不同文化期相的陶器，基本上陶土性質並不會隨著時間出現變化。換言之，陶器的陶土性質主要呈現不同地質源區的特性，在研究上可以先不考慮陶器本身的考古年代及文化屬性，而以大數據的概念針對陶土性質進行統計分群，並透過對陶片出土地點及考古文化相關區域的地質背景進行比較研究以獲得陶土源區（provenance）訊息之後，再回歸於考古學脈絡中討論其在物質交流上的意義。

在過去數十年，將各種現代實驗技術應用於古陶研究已是極為普遍的情形。藉由切片岩象學方法分析陶片內含物（inclusions）性質以探究陶土源區問題，進而獲得史前物質流動資訊是古陶研究的重要課題之一，在上個世紀中葉以來便有許多重要成果陸續發表（例如 Shepard，1942；Felts，1942；Peacock，1969；Riley，1983；Pavia et al.，2013；De La Fuente et al. 2015；Chiu et al.，2016；Marsaglia et al.，2016；Ben-Shlomo and Mommsen，2017；Choi et al.，2017；Iizuka，2017；Liard et al.，2019；Ontiveros et al.，2019；Chiu et al.，2020）。中央研究院歷史語言研究所科技考古實驗室自 1980 年代成立迄今，已累積超過 2700 件史前陶片的分析數據，出土地點包括臺灣本島及離島的各個地理區域，是臺灣考古研究極為重要的資產。本研究利用此資料庫中澎湖地區出土陶片的分析數據，結合統計學方法進行分類，並以地質知識為基礎討論各類陶片的陶土源區問題，期望藉由澎湖在地製作陶器與外來陶器特性的建立，提供澎湖與臺灣海峽兩岸之間史前文化交流的具體證據。

二、材料與方法

本文的研究材料為史語所科技考古實驗室分析資料庫中來自澎湖縣的陶片，包括出土自 8 個史前遺址的 48 件樣品[2]（表二、圖一），其中來源以南港遺址為大宗，共有 32 件樣品，望安島鯉魚山遺址有 5 件，其餘遺址則只有 1 件或 2 件的分析數量。而在文化期相上，這些遺址大多屬於單一文化，例如菓葉 A 遺址屬於年代最早的菓葉類型文化，南港、鎖港、良文港及內垵等遺址屬於鎖港類型文化，赤崁頭遺址則屬於較晚的赤崁頭類型文化。此外，北寮遺址主要屬於鎖港類型文化，但可能亦有屬於菓葉類型之文化遺留（臧振華，2008：40），望安鯉魚山遺址的年代則可能自鎖港期延續到赤崁頭期（臧振華，2009：33）。因此，本研究的多數樣品屬於鎖港類型文化，只有來自菓葉 A 遺址的 2 件樣品屬於年代較早的菓葉類型，赤崁頭遺址出土的 1 件樣品屬於年代較晚的赤崁頭類型，另有 5 件望安－鯉魚山遺址出土的陶片則屬於鎖港類型或是赤崁頭類型。本研究並無系統性的取樣策略，因此所分析的樣品有時空分布不均的問題，但如前所述，陶器的陶土性質主要反映製作地點的地質特性，且最近數千年內的地表地質大致具有一致的性質，是以本研究採行大數據分析的概念，暫不考慮樣品的所屬文化期相與出土空間上的差異，直接利用切片分析數據進行統計分群，整體討論澎湖出土史前陶器的陶土源區問題，最終再回到考古文化脈絡中進行討論。

本研究的進行可分為三個階段，首先是利用資料庫中的切片岩象學分析數據進行資料整理與確認，其次則利用統計方法對陶片內含物性質進行演算和陶片分群，並建立每個陶片群的砂級內含物特徵；最後則結合考古學與地質學資料，討論各類陶片可能的地質源區，並據此提出史前澎湖與海峽兩岸間陶器流動的證據。

陶片切片岩象學分析是史語所科技考古實驗室進行陶質樣品分析的基本項目，此方法乃利用光學顯微鏡觀察陶片的內部組構，並計算其中各種砂級內含物的數量。這些分析數據除了可以建立陶土特性並作為陶器分類的依據，也同時獲得有關古陶製作技術的資訊，並可藉以探討製陶原料的來源（Quinn，2013：1-4）。分析方法為將陶片樣品磨製成厚度約 0.03 mm 的薄片，再以偏光顯微鏡觀察與鑑定其中的組成，記錄項目包括礦物及岩屑種類、粒徑大小、圓度、淘選度、及裂隙形態與排列方式等。內含物計量則採用網格方式進行，間距通常設定為 0.3 mm，計量總數為 500 點。

[2] 本批樣品為本文第三作者臧振華先生執行「澎湖七美島史前石器製造場的考古學研究」計畫時之相關研究樣品，送件日期為 2003 年 3 月 3 日，完成日期為同年 5 月 19 日。

表二：本研究分析樣品之基本資料表

實驗室編號	遺址	陶片描述	所屬文化期相*	備註 (原始序號、出土層位)
C2201	南港	灰黑色夾砂繩紋陶	鎖港類型	NK-CM-02-6256、W4S19 Level-3 Q-B
C2202	南港	紅褐色夾砂陶	鎖港類型	NK-CM-02-6204、W4S19 Level-3 Q-B
C2203	南港	橙紅色夾細砂素面陶	鎖港類型	NK-CM-02-5951、W4S19 Level-3 Q-A
C2204	南港	紅褐色夾砂素面陶	鎖港類型	NK-CM-02-5945、W4S19 Level-3 Q-A
C2205	南港	灰黑色夾砂陶	鎖港類型	NK-CM-02-5957、W4S19 Level-3 Q-A
C2206	南港	黃褐色夾砂繩紋陶	鎖港類型	NK-CM-02-6237、W4S19 Level-3 Q-B
C2207	南港	橙紅色夾砂素面陶	鎖港類型	NK-CM-02-6258、W4S19 Level-3 Q-B
C2208	南港	灰黑色泥質陶	鎖港類型	NK-CM-02-1430、W1S2 Level-5 Q-C-c (R-1)
C2209	南港	紅褐色夾砂繩紋陶	鎖港類型	NK-CM-02-1193、W1S2 L5-B-c A-4
C2210	南港	紅褐色夾砂繩紋陶	鎖港類型	NK-CM-02-2496、W1S2 Level-7 Q-A-b
C2211	南港	黃褐色夾砂繩紋陶	鎖港類型	NK-CM-02-2056、W1S2 Level-6 Q-A-b
C2212	南港	灰黑色泥質陶	鎖港類型	NK-CM-02-396、W1S2 Level-5 Q-A-b
C2213	南港	灰黑色夾砂陶	鎖港類型	NK-CM-02-416、W1S2 Level-5 Q-A-c
C2214	南港	紅褐色夾砂陶	鎖港類型	NK-CM-02-18225、W1S9 Level-5 Q-d
C2215	南港	紅褐色夾砂繩紋陶	鎖港類型	NK-CM-02-18106、W1S9 Level-5 Q-d
C2216	南港	灰黑色夾砂繩紋陶	鎖港類型	NK-CM-02-17546、W1S9 Level-5 Q-B
C2217	南港	紅褐色夾砂陶	鎖港類型	NK-CM-02-20742、E1S2 Level-8 Q-A
C2218	南港	灰黑色夾砂繩紋陶	鎖港類型	NK-CM-02-20625、E1S2 Level-7 Q-A
C2219	南港	紅褐色夾貝屑陶	鎖港類型	NK-CM-02-20741、E1S2 Level-8 Q-A
C2220	南港	紅褐色夾砂繩紋陶	鎖港類型	NK-CM-02-20209、E1S2 Level-6 Q-A-c
C2221	南港	紅褐色夾砂素面陶	鎖港類型	NK-CM-02-20113、E1S2 Level-7 Q-A
C2222	南港	紅褐色夾砂陶	鎖港類型	NK-CM-02-20831、E1S2 Level-5 Q-A-a
C2223	南港	黃褐色夾砂繩紋陶	鎖港類型	NK-CM-02-20628、E1S2 Level-7 Q-A
C2224	南港	紅褐色夾砂陶	鎖港類型	NK-CM-02-20948、E1S2 Level-5 Q-A-a
C2225	南港	灰黑色夾砂陶	鎖港類型	NK-CM-02-21038、E1S2 Level-5 Q-A-a
C2226	南港	橙紅色夾砂陶	鎖港類型	NK-CM-02-16240、W1S9 Level-4 Q-C
C2227	南港	紅褐色夾砂繩紋陶	鎖港類型	NK-CM-02-16483、W1S9 Level-4 Q-D
C2228	南港	橙紅色夾砂繩紋陶	鎖港類型	NK-CM-02-15720、W1S9 Level-4 Q-C
C2229	南港	灰黑色夾砂陶	鎖港類型	NK-CM-02-6845、W4S19 Level-3 Q-B
C2230	望安-鯉魚山	紅褐色夾貝屑陶	鎖港類型/赤崁頭類型	地表採集
C2231	望安-鯉魚山	黃褐色夾砂陶	鎖港類型/赤崁頭類型	地表採集
C2232	望安-鯉魚山	灰黑色夾砂陶	鎖港類型/赤崁頭類型	地表採集
C2233	望安-鯉魚山	灰黑色夾砂陶	鎖港類型/赤崁頭類型	地表採集
C2234	望安-鯉魚山	暗褐色夾砂陶	鎖港類型/赤崁頭類型	地表採集
C2235	良文港	紅褐色夾貝屑陶	鎖港類型	地表採集
C2236	良文港	黃褐色夾砂繩紋陶	鎖港類型	地表採集
C2237	菓葉A	紅褐色夾砂繩紋陶	菓葉類型	採集自文化層
C2238	菓葉A	紅褐色夾砂繩紋陶	菓葉類型	採集自文化層
C2239	鎖港	黃褐色夾砂繩紋陶	鎖港類型	採集自文化層
C2240	鎖港	黃褐色夾砂繩紋陶	鎖港類型	採集自文化層
C2241	赤崁頭	紅褐色夾貝屑陶	赤崁頭期	採集自文化層
C2242	內垵	紅褐色夾貝屑陶	鎖港類型	地表採集
C2243	內垵	灰黑色夾砂繩紋陶	鎖港類型	地表採集
C2244	北寮	紅褐色夾貝屑繩紋陶	主要為鎖港類型，亦有菓葉類型的遺留	地表採集
C2245	北寮	紅褐色夾貝屑陶	主要為鎖港類型，亦有菓葉類型的遺留	地表採集
C2246	南港	紅褐色夾砂陶	鎖港類型	NK-CM、W1S2 Level-8
C2247	南港	紅褐色夾砂繩紋陶	鎖港類型	NK-CM、W1S2 Level-8 Q-ab
C2248	南港	紅褐色夾砂陶	鎖港類型	NK-CM、W1S2 Level-9 Q-ab

*各遺址所屬文化期相乃依據臧振華 2008、2009 之《澎湖縣遺址普查及補遺計畫研究報告》。

本研究的統計學部分乃委託中央研究院核心設施「科學資料統計合作社」進行。在執行上首先計算兩兩陶片之間的歐氏距離（Euclidean distance），以建立歐氏距離矩陣的方式量化陶片彼此之間的相似程度。計算所得的歐氏距離數值越小表示兩件陶片之間的距離越近，砂級內含物組成的相似程度越高；反之，若數值越大則表示兩件陶片的距離越遠，砂級內含物成分的相似度越低。在計算出陶片彼此之間的歐氏距離後，本研究採用階層式群集分析法（hierarchical clustering），藉由 Chen（2002）所提出的 GAP Tree 演算法進行陶片分群分析，最終結果以熱圖（heat map）和樹狀結構圖呈現，整個過程是以 GAP 軟體進行演算。

三、分析結果

(一)、切片岩象學分析

澎湖史前陶片中的砂級內含物種類十分多樣，切片結果顯示這些陶片的內含物包括了來自火成岩區、沉積岩區和變質岩區的沉積物（圖二），其中單晶礦物有石英（quartz）、鉀長石（K-feldspar）、斜長石（plagioclase）、輝石（pyroxene）和絹雲母（sericite），岩屑部分則包括了屬於火成岩區的玄武岩（basalt）和花崗岩（granite），屬於沉積岩區的砂岩（sandstone）、鐵質砂岩（iron-bearing sandstone）、砂質泥岩（sandy mudstone）和泥岩（mudstone），以及屬於變質岩區的變質砂岩（meta-sandstone）、硬頁岩（argillite）、板岩（slate）、石英岩（quartzite）、燧石（chert）及變質火成岩（meta-Igneous）等，另外還有生物化石（fossils）及碳酸鹽質生物殼體（shells）[3]，以及含鐵土團（iron-stained clay pellet）與一些不透光礦物（opaque minerals）。

由於陶片內含物種類複雜，各樣品的組成比例又多有變化，為獲得合理的分類方式，本文藉助統計學方法以建立陶片分類架構。不過在執行上受限於本次分析樣品總數只有 48 件，但相關變數（即內含物種類）卻高達 23 項，為避免變數過多造成分群結果出現過適或過度擬合（overfitting）問題，本文在進行統計處理之前先將內含物種類依據研究區的地質特性進行整併，例如斜長石與輝石皆產自玄武岩中，因此將之併入玄武岩項下，而不同沉積岩屑因來自性質類似的地質源區，在本文中也為求簡化而

[3] 生物化石是指由地層中侵蝕而來的古老化石，碳酸鹽質生物殼體則是指第四紀尚未岩化的碳酸鹽質珊瑚或有孔蟲等生物殼體，兩者並不相同。

合併為一，變質岩屑亦然，因此本文最終將前述 23 項變數重新整併為表三所示的 10 項變數，原始資料請參考附錄 1。

表三：整併後之陶片砂級內含物組成百分比表

實驗室編號	遺址	胚體(總量)	石英*1	鉀長石	玄武岩*2	風化火成岩	花崗岩	沉積岩*3	變質岩*4	碳酸鹽質生物殼體	含鐵土團	不透光礦物
C2201	南港	61.8	2.8	1.2				18.2	15.6			0.4
C2202	南港	55.8	3.4	0.6				23.6	12.8	0.8	3.0	
C2203	南港	96.6	1.6					1.6			0.2	
C2204	南港	72.6	1.2					9.8	14.2		0.6	1.6
C2205	南港	76.4	19.8	1.4	1.0						1.2	0.2
C2206	南港	84.0	0.4					13.6			2.0	
C2207	南港	92.6	0.4								7.0	
C2208	南港	94.2	4.6	0.2				0.4			0.6	
C2209	南港	73.0	3.8	0.2				10.2	11.8		1.0	
C2210	南港	87.2	2.0	0.2				9.0	0.2		1.0	0.4
C2211	南港	82.4	1.0					10.4	2.0		4.2	
C2212	南港	96.6	1.6					0.2			1.6	
C2213	南港	64.6	4.4	0.8				20.4	9.0		0.8	
C2214	南港	85.0	4.0	0.8				5.0			5.2	
C2215	南港	80.6	4.4	0.2				12.6			2.2	
C2216	南港	72.0	19.8	1.2	1.8			1.4		2.8	0.8	0.2
C2217	南港	84.4	0.8	0.2				6.8	7.6		0.2	
C2218	南港	94.8	0.4					4.0			0.8	
C2219	南港	74.0	9.8	0.4	0.4					13.8	1.0	0.6
C2220	南港	88.2	3.2	0.4				1.8	1.4		5.0	
C2221	南港	96.2	0.6	0.6							2.6	
C2222	南港	94.2	2.4	0.6				0.4			2.4	
C2223	南港	85.0	4.4	0.6				9.0	0.2		0.6	0.2
C2224	南港	66.2	6.2					27.0				
C2225	南港	80.0	6.2	0.2				11.6	0.6		1.4	
C2226	南港	81.0	3.2	0.8				0.8			14.2	
C2227	南港	93.0	0.8	0.2				5.6	0.2		0.2	
C2228	南港	85.4	3.8	0.4		0.2					10.2	
C2229	南港	87.6	1.2					9.4	0.4	0.4	1.0	
C2230	望安-鯉魚山	72.8	7.0	1.2	1.2			0.2		14.8	2.4	0.4
C2231	望安-鯉魚山	77.0	12.0	2.0			7.2				1.8	
C2232	望安-鯉魚山	81.6	7.0	0.2				8.8	2.4			
C2233	望安-鯉魚山	84.6	3.0					12.0	0.4			
C2234	望安-鯉魚山	67.2	25.2	2.4		0.2	1.6	1.6			1.2	0.6
C2235	良文港	78.8	4.8		0.2			0.2		10.2	5.0	0.8
C2236	良文港	78.6	2.2		0.8			0.2		16.2	1.4	0.6
C2237	菓葉A	71.4	19.2	3.2	0.2	0.6	0.4	0.4	0.2		3.4	1.0
C2238	菓葉A	69.8	21.6	2.8		2.4		0.8			1.8	0.8
C2239	鎖港	84.6	2.0	0.2				8.0			5.2	
C2240	鎖港	92.2	0.8					6.2			0.8	
C2241	赤崁頭	78.4			3.4					17.2	0.8	0.2
C2242	內垵	69.2	14.0	1.8	2.0	0.8	0.2	2.0	0.2	7.2	1.0	1.6
C2243	內垵	73.2	20.8	4.2	0.2	0.2					1.4	
C2244	北寮	73.4	13.0	1.6	2.6	2.2				2.4	1.2	3.6
C2245	北寮	73.4	8.2		2.0					12.4	2.8	1.2
C2246	南港	63.6	10.0	1.2	0.6	2.4	0.4			9.6	7.2	5.0
C2247	南港	62.2	16.4	1.6	1.4	1.0		0.2		14.8	1.2	1.2
C2248	南港	89.4	2.6	0.4				6.2			1.4	

*1 樣品 C2230 含有 0.8%的絹雲母，因具有類似的抗風化性質，在此併入石英項下。
*2 包括斜長石、輝石、及玄武岩屑。
*3 包括砂岩屑、含鐵砂岩屑、砂質泥岩屑、泥岩岩屑、及生物化石。
*4 包括變質砂岩屑、硬頁岩屑、板岩屑、石英岩屑、燧石、及變質火成岩屑。

(二)、統計分析

統計分析結果如圖三所示。圖中所有樣品以左上－右下對角線鏡像排列方式，呈現每件樣品與其他樣品之間的相似性，紅色越深表示兩件陶片之間的相似程度越高，若顏色接近白色甚至深藍色則表示 2 件陶片之間的相似程度較低。據此，本文利用階層式群集分析方法將 48 件陶片樣品區分為 A、B 兩大群共 5 個群集，並依據分群結果找出各群集陶片中陶土性質的具體特徵，結果如圖四和表四、表五所示。

筆者必須說明的是統計學方法雖然在陶片分群上提供了相對客觀且有用的架構（圖三），但本研究受到分析樣品數量的限制，所建立的分類模式難免存在疏漏。例如屬於第 B1 類的 C2242、C2244 和 C2216 等樣品也與第 B2-1 類陶片具有相似性，在分群上似乎模稜兩可。這現象以樣品 C2216 最為明顯，不過若參考陶片的內含物組成表（表四），樣品 C2216 雖因石英含量特別高（達 19.8%）而與第 B2-1 類陶片性質相似，但陶土中出現了相當數量的碳酸鹽質生物殼體（2.8%）和玄武岩屑（1.8%），整體性質仍與第 B1 類陶片較為接近。另外又如在第 B2-2 和 A2 類陶片中分別出現不和諧的樣品 C2207 和 C2214，甚至有些陶類（特別是第 A1 和 A2 類陶片）似乎可再細分為一些小類別，這些現象的存在反映出樣品數量不足的限制，未來若能擴充樣品數量，將使統計分群結果更臻完善。不過筆者認為即便目前建立的分類架構並不完美，但與澎湖及海峽兩岸的地質背景具有合理且良好的對應關係，說明本文所建立的分類架構在澎湖的史前陶器研究上具有實質意義。

在本文的分類架構中，第 A 大類陶片是以陶土中出現大量沉積岩屑為特徵，並依據變質岩屑的數量多寡再細分為 A1 和 A2 類陶片；第 B 大類陶片則幾乎沒有岩屑成份，可再細分為以碳酸鹽質生物殼體為特徵的第 B1 類陶片、以石英顆粒為主要內含物成份的第 B2-1 類陶片，以及以含鐵土團為特徵的第 B2-2 類陶片。以下將分別描述各類陶片的陶土特性和考古文化背景，相關資料請參考表四～六、圖四～九和附錄一所示。

第 A1 類：

屬於本類陶片的樣品共有 6 件，基本特徵為內含物組成以沉積岩屑和變質岩屑為主，其中以砂岩、砂質泥岩、板岩、硬頁岩、變質砂岩等岩屑最為常見，亦有少量石英和含鐵土團等。值得注意的是與其他陶類相比，本類陶片中石英顆粒的含量相對較低（圖四）。在陶片整體性質上，本類陶片的夾砂密度偏高，砂級內含物比例在

15.6%至 44.2%之間，平均為 31.3%，內含物粒徑以粗砂等級居多，呈稜角─次稜角狀，因此這類陶片大多為粗砂陶或是極粗砂陶（表六）。由於本研究中此陶類的樣品皆出土自南港遺址，因此都屬於鎖港類型文化（表五）。

表四：統計分群後各類陶片的砂級內含物組成百分比表

統計分群	實驗室編號	遺址	胚體(總量)	石英*1	鉀長石	玄武岩*2	風化火成岩	花崗岩	沉積岩*3	變質岩*4	碳酸鹽質生物殼體	含鐵土團	不透光礦物
A1	C2201	南港	61.8	2.8	1.2				18.2	15.6			0.4
	C2217	南港	84.4	0.8	0.2				6.8	7.6		0.2	
	C2209	南港	73.0	3.8	0.2				10.2	11.8		1.0	
	C2204	南港	72.6	1.2					9.8	14.2		0.6	1.6
	C2202	南港	55.8	3.4	0.6				23.6	12.8	0.8	3.0	
	C2213	南港	64.6	4.4	0.8				20.4	9.0		0.8	
A2	C2206	南港	84.0	0.4					13.6			2.0	
	C2229	南港	87.6	1.2					9.4	0.4	0.4	1.0	
	C2240	鎖港	92.2	0.8					6.2			0.8	
	C2218	南港	94.8	0.4					4.0			0.8	
	C2224	南港	66.2	6.2					27.0				
	C2233	望安-鯉魚山	84.6	3.0					12.0	0.4			
	C2227	南港	93.0	0.8	0.2				5.6	0.2		0.2	
	C2210	南港	87.2	2.0	0.2				9.0	0.2		1.0	0.4
	C2215	南港	80.6	4.4	0.2				12.6			2.2	
	C2211	南港	82.4	1.0					10.4	2.0		4.2	
	C2214	南港	85.0	4.0	0.8				5.0			5.2	
	C2239	鎖港	84.6	2.0	0.2				8.0			5.2	
	C2223	南港	85.0	4.4	0.6				9.0	0.2		0.6	0.2
	C2225	南港	80.0	6.2	0.2				11.6	0.6		1.4	
	C2248	南港	89.4	2.6	0.4				6.2			1.4	
	C2232	望安-鯉魚山	81.6	7.0	0.2				8.8	2.4			
	C2203	南港	96.6	1.6					1.6			0.2	
B1	C2241	赤崁頭	78.4			3.4					17.2	0.8	0.2
	C2236	良文港	78.6	2.2		0.8			0.2		16.2	1.4	0.6
	C2235	良文港	78.8	4.8		0.2			0.2		10.2	5.0	0.8
	C2245	北寮	73.4	8.2		2.0					12.4	2.8	1.2
	C2230	望安-鯉魚山	72.8	7.0	1.2	1.2			0.2		14.8	2.4	0.4
	C2219	南港	74.0	9.8	0.4	0.4					13.8	1.0	0.6
	C2246	南港	63.6	10.0	1.2	0.6	2.4	0.4			9.6	7.2	5.0
	C2247	南港	62.2	16.4	1.6	1.4	1.0		0.2		14.8	1.2	1.2
	C2242	內垵	69.2	14.0	1.8	2.0	0.8	0.2	2.0	0.2	7.2	1.0	1.6
	C2244	北寮	73.4	13.0	1.6	2.6	2.2				2.4	1.2	3.6
	C2216	南港	72.0	19.8	1.2	1.8			1.4		2.8	0.8	0.2
B2-1	C2231	望安-鯉魚山	77.0	12.0	2.0			7.2				1.8	
	C2243	內垵	73.2	20.8	4.2	0.2	0.2					1.4	
	C2238	菓葉A	69.8	21.6	2.8		2.4		0.8			1.8	0.8
	C2237	菓葉A	71.4	19.2	3.2	0.2	0.6	0.4	0.4	0.2		3.4	1.0
	C2208	南港	94.2	4.6	0.2				0.4			0.6	
	C2234	望安-鯉魚山	67.2	25.2	2.4		0.2	1.6	1.6			1.2	0.6
	C2205	南港	76.4	19.8	1.4	1.0						1.2	0.2
B2-2	C2228	南港	85.4	3.8	0.4		0.2					10.2	
	C2226	南港	81.0	3.2	0.8				0.8			14.2	
	C2221	南港	96.2	0.6	0.6							2.6	
	C2207	南港	92.6	0.4								7.0	
	C2222	南港	94.2	2.4	0.6				0.4			2.4	
	C2212	南港	96.6	1.6					0.2			1.6	
	C2220	南港	88.2	3.2	0.4				1.8	1.4		5.0	

*1-*4 與表三相同。

表五：各類陶片的內含物特性、所屬文化期相及所包含的樣品編號

群集	數量	說明
A1	6	• 主要成分是沉積岩屑和變質岩屑。 • 石英比例低 。 • 夾砂密度高，大多是粗砂—極粗砂，淘選度中等偏佳。
		• 文化期相：鎖港類型
		• 實驗室編號： C2201(南港)、C2202(南港)、C2204(南港)、C2209(南港)、C2213(南港)、C2217(南港)
A2	17	• 主要成分是沉積岩屑，次要成分是石英。 • 超過半數的樣品有少許含鐵土團的成分。 • 夾砂密度低，以粗砂為主，少數為中砂或泥質，淘選度中等。
		• 文化期相：鎖港類型/赤崁頭類型
		• 實驗室編號： C2203(南港)、C2206(南港)、C2210(南港)、C2211(南港)、C2214(南港)、C2215(南港)、C2218(南港)、C2223(南港)、C2224(南港)、C2225(南港)、C2227(南港)、C2229(南港)、C2232(望安鯉魚山)、C2233(望安鯉魚山)、C2239(鎖港)、C2240(鎖港)、C2248(南港)
B1	11	• 以碳酸鹽質生物殼體和石英顆粒為主，兩者數量互有消長。 • 可見少量玄武岩、不透光礦物和含鐵土團。 • 夾砂密度偏高，中砂為主，部分為粗砂，淘選度佳。
		• 文化期相：鎖港類型/赤崁頭類型
		• 實驗室編號： C2216(南港)、C2219(南港)、C2230(望安鯉魚山)、C2235(良文港)、C2236(良文港)、C2241(赤崁頭)、C2242(內垵)、C2244(北寮)、C2245(北寮)、C2246(南港)、C2247(南港)
B2-1	7	• 主要成分是石英。 • 有少許鉀長石及含鐵土團的成分。 • 除一件泥質陶外，其餘樣品夾砂密度偏高，中砂為主，淘選度佳。
		• 文化期相：菓葉類型/鎖港類型/赤崁頭類型
		• 實驗室編號： C2205(南港)、C2208(南港)、C2231(望安鯉魚山)、C2234(望安鯉魚山)、C2237(菓葉A)、C2238(菓葉A)、C2243(內垵)
B2-2	7	• 主要成分是含鐵土團，次要成分是石英。 • 部分陶片含有少量鉀長石或沉積岩屑的成分。 • 有多件泥質陶，其餘樣品雖夾中砂—粗砂，但夾砂密度低，淘選度中等。
		• 文化期相：鎖港類型
		• 實驗室編號： C2207(南港)、C2212(南港)、C2220(南港)、C2221(南港)、C2222(南港)、C2226(南港)、C2228(南港)

表六：各類陶片的顯微組構特性表

統計群集	實驗室編號	遺址名稱	陶片性質	粒徑(最大粒徑) mm	陶別	圓度	淘選度
A1	C2201	南港	灰黑色夾砂繩紋陶	0.2~0.8 (2.5)	粗－極粗砂陶	稜角狀	中等
	C2217	南港	紅褐色夾砂陶	0.1~1.0 (1.8)	中－粗砂陶	稜角狀	中等－差
	C2209	南港	紅褐色夾砂繩紋陶	0.2~1.2 (1.5)	粗砂陶	次稜角－次圓狀	佳－中等
	C2204	南港	紅褐色夾砂素面陶	0.2~1.0 (1.2)	粗砂陶	稜角狀	佳－中等
	C2202	南港	紅褐色夾砂陶	0.2~1.2 (1.6)	粗砂陶	稜角－次稜角狀	佳
	C2213	南港	灰黑色夾砂陶	0.1~1.2 (2.0)	粗－極粗砂陶	稜角狀	差
A2	C2206	南港	黃褐色夾砂繩紋陶	0.2~1.5 (2.0)	粗－極粗砂陶	次稜角－次圓狀	中等
	C2229	南港	灰黑色夾砂陶	0.3~0.8 (1.2)	粗－中砂陶	稜角狀	佳
	C2240	鎖港	黃褐色夾砂繩紋陶	0.2~1.0 (1.2)	粗砂陶	次稜角－次圓狀	中等
	C2218	南港	灰黑色夾砂繩紋陶	0.2~0.4 (1.2)	夾細砂泥質陶	稜角狀	佳
	C2224	南港	紅褐色夾砂陶	0.1~2.0 (3.2)	極粗砂陶	稜角－次稜角狀	差
	C2233	望安-鯉魚山	灰黑色夾砂陶	0.2~0.8 (1.0)	粗砂陶	稜角－次稜角狀	中等－佳
	C2227	南港	紅褐色夾砂繩紋陶	0.2~1.0 (1.8)	粗砂陶	次稜角狀	佳
	C2210	南港	紅褐色夾砂繩紋陶	0.2~1.0 (1.2)	粗砂陶	稜角狀	中等－差
	C2215	南港	紅褐色夾砂繩紋陶	0.2~0.6 (1.0)	中砂陶	次圓－圓狀	中等－差
	C2211	南港	黃褐色夾砂繩紋陶	0.3~1.2 (1.8)	粗砂陶	稜角狀	佳－中等
	C2214	南港	紅褐色夾砂陶	0.1~0.8 (1.2)	粗砂陶	稜角狀	中等
	C2239	鎖港	黃褐色夾砂繩紋陶	0.2~1.0 (1.2)	粗砂陶	次稜角狀	中等－差
	C2223	南港	黃褐色夾砂繩紋陶	0.1~0.6 (1.0)	中砂陶	稜角狀	中等－佳
	C2225	南港	灰黑色夾砂陶	0.1~1.0 (1.2)	粗－中砂陶	稜角狀	差－中等
	C2248	南港	紅褐色夾砂陶	0.1~0.5 (0.8)	中砂陶	次稜角狀	中等－佳
	C2232	望安-鯉魚山	灰黑色夾砂陶	0.4~1.0 (1.2)	粗砂陶	稜角狀	佳
	C2203	南港	橙紅色夾細砂素面陶	<0.1~0.2 (0.5)	夾細砂泥質陶	稜角－次稜角狀	佳
B1	C2241	赤崁頭	紅褐色夾貝屑陶	0.2~0.4 (0.6)	中砂陶	次圓－次稜角狀	佳－中等
	C2236	良文港	黃褐色夾砂繩紋陶	0.3~0.6 (1.5)	中－粗砂陶	次圓狀	中等
	C2235	良文港	紅褐色夾貝屑陶	0.2~0.5 (0.7)	中砂陶	次圓狀	佳－中等
	C2245	北寮	紅褐色夾貝屑陶	0.2~1.0 (2.0)	粗砂陶	稜角－次稜角狀	中等－差
	C2230	望安-鯉魚山	紅褐色夾貝屑陶	0.5~1.2 (1.4)	粗砂陶	次圓狀	佳
	C2219	南港	紅褐色夾貝屑陶	0.3~0.4 (0.7)	中砂陶	圓－次圓狀	佳
	C2246	南港	紅褐色夾砂陶	0.2~0.5 (2.0)	中砂陶	稜角狀	佳－中等
	C2247	南港	紅褐色夾砂繩紋陶	0.2~0.4 (1.0)	中砂陶	稜角狀	佳
	C2242	內垵	紅褐色夾貝屑陶	0.2~0.5 (1.0)	中－粗砂陶	次稜角－次圓狀	中等
	C2244	北寮	紅褐色夾貝屑繩紋陶	0.2~1.0 (1.2)	粗砂陶	次稜角狀	差－中等
	C2216	南港	灰黑色夾砂繩紋陶	0.1~0.4 (0.6)	中砂陶	次稜角－次圓狀	佳
B2-1	C2231	望安-鯉魚山	黃褐色夾砂陶	0.1~0.5 (2.0)	粗－中砂陶	稜角狀	佳－中等
	C2243	內垵	灰黑色夾砂繩紋陶	0.1~0.3 (0.5)	細－中砂陶	次稜角狀	中等－佳
	C2238	菓葉-A	紅褐色夾砂繩紋陶	0.1~0.3 (0.4)	細－中砂陶	稜角狀	佳
	C2237	菓葉-A	紅褐色夾砂繩紋陶	0.1~0.4 (0.7)	中砂陶	稜角－次稜角狀	佳
	C2208	南港	灰黑色泥質陶	<0.1~0.2	夾中砂泥質陶	稜角狀	佳
	C2234	望安-鯉魚山	暗褐色夾砂陶	0.1~0.6 (1.0)	中－粗砂陶	稜角狀	中等
	C2205	南港	灰黑色夾砂陶	0.1~0.5 (1.2)	中砂陶	稜角狀	佳
B2-2	C2228	南港	橙紅色夾砂繩紋陶	0.1~1.0 (2.0)	粗砂陶	次圓狀	中等
	C2226	南港	橙紅色夾砂陶	0.1~0.5 (1.6)	中－粗砂陶	次圓狀	中等－差
	C2221	南港	紅褐色夾砂素面陶	–	夾細砂泥質陶	–	佳
	C2207	南港	橙紅色夾砂素面陶	–	夾細砂泥質陶	–	佳
	C2222	南港	紅褐色夾砂陶	–	夾細砂泥質陶	次圓－次稜角狀	佳
	C2212	南港	灰黑色泥質陶	–	夾細砂泥質陶	–	佳
	C2220	南港	紅褐色夾砂繩紋陶	0.1~0.6 (1.0)	中砂陶	稜角狀	中等

第 A2 類：

第 A2 類陶片則包括了 17 件樣品，特徵是陶器中以沉積岩屑為主要成分，其中以砂岩屑最為常見，次要成分則是石英顆粒，另外有超過半數的樣品中含鐵土團也有重要性（圖四）。本類陶片的夾砂密度通常偏低，除了樣品 C2224 之外，砂級部分的比例介於 3.4%至 20.0%之間，平均為 13.2%。雖然砂級內含物密度較低，但粒徑以粗砂為主，只有少數樣品屬於中砂陶，顆粒則多為稜角—次稜角狀，有 2 件樣品屬於夾細砂泥質陶（表六）。屬於此類別陶片的文化期相大多為鎖港類型文化，只有來自望安－鯉魚山遺址的 2 件灰黑色夾砂陶有可能是年代較晚的赤崁頭類型文化（表五）。

第 B1 類：

第 B1 類陶片包括了 11 件樣品，特徵是陶片中出現碳酸鹽質生物殼體，石英顆粒也是重要組成（圖四），兩者在數量上呈現相互消長的現象，在以生物殼體為主的陶片中石英含量較低，相反的在生物殼體含量較低的樣品中，往往存在大量石英顆粒（表四）。除了生物殼體和石英之外，陶片中也出現少量玄武岩類和含鐵土團（圖四）。本類陶片的夾砂密度在 21.2%至 37.8%之間，平均為 27.6%。樣品大多屬於中砂陶，少數為粗砂陶，夾砂顆粒通常較細，大多為次圓狀，淘選度較佳（表六）。屬於此類陶片的出土遺址包括了南港（4 件）、良文港（2 件）、內垵（1 件）、北寮（2 件）、赤崁頭（1 件）及望安－鯉魚山遺址（1 件）（表五）。過去的研究成果曾經指出此種夾有生物殼體的陶片在年代較早的菓葉 A 遺址中並未發現（Tsang，1992：113），因此推測本類陶片主要屬於鎖港和赤崁頭類型文化，在年代更早的菓葉類型文化時期可能尚未出現，至少在菓葉 A 遺址中是如此。

第 B2-1 類：

第 B2-1 類陶片包括了 7 件樣品。這類陶片的內含物以石英顆粒為主，其他成分的比例皆低，只有很少量的鉀長石和含鐵土團成分出現（圖四）。本類陶片除了一件泥質陶之外，其餘樣品夾砂密度介於 23.0%-32.8%之間，平均為 27.5%，與第 B1 類陶片的平均值十分接近。相較於其他陶類，本類陶片的砂級內含物粒徑較細，多數樣品屬於中砂陶或是細砂－中砂陶，只有少數夾砂較粗，顆粒圓度則大多是稜角狀或次稜角狀，淘選度佳（表六）。本類陶片的所屬年代有 2 件是出土自菓葉 A 遺址，屬於年代較早的菓葉類型文化，其他出土自南港和內垵遺址的陶片則屬於鎖港類型文化，另外

出土自望安鯉魚山遺址的 2 件樣品則不排除屬於年代較晚的赤崁頭類型文化的可能（表五）。整體而言本類陶片的所屬年代包括了菓葉、鎖港和赤崁頭類型文化，意味著在史前澎湖，不論年代早晚皆有使用此類質地的陶器。

第 B2-2 類：

第 B2-2 類陶片包括了 7 件樣品，其特徵是以含鐵土團為主要成分，以石英為次要成分（圖四），部分陶片還有少量鉀長石和砂岩岩屑。不過本類陶片中有 4 件屬於夾細砂泥質陶，砂級內含物比例低於 10%，其餘 3 件樣品夾砂密度介於 11.8%-19.0%之間，夾砂密度也相對較低。所夾砂粒多為含鐵土團，大致為次圓狀的中砂至粗砂，淘選度中等（表六）。對於此類陶片，本研究所分析的樣品皆出土自南港遺址，因此年代皆屬於鎖港類型文化（表五）。

四、討論

在地質上，澎湖群島、臺灣西南部和中國東南部有著不同的大地構造背景，因此發展出各具特色的地質與沉積物特性，提供了本文進行陶土源區研究的基礎。

澎湖群島除了最西側的花嶼之外，大都是玄武岩熔岩流構成的火山群島，生成年代可對比於臺灣島上的中新世火山活動（陳正宏，1990）。由於整個火山活動機制與南中國海的海底擴張有關，因此一連串的玄武岩噴發也包括了中南半島、海南島、雷州半島及中國大陸東南沿海的一些玄武岩島嶼（Chung *et al.*，1994）。澎湖群島的火山熔岩歷經數次噴發，形成多層次的玄武岩流，在熔岩流之間有中新統砂頁岩層間隔，因此島嶼雖然是以玄武岩為主體，但也有局部的沉積岩地層分布（陳正宏，1990）。根據澎湖地質圖說明書所述，澎湖群島上出露於地表的岩層包括澎湖層（主要為玄武岩、砂泥岩及再積性火山碎屑岩）、姑婆嶼層（由鐵質膠結成堅硬的鐵質石英砂岩所組成）、小門嶼層（有孔蟲砂混合石英砂經鈣質膠結而成的鈣質砂岩）、湖西層（未固結砂泥層，表層為含有有孔蟲之砂質泥層）和近代海濱堆積層等地層單位（顏一勤、李寄嵎，2017），各地層在島上的分布情形如圖十所示。值得關注的是史料中曾經記載過去澎湖人曾以湖西層出露於地表的砂質泥層作為燒磚材料，當地也還留有早期磚窯的遺存，此地層主要分布在湖西地區，另外也出現在白沙島上通樑至後寮一帶（圖十）。此外，澎湖在局部區域的地表也覆有紅土，是玄武岩的地表風化產物，陳培源（1992）曾將這些地表紅土命名為東衛紅土層，不過在地質圖說明書中因作者認為此

地表風化紅土屬於澎湖層的一部分，因此在地質圖幅中並未獨立標示出來（顏一勤、李寄嵎，2017）。類似情形也出現在七美島的東北區域，據報導七美島頂隙南方出露有黃棕色粉砂質土壤（林長興，1992），不過在地質圖上被歸屬於澎湖層中砂泥岩層的一部分。

臺灣島則位於新期造山帶，島上地層以變質岩和沉積岩層為主體。若略去東部海岸山脈不提，臺灣島上地層的變質程度大致由西向東遞增，因此在地質分區上簡單分為西部濱海平原的第四系沖積層、西部麓山帶的新第三系沉積岩區、中央山脈西翼包括雪山山脈與脊梁山脈的硬頁岩和板岩區，以及中央山脈東翼變質程度最高的先第三系變質雜岩區（圖十一；何春蓀，1986）。對於臺灣西南部而言，廣大海岸平原上堆積著未固結的砂泥質沉積物，往東進入山區則是以砂岩、頁岩和泥岩為主的麓山帶沉積岩區，更往東在中央山脈才有屬於變質岩的硬頁岩、變質砂岩和板岩地層出露，不過南方的屏東平原東側山區也屬於板岩區（鄧屬予，1997）。

至於中國華南則地質年代古老，曾經歷多次強烈的地殼運動，區域地質也相對複雜（Hsu *et al.*，1990）。位處東南的浙江、福建、廣東等地在中生代晚期燕山造山運動期間曾有大量火山岩噴發與花崗岩侵入，形成所謂的「浙閩粵中生代火成岩帶」，因此花崗岩是此區域的主要岩性（黃泉禎，1998）。然而古代地殼運動也形成多條巨大構造斷裂帶，伴隨發生的變質作用使得斷裂帶及其周圍出露地層變得相當複雜且混亂（黃輝等，1993），例如福建與廣東沿海因長樂－南澳斷裂帶通過，使得斷裂帶兩側的岩層出現很大差異，斷裂帶西側的燕山期火成岩帶主要為未受變質的花崗岩與火山岩，東側的平潭-東山變質帶則以片麻岩為主，局部出露片岩和火山岩，後期還有花崗岩、偉晶岩、細晶岩和煌斑岩脈的侵入，此外在龍海一帶也可見到與澎湖群島相同時期噴發的玄武岩流（福建省地質礦物局，1985）。

上述地質資料對澎湖史前陶片的陶土源區問題提供了重要的背景資訊，據此筆者提出下列討論：

（一）、第 A 大類陶片的陶土源區探究

根據陶片切片和統計分析結果，第 A 大類陶片特徵是以沉積岩屑作為砂級內含物的重要成分，並依據變質岩屑的數量多寡進一步細分為第 A1 類和第 A2 類陶片。就沉積物性質而言，不論是沉積岩屑或是變質岩屑，都顯示此類陶片與臺灣西南部的地質

特性較為接近，而與澎湖群島或中國東南的關聯性低，而且類似內含物性質的陶片也常見於臺灣島上的史前遺址（例如臧振華和李匡悌，2007：135-137；傅秉秋，2009；陳文山等，2009）。

如前所述，臺灣西南部海岸平原主要堆積著尚未固結的砂泥質沉積物，在河川性質上，今日雲嘉南平原的河流包括北港溪、朴子溪（牛稠溪）、八掌溪、急水溪與曾文溪都發源於麓山帶西緣（圖十一），因此河川沉積物都來自抗蝕性弱的更新統砂岩與頁岩，僅在八掌溪與曾文溪上游區域局部出露了中新統砂岩層（陳文山等，2004）。這些河流上游都未切過硬頁岩或板岩等變質岩區，因此河床所堆積的砂級沉積物並不包括變質岩屑，而是以沉積岩屑為主（顧文舒，2017：58），這樣的組成正與第 A2 類陶片的性質相符，說明這類陶片的陶土很可能源自雲嘉南平原的河川沉積物。

相較之下，第 A1 類陶片的砂級內含物除了砂岩屑之外，還包括了板岩、硬頁岩、變質砂岩等變質岩屑，說明搬運這類沉積物的河流上游必須切穿麓山帶的沉積岩地層，並向源延伸入中央山脈的變質岩區。就臺灣西部平原的河川特性而言，只有位在雲嘉南平原以北的濁水溪、大肚溪、大甲溪和大安溪等，以及以南的高屏溪水系同時穿越沉積岩區和變質岩區，並自河川中、上游搬運混雜著沉積岩屑和變質岩屑的沉積物（顧文舒，2017：58）。而這樣性質的沉積物除了出現在這些河川的流域之中，也會在入海後隨著沿岸流向南北方向漂送，並堆積在雲嘉南海岸地帶（圖十一）。換言之，與第 A1 類陶片性質相符的陶土除了濁水溪、大肚溪、大甲溪、大安溪和高屏溪等流域的河川堆積物之外，也包括了雲嘉南地區的海岸沉積物。若結合考古資料來看，因為上述河川流域中並無與史前澎湖密切連結的考古文化，筆者推測第 A1 類陶片源自於這些河川流域的可能性較低，相對地，根據臺南科學園區的考古資料，與澎湖菓葉類型或鎖港類型時代接近的南關里、南關里東和右先方等遺址在古代皆位在海岸附近（臧振華等，2004），說明澎湖出土的第 A1 類陶片很可能源自當時臺灣西南部的沿海地帶，和第 A2 類陶片同樣是在臺灣本島製作後，透過貿易交換輸入至澎湖的外來陶器。

（二）、第 B1 類陶片的陶土源區探究

第 B1 類陶片最重要的特徵是陶土中出現碳酸鹽質生物殼體，比例最高者可達 17%左右，並與石英顆粒在數量上大致呈現相互消長的現象（表四）。這些生物殼體顆粒渾圓，整體淘選度佳，說明過去曾受到自然營力的搬運及滾磨作用，並非以人力搗碎

貝殼方式獲得。由伴隨出現玄武岩類物質（包括岩屑或礦物單晶）的特性來看，顯示這類陶片與澎湖玄武岩地質背景有關。目前已知這類陶片經常出現在澎湖群島的史前遺址，而且主要集中在鎖港類型及赤崁頭類型文化時期，在菓葉類型文化的代表性遺址菓葉 A 遺址中卻沒有此類陶片的出土紀錄（Tsang，1992：113），似乎意味著這類陶片的出現年代略晚。另一方面，此類陶片在臺灣島上的出土紀錄並不多，目前已知的只有臺南地區的南關里及南關里東遺址（臧振華等，2004）、牛稠子遺址（陳有貝，2013）、大昌橋遺址（朱正宜等，2015），以及三抱竹南遺址（朱正宜，2020 私人通訊）等地點曾經發現。這些遺址的考古年代正對應於澎湖菓葉、鎖港及赤崁頭類型文化，也透露出這些陶片與史前澎湖的關聯性。值得注意的是由於第 B1 類性質的陶器並未出現在澎湖年代最早的菓葉 A 遺址（Tsang，1992：113），似乎暗示著菓葉 A 遺址的文化年代要比臺灣西南部的這些遺址更早一些，或是只與南關里、南關里東遺址的早期年代重疊。不過這樣的論述與目前已知的絕對年代資料（臧振華，2008；臧振華等，2004）有些出入，此問題有待未來新的定年資料來加以釐清。

澎湖群島以玄武岩地層為主體，由於玄武岩性質堅實，加上當地很少降雨，地表微弱的侵蝕作用使得這裡的海岸線形成玄武岩懸崖峭壁的地形景觀，在峭壁下方則堆積著玄武岩巨礫。此地的砂級沉積物通常只出現在海灣、砂洲或砂丘等環境，因為陸上侵蝕與搬運作用微弱，陸源沉積物供應量極低，因此在澎湖群島的濱海地帶往往堆積著以海洋性生物殼體如珊瑚、貝殼碎片及有孔蟲殼體為主的沉積物，另摻雜數量較少的石英顆粒及玄武岩屑（林長興，1992：34）。根據筆者於當地的田野調查結果，澎湖群島的地表普遍覆蓋著一層夾含海洋性生物殼體的土壤，雖然厚度只有數十公分，但性質與第 B1 類陶片相符，故筆者推論此含有生物殼體的地表土層很可能是製作第 B1 類陶片的陶土，換言之這種以碳酸鹽質生物殼體為特徵的特殊陶器應是澎湖當地製作的在地陶類。

相對而言，臺灣由於山高水急，河川侵蝕與搬運能力都很強，使得河流或海岸堆積的砂級沉積物普遍以來自陸地的各種岩屑為主（徐鐵良，1965），海洋性生物殼體數量很少，因此臺灣西南部的沉積物特性與第 B1 類陶片的內含物性質並不符合。

另一方面，地質資料指出與澎湖群島相同時期噴發的玄武岩質火山活動也出現在中國大陸東南沿海（Chung *et al.*，1994），例如位在廈門附近的龍海一帶就有玄武岩島嶼分布。不過就沉積物性質而言，中國東南部的地層大多屬於年代久遠的花崗岩系

岩石與相關變質岩類，其中以花崗岩的分布最廣泛，在經過長時間的侵蝕與搬運作用之下，浙閩粵等地的海岸堆積估計是以石英、鉀長石、及花崗岩屑等陸源沉積物為主，海洋性生物殼體數量應該不多，因此筆者推測海峽對岸出現與第 B1 類陶片相同性質陶土的可能性並不高。

（三）、第 B2-1 類陶片的可能源區

第 B2-1 類陶片特徵為內含物以石英為主，還有少量的鉀長石和含鐵土團。石英是地表最常見的礦物之一，因為具有很強的抗風化性質，經過長時間或長距離搬運作用之後，在細粒沉積物中往往聚集成為最重要的組成份子（Klein and Philpotts，2013：316）。在本研究的分析樣品中，本類陶片的質地多數為細砂或中砂陶，淘選度佳（表 5），基本上符合因淘選作用造成陶土質地偏細、石英含量偏高的現象。也因為石英顆粒在細粒沉積物中經常成為優勢成份，史前陶器的質地若屬於細砂陶或中砂陶，也就常具有類似本類陶片以石英顆粒為主的內含物特性。換言之，細砂陶或中砂陶的陶土內含物組成常見以石英顆粒為大宗，使得陶片質地性質趨於一致，可供追溯陶土源區的特徵也變得較不明顯，雖然伴隨出現的其他內含物種類或許仍可提供重要訊息，但畢竟含量低，鑑別特徵若不明確，往往造成這類陶片的溯源研究相當困難。

由於石英在地表十分常見且分布極廣，包括本文所關注的澎湖群島、臺灣西南部及大陸東南沿海地區都可發現以石英為主要砂級成份的土層，也都是製作第 B2-1 類陶片的可能陶土來源。在澎湖群島，根據文獻記載堆積於全新世早期的湖西層在過去曾被作為燒磚材料（林長興，1992：102），其中地表含有生物殼體的砂質黏土層是史前澎湖人製作第 B1 類陶器的原料，堆積在此層下方不含生物殼體的土層則有可能是製作第 B2-1 類陶器的陶土，另外出露於七美島東北部的黃棕色粉砂質土壤也是製作此類陶片的可能陶土來源。

臺灣西南部地區則是在海岸附近的低窪濕地中，因為堆積以泥為主的沉積物，砂級成份大多是細粒的石英顆粒，推測以此製作而成的陶器也會出現類似於第 B2-1 類陶片的質地特性。考古資料中相似性質的陶器在臺灣西南部遺址常有發現，例如位在中洲台地上的大昌橋遺址，與第 B2-1 類性質接近的陶片被稱為「褐色夾石英細中砂陶」，數量有 2366 件，約占全部陶片的四分之一（朱正宜等，2015：100-106）。發掘者根據器型及紅色彩繪等特性提出此類陶器可能源自澎湖地區，並對先前陳文山等（2009）

認為此類陶器來自中國大陸沿海的看法提出質疑（朱正宜等，2015：105-106），筆者則認為不論是源自澎湖或中國大陸沿海的說法目前都還需要更多佐證，尤其是大昌橋遺址中「褐色夾石英細中砂陶」的數量可觀，似乎暗示著部分陶片是以遺址當地或鄰近區域陶土製作的可能性。其實相似質地的陶片也出現在臺南地區不同考古年代的遺址中，例如屬於烏山頭時期的北三舍和牛尿港北遺址，出土的夾細粒石英砂陶片或泥質陶應該都是臺灣西南部在地製作的陶器（圖十二），證實臺灣西南部地區也產出與第 B2-1 類陶器性質相似的陶土。如此看來，澎湖群島出土的第 B2-1 類陶片中不排除有部分是在臺灣製作後輸入至澎湖的外來陶器。

海峽對岸的中國東南沿海在地質上主要分布著中生代花崗岩，這裡的地表沉積物推測是以花崗岩風化後所產生的石英、鉀長石、黑雲母和花崗岩屑等成分為主。根據中國東南部海岸砂丘的相關報導，福建沿海的風積層以中、細粒石英砂為主（靳建輝等，2015），說明在經過自然營力的風化、搬運與堆積作用之後，海峽對岸也有與第 B2-1 類陶土性質接近的土層。

其實澎湖群島的第四紀堆積土層中除了海洋性生物殼體之外，組成成份大致與中國東南沿海相似。今日澎湖群島在地形上雖然孤立於海峽之中，但在過去的低海平面時期卻與中國大陸相連，當時堆積在澎湖的沉積物由於源自西邊的中國大陸，屬於相同沉積物供應系統（Boggs *et al.*，1979），因此澎湖與中國東南沿海的第四紀土層在組成上具有同源性，不過前者因為距離源頭較遠，推測石英顆粒的含量較高，易受風化作用影響的黑雲母及岩屑部分則相對較少。

換言之，與第 B2-1 類性質接近的陶土在澎湖、臺灣西南部、及海峽對岸的中國東南部都有存在，因此除非在陶片中找到明確指標，否則要進一步確定陶土源區並不容易。在本研究中，出土自南港遺址的 C2205 陶片因夾有玄武岩屑（表三），應該是澎湖群島在地製作的陶片；來自望安-鯉魚山遺址的 C2231 和 C2234 兩件陶片夾砂較粗，在陶片中發現了屬於花崗岩類的成份，似乎與海峽對岸較為相關，不過澎湖與中國東南部的第四紀沉積物具有同源性，不排除部分澎湖產出的陶土也殘留著花崗岩類物質。至於其他陶片樣品也存在類似問題，甚至必須考慮由臺灣製作後輸入的可能，未來若嘗試利用元素分析方法，或許有機會找出海峽兩岸與澎湖三地之間此類陶土的鑑別關鍵。

（四）、第 B2-2 類陶片的可能源區

第 B2-2 類陶片特徵是以含鐵土團為主要成分，以石英為次要成分，部分陶片還有少量鉀長石和砂岩岩屑。含鐵土團顧名思義乃指鐵含量較高的泥質團塊，根據筆者過去的分析經驗，此類土團在臺灣各地出土的史前陶片中雖然數量不多，卻是常見的成份之一，筆者推測可能與臺灣島高位階面上的風化紅土有關。澎湖群島的地表也局部分布著紅土層，此外，高度風化的玄武岩屑或是鐵質砂岩屑也是含鐵土團的可能來源之一，而在中國東南沿海則有古代冰期－間冰期因為海平面變動而堆積的老紅砂，這些物質含鐵量高，都可能是本類陶片中含鐵土團的來源。不過這樣性質的陶器可能因為數量較少或是特徵較為含糊，在過去的考古研究中不曾有特別報導，在所知有限之下，本研究暫不討論此類陶片的源區問題。

五、結論

近年來切片岩象學方法在史前陶器的研究上受到極大重視。本文利用中央研究院歷史語言研究所科技考古實驗室的史前陶片切片資料，透過統計學階層式群集分析方法對澎湖出土的史前陶片進行分群，除了建立各類陶片的陶土特徵，也結合地質資料討論陶土源區問題，以作為史前澎湖與海峽兩岸之間陶器交流的證據。

本研究依據統計分群的結果，將澎湖史前陶片分為 A 與 B 兩大類，其中第 A 大類陶片中出現大量沉積岩屑，並藉由其中變質岩屑的數量多寡進一步細分為沉積岩屑和變質岩屑併存的第 A1 類陶片，和以沉積岩屑為主、極少變質岩屑的第 A2 類陶片。第 B 大類陶片特徵則是陶土中幾乎沒有岩屑，其中第 B1 類陶片中出現碳酸鹽質生物殼體，在第 B2 類陶片中則沒有生物殼體。第 B2 類陶片可再細分為以石英顆粒為主要內含物成分的第 B2-1 類，以及出現相當數量含鐵土團的第 B2-2 類陶片。由於陶片分類是考古學研究過程中最基本的分析項目，本文所建立的分類架構將可作為未來進行澎湖與周邊地區史前陶器比較研究的基礎。

古代陶器就地取土的製作習性則使得陶器的陶土性質可以適度反映製陶地點的地質特性，從而成為陶器溯源研究的手段（Quinn，2013：1-4）。澎湖群島、臺灣西南部及中國東南部有著不同的地質背景，澎湖群島乃南中國海張裂而噴發的玄武岩島嶼（陳正宏，1990），臺灣則位在新期造山帶，西南部平原東側麓山帶為沉積岩區，往東進入中央山脈則是以板岩類為主的變質岩區（何春蓀，1986）；中國東南部則是以

花崗岩地層為主的古老地塊（黃泉禎，1998）。據此，澎湖群島第 A 大類陶片性質與臺灣島最為接近，應是在臺灣西南部平原製作後輸入澎湖的外來陶器，其中第 A1 類陶器推測是以古代海岸地帶、混雜著砂岩屑和板岩屑的陶土所製作，第 A2 類陶器則與平原上以砂岩屑為主的河川沉積物性質相符；第 B 類陶片中岩屑的重要性低，其中第 B1 類陶器含有碳酸鹽質生物殼體，也有玄武岩類物質，應是以澎湖當地陶土製作的在地陶類；第 B2-1 類陶片因石英顆粒的重要性高，除了有玄武岩屑的部分樣品推測與澎湖有關之外，其餘目前無法確定陶土源區；至於以含鐵土團為特徵的第 B2-2 類陶片也因樣品數量和相關資訊不足，尚無法討論陶器來源問題。

澎湖群島由於地理位置關鍵，在討論海峽兩岸史前文化交流及南島語族起源問題上受到關注。本研究中由於屬於年代最早的菓葉類型陶片只有 2 件，樣品數量太少難免有代表性不足的疑慮，然而這 2 件樣品皆不屬於在臺灣製作的第 A 大類陶片（表四），這樣的分析結果值得關注。在南科園區的發掘成果中，文化年代相近的南關里和南關里東遺址皆出土了大批玄武岩質石器，也發現夾有碳酸鹽質生物殼體的第 B1 類陶片，說明自新石器時代早期開始，臺灣西南平原與澎湖群島之間已有活絡的文化互動關係，可是在器物流動方向上，當時有相當數量的石器和陶器自澎湖輸出至臺灣西南部，反向物質輸送的證據卻要等到後來的鎖港類型時期，澎湖群島上才出現來自臺灣的第 A 大類陶片。因此年代較早的菓葉類型文化中，澎湖群島上是否也有自臺灣輸入的陶器？抑或如前人所言，此時期文化要素的傳遞主要是由澎湖群島向臺灣輸出，較少自臺灣向澎湖輸入的情形（朱正宜等，2015：187）？此問題尚待未來研究加以證實。再者，本研究所分析屬於菓葉類型文化的 2 件樣品屬於陶土來源尚不清楚的第 B2-1 類陶片，如前所述，第 B2-1 類陶片可能是澎湖在地製作的陶片，但也不排除來自臺灣西南部或是海峽對岸的可能性。雖然目前並無法確定這些陶片的來源，但這樣性質的陶片是澎湖與海峽對岸史前文化關聯的重要證據，未來若能進行深入的分析研究，將有助於解開此類陶片的來源問題，並對南島語族起源研究提供新的證據。

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引用書目

朱正宜、宋昱潔、楊鳳屏、鍾亦興、張益生

2015《鹽水溪大昌橋遺址搶救發掘》。高雄：經濟部水利署第六河川局。

何春蓀

1986《臺灣地質概論─臺灣地質圖說明書》。臺北：經濟部中央地質調查所。

李德仁

1992《臺南牛稠子遺址發掘報告》。國立臺灣大學人類學系碩士論文。

林長興

1992《澎湖群島之地質與地形》。臺中市：臺灣省政府教育廳。

范光龍

1988〈臺灣附近的海域〉，《科學月刊》211：。

徐鐵良

1965〈嘉義之潮汐沙灘〉。《臺灣省立地質調查所彙刊》16：17-24。

陳正宏

1990《臺灣之火成岩》。臺北：經濟部中央地質調查所。

陳有貝

2008《臺南縣政府文賢 3-1、3-2 道路工程─牛稠子遺址試掘計畫期末報告》。臺南縣政府文化局委託國立臺灣大學人類學系。

2013《仁德文華路 2 段與 2 號計畫道路交叉口牛稠子遺址搶救計畫期末報告》。臺南市政府文化局委託國立臺灣大學人類學系。

陳文山、李匡悌、臧振華、朱正宜

2009〈由岩象學分析論南科園區遺址出土陶器的陶土來源〉，刊於《「2008 年臺灣考古工作會報」學術研討會論文集》，頁 509-530。臺北：中央研究院人文社會科學研究中心。

陳文山、楊志成、楊小青、吳樂群、林啟文、張徽正、石瑞銓、林偉雄、李元希、石同生、盧詩丁

2004〈從構造地形探討嘉南地區活動構造及構造分區〉。《經濟部中央地質調查所彙刊》17：53-77。

陳培源

1992〈澎湖群島地層劃分與地質構造上一些問題的檢討〉。《經濟部中央地質調查所彙刊》6：9-38。

黃泉禎

1998《福建省地質圖（1：500,000）說明書》。福建：福建省地圖出版社。

黃 輝、郭坤一、李聲固、楊傳夏、李榮安

1993〈福建省長樂－南澳斷裂帶、平潭東山褶皺帶基本特徵的研究〉。《福建地質》12：48-67。

傅秉秋

2009《臺灣西南海岸沖積平原上西寮遺址之史前陶片科學分析初探》。國立東華大學理學院地球科學研究所碩士論文。

福建省地質礦物局

1985《福建省區域地質誌》。北京：地質出版社。

福建博物院、美國哈佛大學人類學系

2003〈福建東山縣大帽山貝丘遺址的發掘〉。《考古》2003（12）：1075-1087。

靳建輝、李志忠、胡凡根、張輝、王賢立、夏菁、姜鋒、鄭濤、靳姝豫、劉秀銘

2015〈全新世中晚期福建海岸沙丘紀錄的海岸環境與人類活動〉。《地理學報》70（5）：751-765。

臧振華

2008《澎湖縣遺址普查及補遺計畫・第一期研究報告》。澎湖縣政府文化局委託臺灣人類學與民族學學會。

2009《澎湖縣遺址普查及補遺計畫・第二期研究報告》。澎湖縣政府文化局委託臺灣人類學與民族學學會。

2015〈澎湖七美島史前玄武岩石器工業與其貿易體系〉，刊於《臺灣史前史專論》，劉益昌編，頁 59-82。臺北：中央研究院、聯經出版公司。

臧振華、李匡悌

2007《南部科學工業園區考古遺址搶救監測後續計畫期末報告》。南部科學工業園區管理局委託國立臺灣史前文化博物館。

臧振華、李匡悌、朱正宜

2004《臺南科學工業園區道爺遺址未劃入保存區部分搶救考古計畫期末報告》。南部科學工業園區管理局委託中央研究院歷史語言研究所執行。

鄧屬予

1997《臺灣的沉積岩》。臺北：經濟部中央地質調查所。

顏一勤、李寄嵎

2017《五萬分之一臺灣地質圖說明書：澎湖群島，第二版》。臺北：經濟部中央地質調查所。

顧文舒

2017《臺灣淺灘沉積物組成與物源分析》。國立中央大學地球科學研究所碩士論文。

Ben-Shlomo, David, and Hans Mommsen

2017 Pottery production in Jerusalem during the Iron Age: A new compositional profiling. *Geoarchaeology* 33:349-363.

Boggs, Sam Jr., Wha-Ching Wang, Fletcher S. Lewis, and Ju-Chin Chen

1979 Sediment properties and water characteristics of the Taiwan shelf and slope. *Acta Oceanographica Taiwanica* 10: 10-49.

Chen, Chun-Houh

2002 Generalized association plots for information visualization: The applications of the convergence of iteratively formed correlation matrices. *Statistica Sinica* 12:7-29.

Chiu, Scarlett, David Killick, Christophe Sand, and William R. Dickinson

2016 Connection and competition: Some early insights gained from petrographic studies of New Caledonian Lapita pottery. *Archaeology in Oceania* 51:141-149.

Chiu, Scarlett, David Killick, Christophe Sand, Yu-yin Su, Jeffrey R. Ferguson, and Jiunn-Hsing Chao

2020 Petrographic and chemical analyses of sherds from the Kurin Lapita Site (Loyalty Islands, New Caledonia), ca. 3000–2700 BP. *Journal of Archaeological Science Reports* 33:102542.

Choi, J., S. Yang, William D. Gilstrap, Michael D. Glascock, and Daeyoun Cho

2017 Compositional analysis of ceramics from Goguryeo Fortified Sites in Central Korea. *Archaeometry* 59(6):1018-1033.

Chung, Sun-Lin, Shen-su Sun, Kan Tu, Cheng-Hong Chen, and Chi-yu Lee

1994 Late Cenozoic basaltic volcanism around the Taiwan Strait, SE China: Product of lithosphere-athenosphere interaction during continental extension. *Chemical Geology* 112(1-2):1-20.

De La Fuente, Guillermo A. Jeffrey R. Ferguson, and Michael D. Glascock

2015 Chemical and petrographic analysis of Pre-Hispanic pottery from the Southern Abaucan Valley, Catamarca, Argentina. *Archaeometry* 57(1):1-17.

Felts, Wayne M.

1942 A petrographic examination of potsherds from ancient Troy. *American Journal of Archaeology* 46(2):237-244.

Guo, Zhengfu, Tianlong Jiao, Barry V. Rolett, Jiaqi Liu, Xuechun Fan, and Gongwu Liu

2005 Tracking Neolithic interactions in Southeast China: Evidence from stone adze geochemistry. *Geoarchaeology* 20(8):765-776.

Hsu, Kenneth J., Jiliang Li, Haihong Chen, Qinchen Wang, Sun Shu, and A. M. C. Sengor

1990 Tectonics of South China: Key to understanding West Pacific geology. *Tectonophysics* 183(1-4):9-39.

Iizuka, Fumie

2017 The earliest Panamanian pottery: Reconstructing production and distribution of Monagrillo Ceramics through petrographic provenance Analysis. *Geoarchaeology* 32(5):575-595.

Klein, Cornells and Anthony R. Philpotts

2013 *Earth Materials: Introduction to Mineralogy and Petrology*. London: Cambridge University Press.

Liard, Florence, Fotinl Kondyli, and Evangella Kiriatzi

2019 Exploring diversity in household pottery traditions in Crusader Greece: A case study from the city of Thebes, Boeotia. *Archaeometry* 61(5):1011-1038.

Marsaglia, Kathleen M., Kimberly G. Kramer, Bruno David, and Robery J. Skelly

2016 Petrographic analyses of sand temper/inclusions in ceramics of Kikiniu, Kikori River and modern sand samples from the Gulf Province (Papua New Guinea). *Archaeology in Oceania* 51(2):131-140.

Ontiveros, Miguel Á. C., Leandro Fantuzzi, Daniel A. Santacreu, Evanthia Tsantini, Jaime G.

Rosselló, and Manuel C. Trias

2019 Archaeometric characterization of Iron Age indigenous pottery from the Staggered Turriform of Son Ferrer, Mallorca, Spain. *Geoarchaeology* 34(2):149-168.

Pavia, Jennifer A., Kathleen M. Marsaglia, and Scott M. Fitzpatrick

2013 Petrography and Provenance of Sand Temper within Ceramic Sherds from Carriacou, Southern Grenadines, West Indies. *Geoarchaeology* 28:450-477.

Peacock D. P. S.

1969 Neolithic pottery production in Cornwall. *Antiquity* 43(170):145-149.

Quinn, Patrick. S.

2013 *Ceramic Petrography: The Interpretation of Archaeological Pottery and Related Artefacts in Thin Section*. Oxford: Archaeopress.

Riley J. A.

1983 Contribution of Ceramic Petrology to Our Understanding of Minoan Society. In *Minoan Society, Proceedings of the Cambridge Colloquium 1981*. Olga Krzyszkowska and Lucia Nixon, eds. Pp. 283-292. London: Bristol Classical Press.

Rolett, Barry V., Wei-Chun Chen, and John M. Sinton

2000 Taiwan, Neolithic seafaring and Austronesian origins. *Antiquity* 74(283):54-61.

Rolett, Barry V., Tianlong Jiao, and Gongwu Lin

2002 Early seafaring in the Taiwan Strait and the search for Austronesian origins. *Journal of East Asian Archaeology* 4:307-319.

Shepard Anna. O.

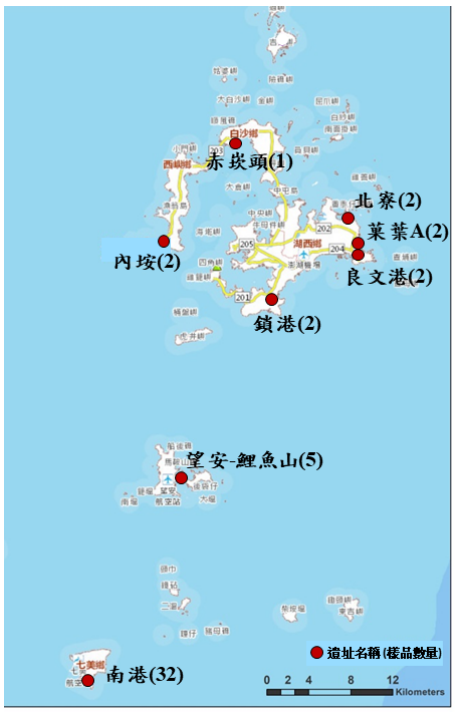
1942 *Rio Grande Glaze Paint Ware: A Study Illustrating the Place of Technological Analysis in Archaeological Research*. Publication 526, Contributions to Archaeology 39. Washington: Carnegie Institution of Washington.

Tsang, Cheng-Hwa

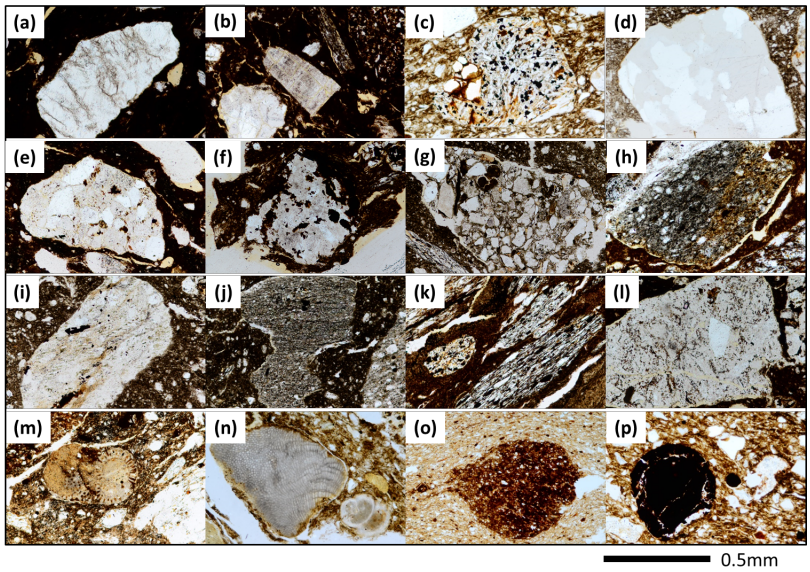
1992 *Archaeology of the Peng-Hu Islands, Institute of History and Philology.* Taipei: Academia Sinica, Special Publications, number 95.

附錄一：本研究分析樣品之砂級內含物組成表

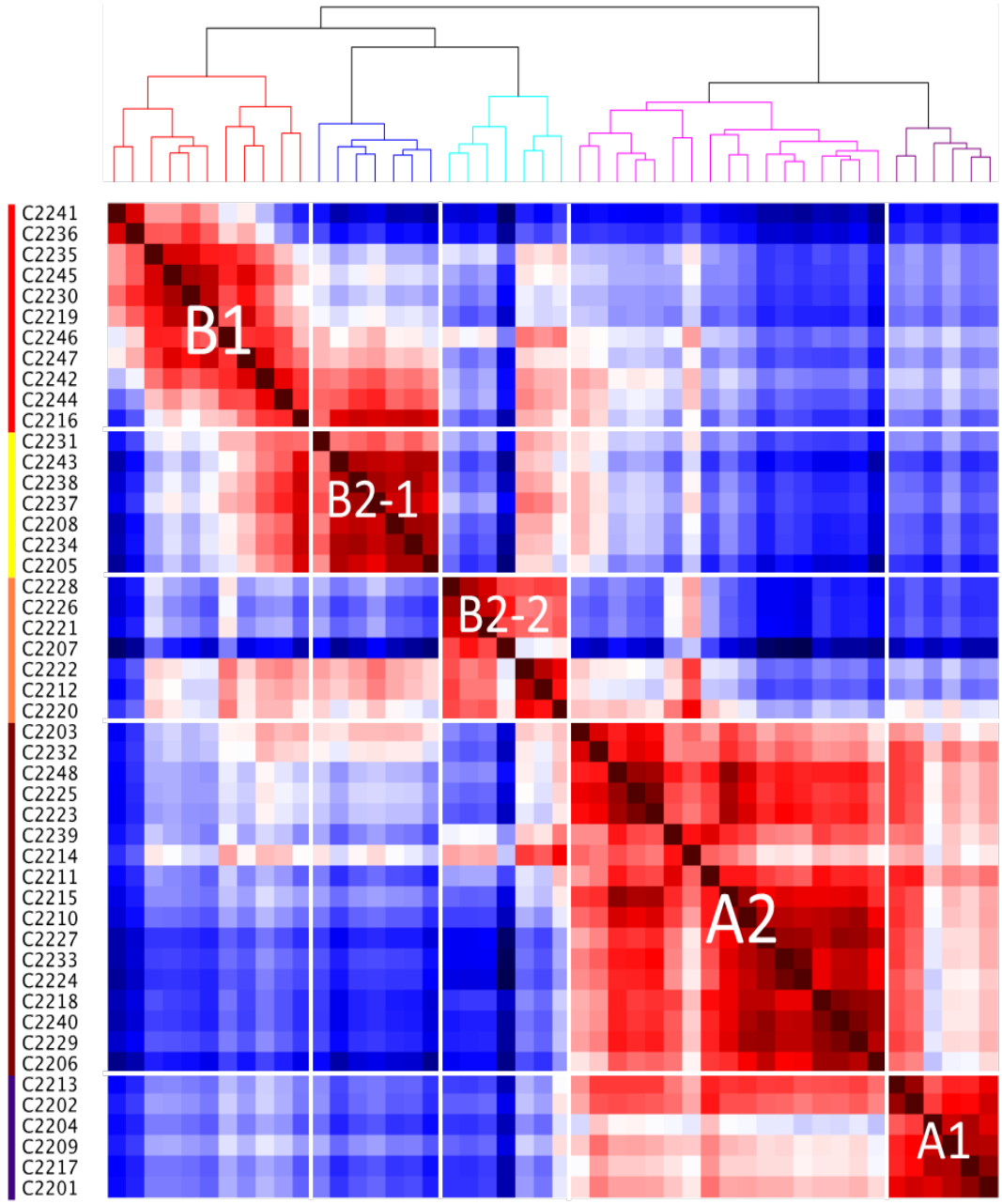
統計群集	實驗室編號	遺址	胚體(total)	胚體(細砂)	石英	絹雲母	鉀長石	斜長石	輝石	玄武岩	風化火成岩	花崗岩	砂岩	含鐵砂岩	砂質泥岩	泥岩	生物化石	變質砂岩	硬頁岩	板岩	石英岩	燧石	變質火成岩	碳酸鹽質生物殼體	含鐵土團	不透光礦物	孔隙數量	間距	計數
A1	C2201	南港	61.8	5.8	2.8		1.2						10.2		8.0			3.0	8.4	4.2						0.4	10	0.3	500
	C2217	南港	84.4	2.2	0.8		0.2						5.4		1.4			2.2	1.0	4.2	0.2				0.2		11	0.3	500
	C2209	南港	73.0	1.0	3.8		0.2						9.8		0.4			5.8	2.2	3.4	0.2		0.2		1.0		10	0.3	500
	C2204	南港	72.6		1.2								7.2		2.6			4.2	1.4	8.6					0.6	1.6	37	0.3	500
	C2202	南港	55.8	3.4	3.4		0.6						18.0		5.4		0.2	5.4	4.0	2.8	0.4	0.2		0.8	3.0		21	0.3	500
	C2213	南港	64.6	6.0	4.4		0.8						14.2		6.2				3.2	5.6	0.2				0.8		11	0.3	500
A2	C2206	南港	84.0	2.8	0.4								13.4				0.2								2.0		5	0.06	500
	C2229	南港	87.6	8.8	1.2								9.0	0.2		0.2					0.2	0.2		0.4	1.0		21	0.3	500
	C2240	鎖港	92.2	7.2	0.8								6.0		0.2										0.8		6	0.3	500
	C2218	南港	94.8	14.6	0.4								2.4			1.6									0.8		16	0.3	500
	C2224	南港	66.2	2.2	6.2								26.6			0.4												0.06	500
	C2233	望安-鯉魚山	84.6	10.0	3.0								12.0					0.2		0.2							10	0.3	500
	C2227	南港	93.0	11.2	0.8		0.2						5.6							0.2					0.2		5	0.3	500
	C2210	南港	87.2	13.2	2.0		0.2						6.8	2.0	0.2							0.2			1.0	0.4	6	0.3	500
	C2215	南港	80.6	9.2	4.4		0.2						8.2	3.8			0.6								2.2		9	0.3	500
	C2211	南港	82.4	10.6	1.0								9.2	1.2				1.2	0.2	0.6					4.2		14	0.3	500
	C2214	南港	85.0	8.8	4.0		0.8						4.6			0.4									5.2		9	0.3	500
	C2239	鎖港	84.6	10.8	2.0		0.2						7.2	0.8											5.2		7	0.3	500
	C2223	南港	85.0	5.6	4.4		0.6						8.0	1.0							0.2				0.6	0.2	9	0.3	500
	C2225	南港	80.0	9.6	6.2		0.2						10.6	0.6		0.4				0.4		0.2			1.4		4	0.3	500
	C2248	南港	89.4	15.2	2.6		0.4						5.2		0.8	0.2									1.4		13	0.3	500
	C2232	望安-鯉魚山	81.6	13.2	7.0		0.2						8.4				0.4	2.4									11	0.3	500
	C2203	南港	96.6	9.6	1.6								1.4		0.2										0.2		7	0.3	500
B1	C2241	赤崁頭	78.4	9.6				0.4	1.2	1.8														17.2	0.8	0.2	26	0.3	500
	C2236	良文港	78.6	8.6	2.2					0.8			0.2											16.2	1.4	0.6	39	0.3	500
	C2235	良文港	78.8	6.2	4.8			0.2					0.2											10.2	5.0	0.8	16	0.3	500
	C2245	北寮	73.4	6.6	8.2			0.2		1.8														12.4	2.8	1.2	21	0.3	500
	C2230	望安-鯉魚山	72.8	5.8	6.2	0.8	1.2		0.2	1.0			0.2											14.8	2.4	0.4	13	0.3	500
	C2219	南港	74.0	11.4	9.8		0.4	0.2		0.2														13.8	1.0	0.6	28	0.3	500
	C2246	南港	63.6	6.8	10.0		1.2		0.2	0.4	2.4	0.4												9.6	7.2	5.0	22	0.3	500
	C2247	南港	62.2	9.2	16.4		1.6		0.2	1.2	1.0		0.2											14.8	1.2	1.2	27	0.3	500
	C2242	內垵	69.2	6.0	14.0		1.8		0.8	1.2	0.8	0.2	0.2	1.8							0.2			7.2	1.0	1.6	15	0.3	500
	C2244	北寮	73.4	10.2	13.0		1.6			2.6	2.2													2.4	1.2	3.6	31	0.3	500
	C2216	南港	72.0	13.2	19.8		1.2			1.8			1.4											2.8	0.8	0.2	36	0.3	500
B2-1	C2231	望安-鯉魚山	77.0	7.2	12.0		2.0					7.2													1.8		16	0.3	500
	C2243	內垵	73.2	8.0	20.8		4.2		0.2		0.2														1.4		56	0.3	500
	C2238	菓葉-A	69.8	6.2	21.6		2.8				2.4		0.8												1.8	0.8	52	0.3	500
	C2237	菓葉-A	71.4	8.4	19.2		3.2			0.2	0.6	0.4	0.4									0.2			3.4	1.0	22	0.3	500
	C2208	南港	94.2	13.8	4.6		0.2						0.4												0.6		8	0.3	500
	C2234	望安-鯉魚山	67.2	4.0	25.2		2.4				0.2	1.6		1.4	0.2										1.2	0.6	48	0.3	500
	C2205	南港	76.4	15.2	19.8		1.4		0.2	0.8															1.2	0.2	18	0.3	500
B2-2	C2228	南港	85.4	7.4	3.8		0.4				0.2														10.2		13	0.3	500
	C2226	南港	81.0	8.8	3.2		0.8						0.8												14.2		8	0.3	500
	C2221	南港	96.2	12.0	0.6		0.6																		2.6		8	0.3	500
	C2207	南港	92.6	17.2	0.4																				7.0		11	0.3	500
	C2222	南港	94.2	9.2	2.4		0.6						0.4												2.4		5	0.3	500
	C2212	南港	96.6	9.6	1.6								0.2												1.6		6	0.3	500
	C2220	南港	88.2	4.0	3.2		0.4						1.8					0.2	0.6	0.2	0.2		0.2		5.0		7	0.3	500



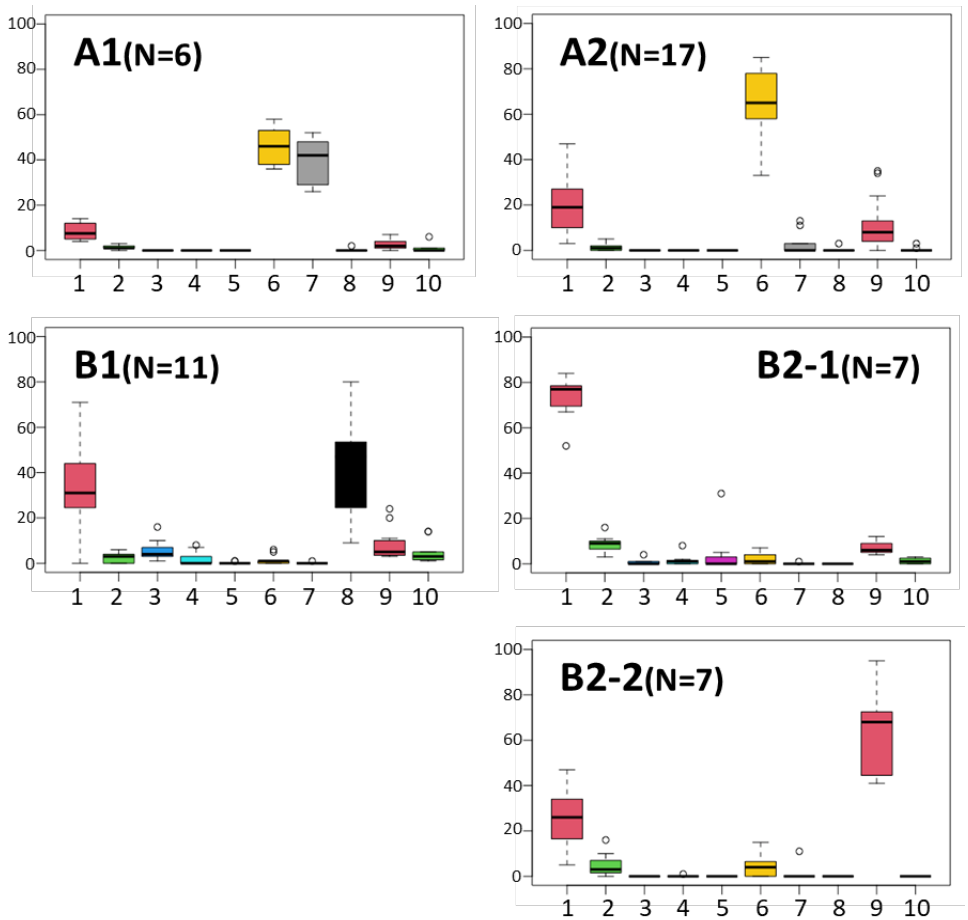
圖一：本研究分析樣品之出土遺址空間分布圖



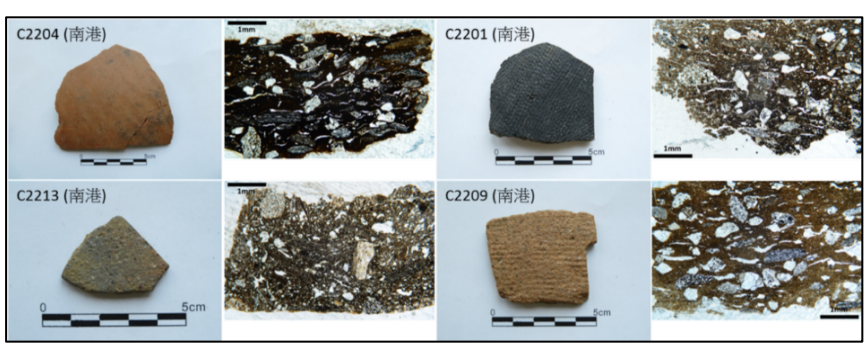
圖二：澎湖地區出土史前陶片中內含物之顯微鏡照片圖。(a)石英；(b)鉀長石；(c)玄武岩屑；(d)花崗岩屑；(e)砂岩屑；(f)鐵質砂岩屑；(g)含生物化石的砂岩屑；(h)砂質泥岩屑；(i)變質砂岩屑；(j)硬頁岩屑；(k)板岩屑；(l)變質火成岩屑；(m)生物化石；(n)碳酸鹽質珊瑚和有孔蟲；(o)含鐵土團；(p)不透光礦物。



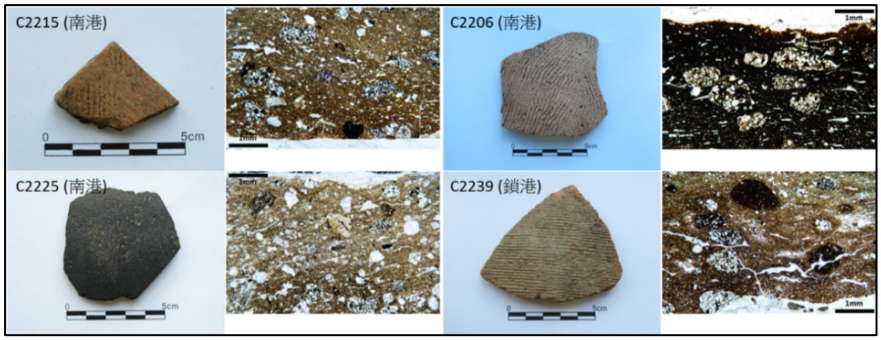
圖三：本研究計算樣品之間的歐式距離後繪製而成的熱圖，左側標示出樣品編號，上方則是階層式群集分析所得到的樹狀圖。



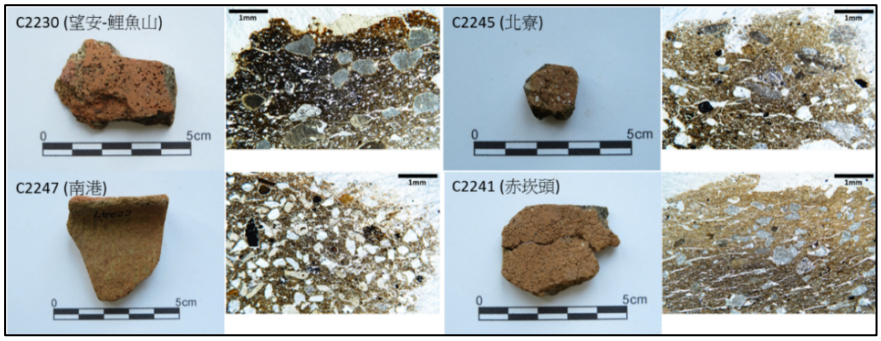
圖四：五類陶片中不同種類砂級內含物的百分比圖。縱軸是以砂級內含物總量為分母計算而得的百分比，橫軸為砂級內含物種類（1.石英 2.鉀長石 3.玄武岩 4.風化火成岩 5.花崗岩 6.沉積岩 7.變質岩 8.碳酸鹽質生物殼體 9.含鐵土團 10.不透光礦物）



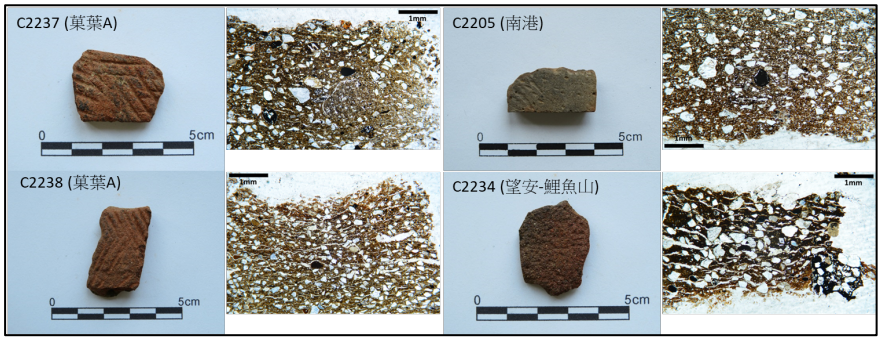
圖五：第 A1 類之代表性陶片樣品和切片顯微鏡照片



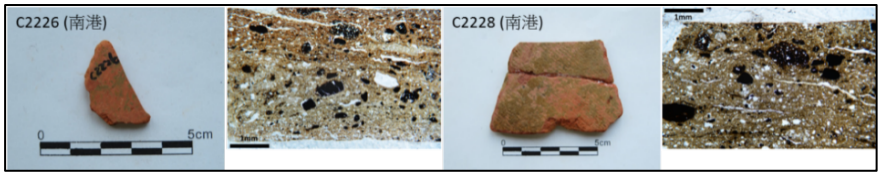
圖六：第 A2 類之代表性陶片樣品和切片顯微鏡照片



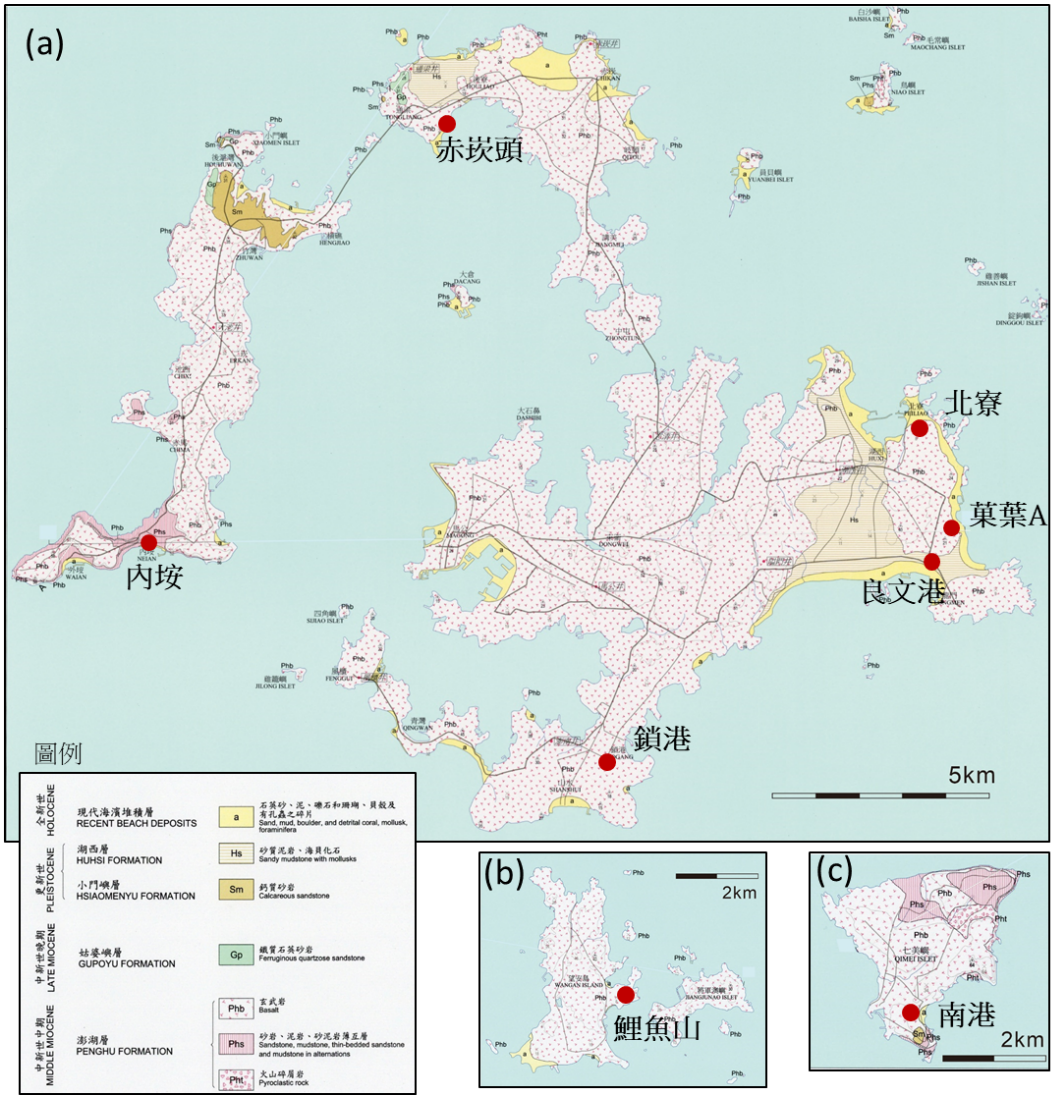
圖七：第 B1 類之代表性陶片樣品和切片顯微鏡照片



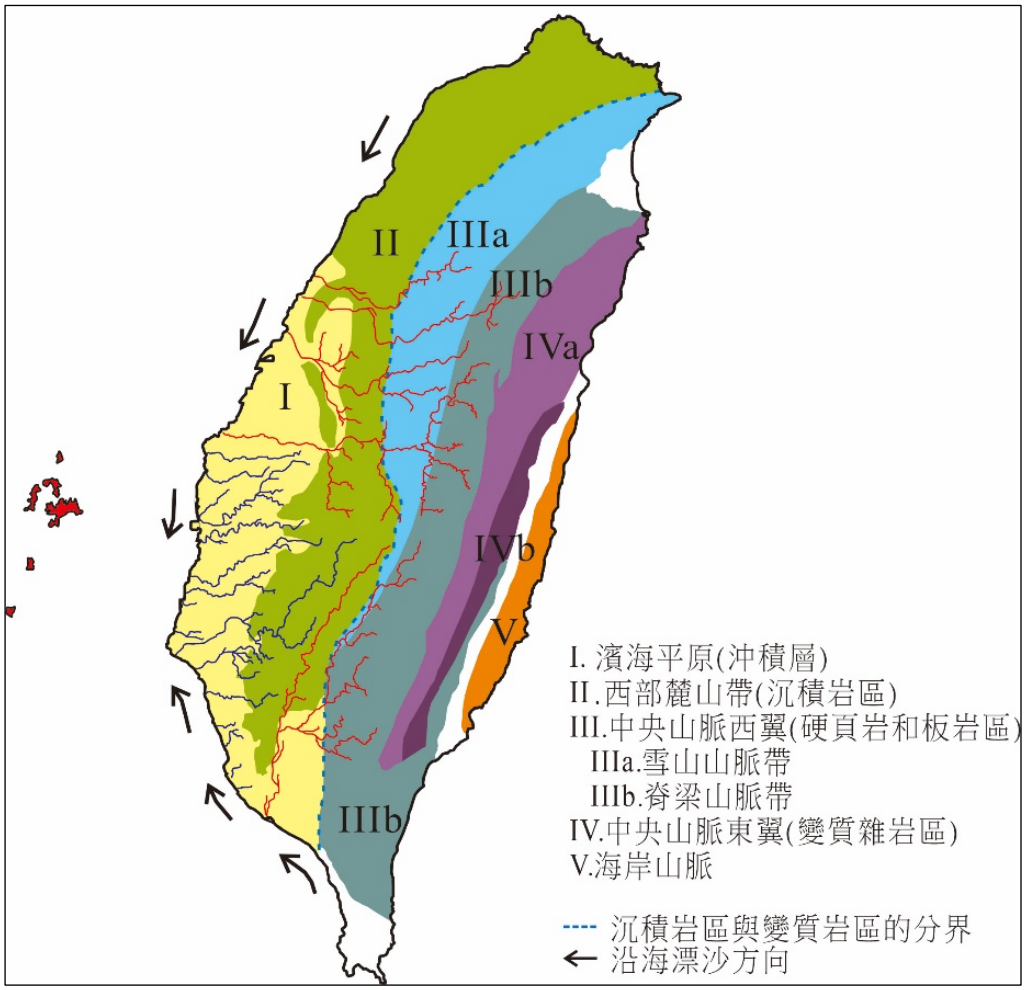
圖八：第 B2-1 類之代表性陶片樣品和切片顯微鏡照片



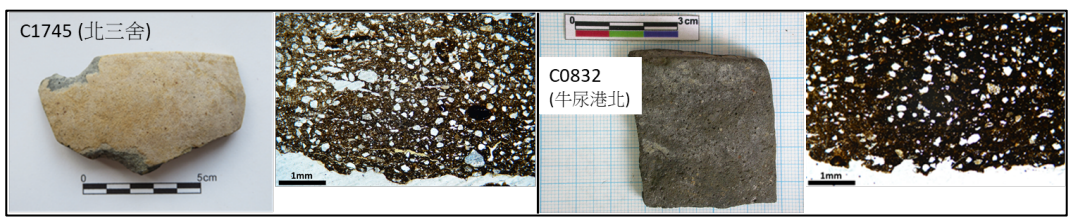
圖九：第 B2-2 類之代表性陶片樣品和切片顯微鏡照片



圖十：澎湖群島地質圖，紅色圓點為本文相關之考古遺址位置。(a)澎湖、白沙島和西嶼 (b)望安島 (c)七美島。（底圖引自顏一勤、李寄嵎，2017）



圖十一：臺灣的地質分區和西南部主要河川水系圖，其中藍色標示雲嘉南平原上的主要河系，紅色則包括南方的高屏溪和北方的濁水溪、大肚溪、大甲溪和大安溪。（地質分區資料引自何春蓀，1986；海岸漂沙方向引自范光龍，1988）



圖十二：位於臺南的北三舍和牛尿港北遺址出土與第 B2-1 類質地相似的陶片。

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中排灣普濟鹿社的舊社考古學研究

郭素秋*

摘要

本文對普濟鹿社的舊社考古學研究，獲致以下的理解：一、普濟鹿社家屋的地點選擇，與排灣族的家屋建造方式和聚落型態密切相關。二、階級制度明確影響家屋群的空間分布，第 I 區均為貴族階級的家屋，第 II、III 區則全為平民階級的家屋，亦即社會階級主導了普濟鹿社的家屋群的空間分布型態。透過家屋的家名、各空間的文化意涵分析，確認普濟鹿社的家屋空間分布型態，同時具有「家屋社會」與階級制度這兩種文化特質。

關鍵字：舊社考古學、普濟鹿社、家屋社會、階級制度

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An Archaeological Study on the Abandoned Village of the Pucunug, Central Paiwanese

Su-Chiu Kuo*

Abstract

The archaeological research on the abandoned village at Pucunug presented in this paper stems from, but not limited to, investigations into the background contexts of individuals recorded in historical documents relating to Pucunug. Through targeting on issues centered on relationships between the modern indigenous groups and prehistoric cultures, the author formulates feasible approach that results in following understandings: Firstly, choices in deciding house locations in Pucunug were closely associated with Paiwan people's house-building and settlement patterns; Secondly, social hierarchical system has evidently influenced the spatial distribution of housing clusters; Thirdly, a demonstrated consistency can be observed in that houses in Zone I were owned by the noble class, while the ordinary people dwelled in Zones II and III, suggesting that the housing pattern in Pucunug is dominated by their social hierarchical system. Furthermore, through an analysis of the name of each house and the cultural connotations of the various spaces, this article proposes that the spatial distribution of houses in abandoned village at Pucunug concurrently embodied cultural characteristics of both house society and an internal "class" system.

Keywords: Abandoned village archaeology, Pucunug village, House societies (sociétés à maison), Social heirachy system

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一、前言

(一)、研究目的

為了探討現代排灣族的歷史深度和內涵，筆者試著採取逆向的研究方法，從已知的現生排灣族群透過向上溯源來探討該族社的歷史縱深和文化內涵，此即舊社考古學的研究方法（郭素秋，2020）。舊社的考古學研究，可以填補史前時代和現今族群間的空白環節，除了舊社現地可見的土層堆積、遺物、遺跡的空間分布、微地形的變化等靜態的觀察外，更有著戰後初期才從該舊社遷村下來的居民們，可以提供該舊社許多鮮活的記憶、傳說及相關的傳世文物等，其中特別是古文書中的相關記載，讓原本靜態的考古學資料得以有了動態的思考和對話。

事實上，選擇與現生族群有明確關聯的舊社，進行長期的考古學研究和民族誌訪談，陳玉美、陳瑪玲等早已先後展開，並非新的研究方法，如〈Saqacengalj 聚落模式與形貌：一個舊社的考古學研究〉一文（陳瑪玲，2004）；而在中排灣的舊社考古學研究方面，亦有《「多源」的組成與「相似」的風格：試探屏東縣來義部落人群組成與建築風格間的關連》碩論的提出（周書屹，2010）。但是，筆者除了考古學研究和民族誌訪談以外，此文結合該舊社直接相關的古文書主人翁所住家屋的考古發掘，並運用現今的空載光達圖資[1]轉製出高精度的等高線圖，相關成果並與日治時期和戰後的民族誌對話，首次試圖找回舊社所有家屋的家名，期能梳理並提出更多元而有效的研究方法、視點及資料，及深化對傳統社會文化的理解。

本文選擇現今位於屏東縣來義鄉沿山道路旁的的文樂部落之最後遷離的舊社（文樂舊社，於 1952~1953 年下遷），選擇此舊社的原因，在於筆者於 2010 年在屏東縣來義鄉文樂部落的頭目家屋中，注意到一批清末劉銘傳時期的古文書（以下稱「普濟鹿社古文書」）。為了釐清該古文書中的人物所居住的聚落型態與物質文化，筆者於 2014 年對該舊社進行考古學研究。其中，有關普濟鹿社古文書的內涵、舊社的對外關係等，筆者已發表於〈傳統原住民部落與外在社會的關係探討：以中排灣普濟鹿社為例〉一文（郭素秋，2021），本文主要針對普濟鹿社的聚落空間，家屋的格局與家名、

[1] 筆者等首次在臺灣運用普濟鹿社的全區測繪圖與空載光達圖資進行比較研究，並已發表〈空載光達技術在臺灣山區舊社考古學研究的應用：以排灣族文樂舊社為例〉一文（郭素秋等，2017）。

出土遺物、傳世銅柄鐵刀等，做進一步的論述。由於普濟鹿社古文書中，將文樂舊社稱為「普濟鹿社」，筆者亦使用「普濟鹿社」來指涉該舊社。

（二）、研究視角與方法

在提到研究視角和方法之前，有必要先就普濟鹿社古文書的內容做一敘述。〈條教〉是古文書中最關鍵的一張，為 1886 年 11 月初 1 日清國頒給普濟鹿社者，主要內容如下：

> 照得普濟鹿社合社男女貳百參拾餘人，現當薙髮效順之初，賜姓別族之始…咸茲查周老連馭眾有方，奉公守法，堪以立為普濟鹿社社正長，為此頒發條教…遵照後開各條家諭戶曉，詳細講明，務使一一聽從，同遵教禁，痛改從前惡習，永為華夏良民（郭素秋，2021：122-123，圖版一，本文加上標點）。

〈條教〉中清楚明言：「照得普濟鹿社合社男女貳百參拾餘人，現當薙髮效順之初、賜姓別族之始…周老連馭眾有方、奉公守法，堪以立為普濟鹿社社正長」，表示「周老連」一名是清國所賜的姓名，副社長「周污笠」亦同。根據羅安吉頭目[2]口述指出：周老連（女，Muakai 副頭目）和周污笠（男，讓阿讓頭目）為夫妻關係，清國基本上仍從部落既有的正副頭目中去選任正副社長，只是周老連從原來的副頭目被拔為正社長。從上述的年代和內容看來，此張〈條教〉為劉銘傳擔任臺灣巡撫之際，為「謹遵憲章，分設社長、社丁，以伸禁令事」之目的所頒發者。而普濟鹿社因屬於鳳山縣、鎮海後軍等所管轄的區域，所以招撫事宜由總兵張兆連為負責。雖然周老連當時是普濟鹿社的副頭目，但因「馭眾有方、奉公守法」而被清國任為「社正長」、「社長」，且必須要求部落族人務必遵守〈條教〉上的五教五禁，對瞭解清季劉銘傳巡撫如何在部落推動「撫番」措施，具有重要意義。

為了進一步瞭解古文書中主要人物的居住地點普濟鹿社的歷史縱深和內涵，筆者於 2014 年執行「屏東縣來義鄉文樂舊社調查計畫」[3]，對普濟鹿社進行首次的考古學研究，透過對普濟鹿社古文書中所述及的周老連社長等當時所居住的普濟鹿社和其故

[2] 羅安吉（Ljegeai Tjawdudu）頭目，昭和 11 年（1936 年）1 月 29 日生，為佳屋都督家族第 10 世頭目。

[3] 該計畫為史語所經費支持，特次感謝。

居（即圖四的 I-22 佳屋督都家屋）進行全社的考古調查、測繪及探坑發掘等工作，包括：

1.為了瞭解整個普濟鹿社的空間配置、聚落型態，和周污笠、周老連夫妻所居住的頭目家屋在整個聚落中的位置與家屋格局等，對所有家屋進行平板測繪，且延伸多條縱軸線以測繪出家屋所在的坡度，以呈顯土地利用和微地形變化；並結合耆老尤振成的現地指認，標註頭骨架、水源地、狩獵祭場、耕地祭場等地點。

2.結合口訪，將現生族人確認的家屋名稱標註於普濟鹿社各家屋之上，並掌握各家屋所有者的階級（頭目或平民等），以釐清家屋分布是否與所屬階級有關。對於排灣部落而言，每個家屋均有名字，此名字會在既有家屋廢棄時，為新家屋所繼承，此種家名制度，是排灣族相當重要的文化特色之一。

3.發掘工作除了地表上的清理採集外，並將地板掀起後，持續發掘至無人類遺留的生土層為止，並帶回探坑內的土壤進行浮選。由於家屋中央起居室一帶為室內葬所在，為了避免擾動祖靈，因此在家屋內部的發掘特別選擇在周污笠、周老連夫妻當時所睡的寢室。

4.古地圖的套繪、全區測繪圖及等高線圖的作成。為了呈現百年以來古地圖上所標註的普濟鹿社的名稱、部落位置等之變化，本文套繪日治時期以來的相關圖檔；並利用內政部地政司現有的空載光達圖資，製作高精度的等高線圖底圖，與實地測繪的舊社家屋全圖、考古探坑等進行套疊，藉此瞭解各區既有的微地形和坡度狀況。

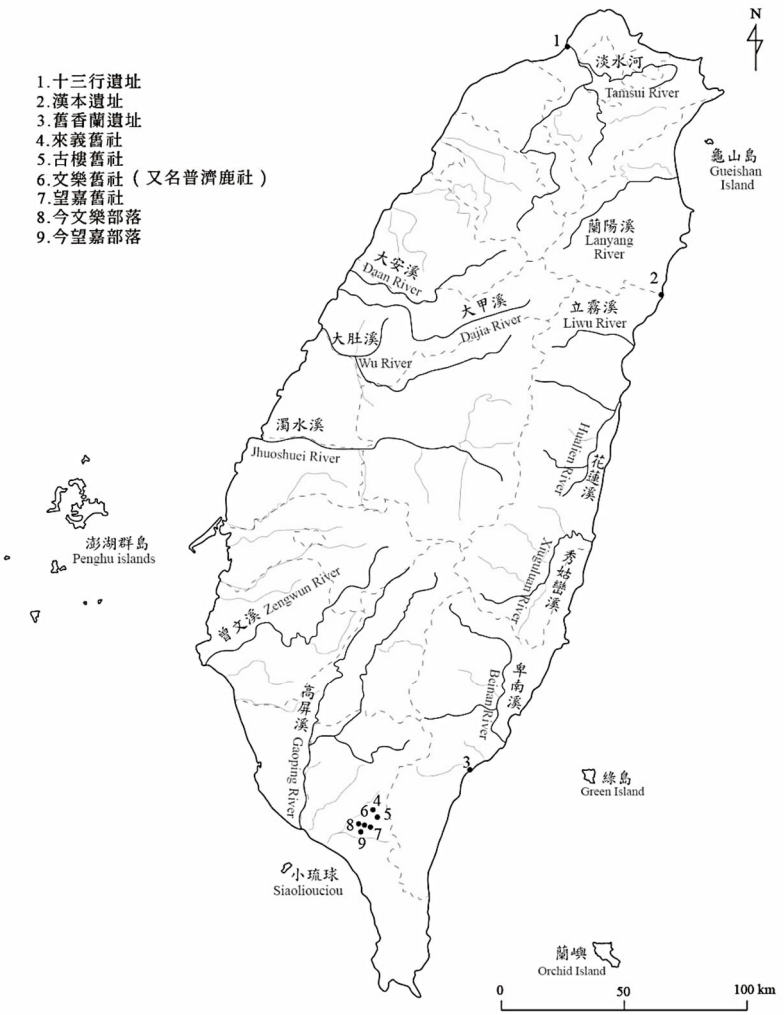
二、普濟鹿社的聚落型態

（一）、傳統生計方式所形塑的普濟鹿社之社域

普濟鹿社位於屏東縣來義鄉文樂段 84、86、108、521~524 等地號，海拔高度在 450~520 公尺間的山地斜坡上。普濟鹿社西臨屏東平原、三面環山，東距更深山的望嘉舊社（今望嘉社最後遷離的舊社）約 1.5 公里、西北距位於沿山邊緣的現今文樂部落亦約 1.5 公里（圖一）。

筆者對普濟鹿社進行全面的地表細密調查，根據全區地上現存家屋遺構的分布情形和部落耆老對部落空間分布的記憶，圈劃普濟鹿社的聚落分布範圍（圖版一）。普濟鹿社的聚落範圍區包括三個家屋群、北側社口的頭骨架（*Pokoloan*）、兩處水源地；

並包括屬於新石器時代末期北葉文化（約距今 2300~1800 年前後）的 Zawuragao 遺址[4]在內，因 Zawuragao 遺址所在為普濟鹿社族人的耕地所在，也曾是日治時期的運動場。其中，兩處水源地中的一處，為河川的支流水量較豐沛，可引水管將水導至頭目家屋等處，或直接以長形的中空竹管至此裝水回家屋。另外，普濟鹿社的狩獵祭場在家屋群北方約 400 公尺處，開墾祭場在東南側約 400 公尺處，由於不同時期社域邊界有所浮動，未納入所圈劃的普濟鹿社聚落範圍之內（如圖三所示）。



圖一：中排灣各社與相關史前遺址分布圖

[4] Zawuragao 遺址為筆者所新發現的北葉文化之遺址，筆者 2014 年曾在此遺址發掘兩個探坑（TP3、TP4），文化層厚約 20~30 公分左右，出土多量的紅色素面夾砂陶、石器等。

上述普濟鹿社北側的頭骨架，筆者調研時已不存。普濟鹿社北側原有頭骨架，不在三區的家屋群內，此種將頭骨架另設在社口一帶的作法，與望嘉舊社（Vungalid）相同。1920 年《番族慣習調查報告書》第五卷排灣族中，曾提到當時的普濟鹿社：「（北 Paiwan 番 Pucunug）全社為一團，（五年祭）前後兩祭皆比 Vungalid 社晚一日舉行。有男女番祝各一人主司祭事，儀式為期五日，刺毬儀式如同 Vungalid 社。畢後行 *maqinacap*（出草），但是今日僅有狩獵而已」（臺灣總督府臨時臺灣舊慣調查會，2004：72）。

可知根據傳統的習俗，每次五年祭結束之後，族人必須出草，推測普濟鹿社的頭骨架上的人頭，即為出草鄰近或敵對部落所砍下帶回者。而「出草」這個行為，意味著：走出自己的部落，並跨越不同部落的邊界，以進入別的部落之領域之中，去砍下對方的人頭以帶回自己的部落。至於出草的原因，除了敵對部落的尋仇外，有不少是基於「獵得的首級可以增加部落的生命力」（蔣斌、李靜怡，1995：200）的隨機殺人。另外，根據上述文獻，普濟鹿社在 1920 年（或更早）已不再出草而改為狩獵。

傳統的生計以山田燒墾為主，兼事狩獵、畜養、與山溪捕魚。生產的目的除自用外，一部分作為繳給貴族的租稅。其中，與家屋範圍最近的家禽家畜的豢養是女性的工作，緊鄰部落或在部落外圍進行的農耕需要男女合作，深入山林狩獵則為男性的工作，與畜養同為肉類食物的主要來源。狩獵可以個人或團體的方式進行，獵物以野豬、山羊、鹿、羌、猴子等為主，但因獵場屬於貴族所有，因此獵獲之物必須向獵場所有人繳納獵租（*vadis*）。豬隻通常在特殊祭儀以及婚禮或家屋落成時宰殺，也需要向貴族繳納獵租。另外，捕魚是男子的重要副業之一，在山溪中以利器或堰魚法捕魚，並向擁有溪流的貴族繳交一定數量之漁獲，做為獵租（童春發，2001：89）。如根據普濟鹿社的口傳：

> 本部落獵區在 Benana-an（山名）是由白鷺、望嘉、古樓列為共同狩獵處，但要狩獵時，派調解員前往各部落通知集體狩獵，以維持和平相處。…本部落的河流管區在 Crashi 區 Baer-rid（河名），本部落把河流分成七段，分上中下段，由 Pacekan、Qata、Rosiguan、Katoer、Roleker…等七家所屬，用竹子、或釣、或毒、或圍魚，大致上每個區拿出 2~3 條比

> 較大的放在大石頭上面，然後由 Mamazangiljan[5]家收取（童春發，2001：89）。

普濟鹿社頭目家屋內部探坑出土一些豬骨，可能是家養的豬，但家屋畜養豬隻行為的出現，不代表狩獵就此終止，事實上狩獵仍持續到相當晚近，仍可不定時提供肉食來源，且根據耆老告知和筆者長年觀察的結果，狩獵亦是勇士的認證方式，與部落的社會階級、成年禮、傳統祭儀等仍有著重要的關聯。而家屋畜養豬隻的最大目的，應是確保肉食的穩定取得，尤其將活豬獻祭在排灣族的歲時祭儀中是不可獲缺的祭品。

有關農耕的施作方式，普濟鹿社並無相關記載，不過 1921 年的《蕃族調查報告書第八冊》曾提到 Masilidj 社的耕作，由於此社與普濟鹿社有類似的地理環境和文化背景，或可做為普濟鹿社的參考：

> 十一月左右到預定地，開闢約一間見方土地後才回家。當晚夢吉，第二天起正式開墾。夢凶，易地再試。雜草除完，原地置放兩個月，再放火燃燒。接著，掘起草根，曬乾，再燃燒。到了二月左右，再次除草，然後播下小米和稗子。播種前，各戶在自家屋簷下播種些許，祈禱豐收，此儀式稱 *semupaday*。全社播種結束，進行 *temarangudalj* 祭儀，經過一兩次除草，八月左右小米成熟，*malada* 至各戶進行 *kipapatelingaw* 祭儀。翌日，各戶割取一把（*ita a taveljiyut*）小米回來，再次進行同樣的祭儀。隔天，小米全面收割（臺灣總督府蕃族調查會，2015：155-156）。

對外交通方面，1904 年臺灣堡圖中的虛線為當時的小徑，連接普濟鹿社與東側的望嘉舊社，並有兩條往西下到今沿山道路一帶的路徑（圖二）。

（二）、普濟鹿社的家屋群

普濟鹿社家屋群位於斜坡上，所有家屋均為「背山」（*i-zaya*）、「面谷」（*i-lauz*），坡度約在 15~40 度之間，坡度較陡。社人先將斜坡整地為階梯狀的等高線狀平地，所有的家屋均建於等高線狀的人為平地上，室內與庭院的高度大致相當，並無明顯室內下挖。同一高度的家屋左右彼此相接，各家屋的前庭並連接形成橫向的水平通路，家屋均面向下方（西方）的屏東平原。普濟鹿社的家屋分布，分為三個集中區

[5]「Pucunuq 部落 Mamazanggiljan 的家團只有一個，那就是 Taududu。目前掌家的是 Ljegeai（羅安吉），夫人是 Muakai（阮美貌）」（童春發，2001：88），即佳屋督都頭目家族。

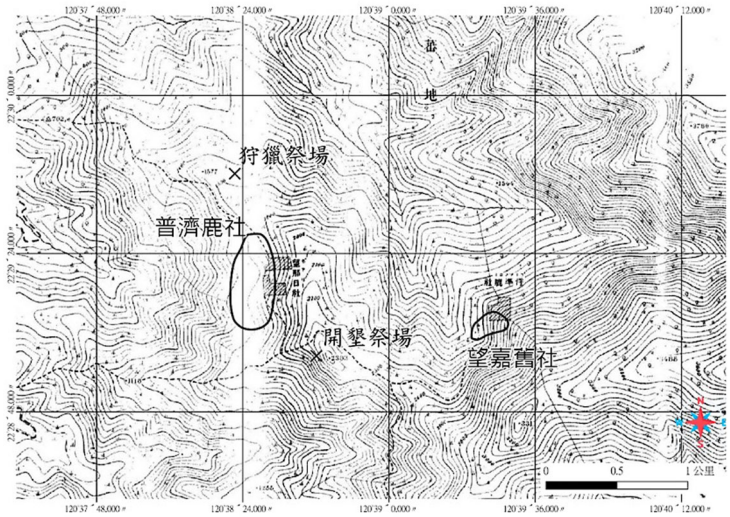
塊（I~III 區），各區呈南北向排列，三區大致位於相同的等高線上。筆者利用內政部地政司空載光達圖資，套繪出如圖三的高精度等高線圖，以呈現普濟鹿社的空間分布，和各區家屋所在微地形和坡度狀況。普濟鹿社家屋群共計 93 間家屋（表一），與望嘉舊社的 205 間家屋（筆者計算黃鏡澤耆老手繪圖家屋數量）、來義舊社的 220 間家屋（郭素秋，2020）相較少一半以上，可知普濟鹿社在中排灣屬於中小規模的部落。

在決定家屋建造的地點之後，必須先徵得頭目的同意，才能開始建造。家屋砌建之前，除了必須先儲備所需的石材、木料等建材外，對原本為斜坡地形的地點，必須人工整地為 L 形的階梯狀，才能取得家屋地基所需的平面，和屋後山牆所需的陡直山壁，達到家屋的舒適和穩定，並將此家屋（點狀）納入整個部落的線（如同一階梯狀高程的家屋列線、家屋前庭所形成的路徑線等），形構成為整個部落的一部分（面狀）。此種背山面谷的家屋建造方式，在來義舊社至少約距今一千年前已使用於家屋的建造之上（郭素秋，2020），直到 1950 年代來義舊社、普濟鹿社、望嘉舊社下遷至平地為止，長達近一千年幾乎變化不大，呈現出高度的歷時穩定性。

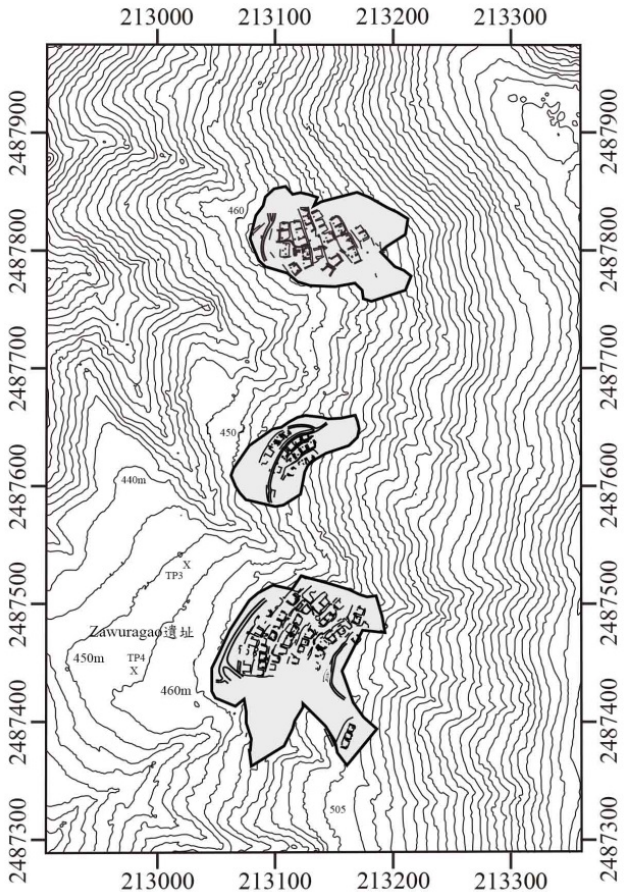
根據多年來筆者訪問多位耆老得知，傳統上排灣族聚落多建築在山腹坡度較緩處，地形上易守難攻，並需有相當高度、通風良好以減輕疫病等威脅。由於河谷蜿蜒，因此家屋座落的方位並不固定，重點是每處聚落的家屋現址的「背山面谷」原則之確立，後者亦與每個家屋的型式（單坡式屋頂、後山牆等）有極大的關聯。普濟鹿社這三區的家屋群，均依陡峭的斜坡建築、背山面谷，各區的家屋呈等高線排列，均向西遙望屏東平原，普濟鹿社此種家屋的空間配置，基本上與排灣族傳統的山區家屋建築的原則相符。

根據筆者的觀察，普濟鹿社、望嘉舊社、來義舊社的家屋型態與砌建方式大致相同，所使用的石材亦大同小異。家屋主要由硬頁岩等砌疊而成，並有少量的黑色板岩，以石板鋪地、石板蓋頂。其中，硬頁岩不易因吸水而膨脹，通常被用來堆疊後牆、側牆；板岩主要做為前牆壁材等。

根據筆者的調研與訪談的結果，普濟鹿社的社會階層有兩個等級，上層為頭目（*mamazangilan*）、頭目的總管（*sasegaulan*）、巫師（*puringaw*）等貴族階級，下層為平民階級（*vunutel*）。其中，頭目和總管、巫師等貴族階級的家屋，均位於最北側的第 I 區，平民階級的家屋則全部位於第 II、III 區，分述如下（圖三）：



圖二：1904 年臺灣堡圖（筆者加標祭場位置）



圖三：普濟鹿社三區家屋分布圖（引自郭素秋，2021：圖六）

第 I 區主要為貴族階級所居住的區域，包括古樓系統吉羅夫敢家族和佳平系統佳屋督都家族聯婚後新建的佳屋督都家屋（最後居住者為羅安吉頭目，I-22）、阮枝美[6]巫婆家屋（I-28）、總管家屋（處理佳屋督都頭目家相關事務者，最後居住者為簡化總管，I-24）等。第 I 區分為階梯狀 7 排，測繪 24 間，19 間單室家屋、5 間複室家屋。5 間複室家屋為 I-8、I-9、I-16、I-21、I-27，其中 I-27 為一大一小，餘兩室的大小均相去不遠。測繪的 24 間中，5 間略橫寬型、11 間橫寬型、2 間正方形、4 間略縱深型、2 間縱深型。I-22（佳屋督都家屋）是唯一擁有祖靈屋、前庭的司令臺之家屋。（圖四）。

2014 年在佳屋督都家屋前庭發掘的 TP1 坑即發掘出過去的砂岩鋪面地板，與同一階梯狀的家屋前庭連接成橫向通道，兼具休憩、集會及聯絡交通等效果，上下以狹窄的坡路連接成一個路網。上排的庭院地基和下排的屋頂略成平面。在整個聚落空間設計上，巧妙地利用重力作用，在縱行上下的通路之一側，同時於配置一條平行的排水溝，此排水溝寬約 10~20 公分、深約 40~50 公分，只是下挖土層而形成並未特別加固，但因土中多含有多量小岩塊，可以有效防止土壤崩坍。這些縱向的排水溝設計，可以防止家屋、通路、庭院等結構被雨水沖刷（郭素秋，2021：136），是很重要的設施，亦見於後述的第 II 區、第 III 區。

第 II 區為一般平民居住，共有 4 排，20 間單室家屋。其中有 15 間可辨認屋型，包括 2 間略橫寬型、11 間橫寬型、2 間正方形，並無複室和縱深型家屋（圖五）。

第 III 區亦為一般平民居住，共 54 家屋，至少有 7 排，測繪 49 間，48 間單室、1 間複室家屋。內有 40 間可辨識屋型，包括 15 間橫寬型、16 間正方形、9 間縱深型。第 III 區並未見第 I 區常見的略橫寬型和略縱深型家屋；且第 III 區出現橫寬達 12 公尺的單室家屋（III-25），已大於第 I 區唯一的大型單室家屋（I-28，阮枝美巫婆家屋）的 11.2 公尺橫寬，相當於第 I 區複室家屋的橫寬規模（如 I-8、I-9）。第 III 區雖亦為階梯狀排列，但部分家屋的走向和排列較為紊亂，顯示並非同一時期經規劃而建造，根據文樂部落族人告知，包含較晚近的家屋，且有部分家屋為望嘉舊社（位於東側較深山）過去族人下遷時所興建居住者，日治時期的行政中心亦設於此。

[6] 阮枝美（Baliyadam Ruvaniyav）巫師，約生於 1900 年，102 歲去世，為羅安吉妻阮美貌之母。

第 III 區的部分家屋的後山牆，有從ㄇ形變成弧圓形的情形，且家屋的進深變淺，如 III-12、III-20、III-39 等，與本區日治時期的辦公室（III-38）類似，受到日治時期建築風格的影響，第 I、II 區則未見日治風格的家屋。第 III 區有 3 個獨立穀倉，其中 1 個在 III-13 複室家屋的前方，另兩個在較下方的 III-34、III-35 前方，穀倉一般內建於家屋之內，但第 III 區卻出現 3 個穀倉，且不見於第 I、II 區之中，相當特別。III-22、III-24 家屋前各有一個突起高臺，族人亦不清楚其用途（圖六）。

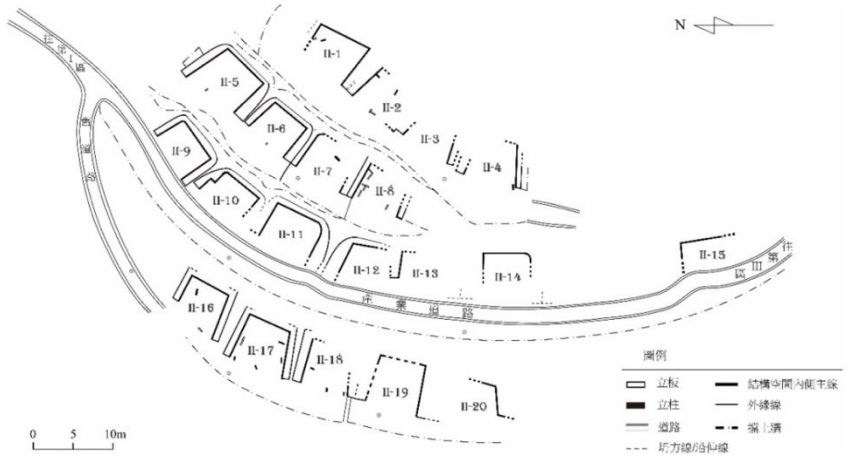
根據 1904 年的「臺灣堡圖」所標註的普濟鹿社的位置（圖二），可知當時相當於本文的第 I、II 區的家屋群已經存在，但是第 III 區的家屋群卻未出現，已或可反映清季、日治初期普濟鹿社的狀況。到了 1916 年的「蕃地地形圖」，可以發現在 1916 年普濟鹿社的右下角出現部落家屋的斜線方塊註記，而此位置即為本文的第 III 區所在。根據文樂部落和望嘉部落的族人告知，第 III 區形成的時間較晚，從第 III 區內出現日治辦公室（III-38）為日治辦公室，且如上述第 III 區有部分家屋受到日治建物影響而有呈現家屋後部圓轉的情形、家屋的走向和排列較為凌亂等點看來，第 III 區可能是在 1904 年以後才陸續興建，到了 1916 年時已有明顯家屋群分布狀況出現，才會在地圖上以斜線方塊表示。

若上述的推測可信的話，1886 年（光緒 12 年）11 月初一清國頒給普濟鹿社的〈條教〉：「普濟鹿社合社男女貳百參拾餘人」一語，可能主要為第 I、II 區的人口總計，而尚不包括日治時期才逐漸出現的第 III 區。根據上述對普濟鹿社進行全部家屋測繪的結果，第 I、II 區共 49 間，其中 5 間已失，剩餘的 44 間中有 5 間為複室、39 間為單室（表一）。若以一單室家屋居住 4~5 人估算，大致與上述「條教」所述的 230 多人相符。

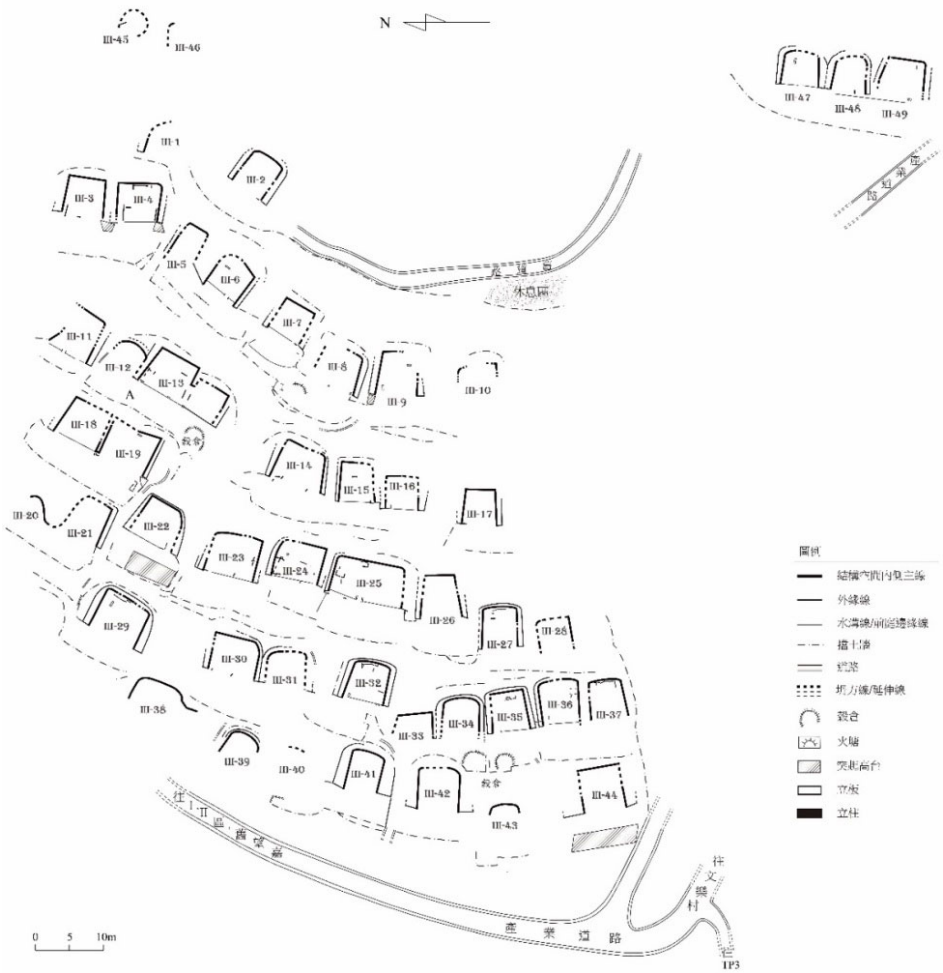
而若清代普濟鹿社僅存在第 I、II 兩區，表示其依階級地位進行家屋規劃、分區，在第 I 區主要為頭目、總管、巫師等貴族階級，在第 I 區就出現了 5 間複室家屋，且在佳屋督都家屋旁在前庭並分別有祖靈屋、司令臺。相對地，第 II 區則均為平民，且全為單室家屋，雖亦與第 I 區相同而以橫寬型家屋占多數，但第 II 區卻不見第 I 區亦見的縱深型家屋，顯示兩區之間仍有所差別。若不考慮較晚增建的 III 區（即使是本區亦僅只有 1 間複室屋），就 I、II 區來看，複室屋在頭目、貴族集中的 I 區有較高的比例（在 29 間家屋中有 5 間複室屋），而未見於 II 區。其中，I 區的佳屋督都頭目的家屋雖為單室屋，但有祖靈屋、前庭的司令臺等附屬建築，實具有複室屋的規劃概念，呈

現與其他單室家屋截然不同的空間使用狀況。日治時期，普濟鹿社第 III 區部分家屋出現圓轉、進淺的新形式，且日人的行政中心也實質進駐至部落之中。此外，改名換姓、禁止室內葬和馘首、指派頭目等，也對排灣傳統的「家屋社會」、貴族制度等造成相當大的影響。

圖四：普濟鹿社 I 區家屋平面測繪圖（引自郭素秋，2021：圖七）



圖五：普濟鹿社 II 區家屋平面測繪圖



圖六：普濟鹿社 III 區家屋平面測繪圖

（三）、佳屋督都家屋與家名

佳屋督都頭目家屋位於第 I 區，與普濟鹿社其他家屋大致相同，均位於較陡的斜坡，先將斜坡修整成階梯狀平地後，再以石板鋪地、砌石成牆。家屋後方的石砌牆直接貼附著整地形成的垂直山壁而形成山牆，此山牆約與背後高一階的地面同高，同時具有護坡功能。

佳屋督都頭目家屋為單一居住用家屋（主屋）和其旁（北側）祭儀用的祖靈屋（附屬建物）。其中，單一居住用家屋（主屋）為單室家屋（編號 I-22，圖四，表一），家屋為橫寬型，面寬 9 公尺、縱深 6 公尺，面積為 54 m^2，頭目家屋大致座東朝西，前門向下（西），可遠望廣大的屏東平原。前庭有一司令臺（*alivelive*），位於家屋出入口和祖靈屋的正前方，司令臺長約 6 公尺、寬 2.5 公尺、高約 0.5 公尺，其上有一個頭目標石（*sauliaulai*），為一有長形靠背的石製座椅（圖七），為頭目的專屬座位，這是普濟鹿社唯一具有司令臺的家屋。普濟鹿社的佳屋督都頭目家屋前，根據羅安吉頭目所提供的老照片，可見家屋前庭原有多件豎立的大型石板，屋頂壓石為白色晶狀石英石，屋頂為黑色板岩鋪成，後因這些大石板被移至今文樂部落的祖靈屋使用，現地已不得見。

佳屋督都家屋的內部空間利用圖（圖七），是筆者結合家屋的考古學研究、曾居住過此家屋的羅安吉頭目口述所繪製出來者。與大多數的排灣族舊社家屋相同，普濟鹿社空間的秩序亦可依前／後、左／右兩條軸線解讀，在前／後方向的軸線方面，其空間排列順序都依「背山」（*i-zaya*）、「面谷」（*i-lauz*）兩個方向觀念為基準。普濟鹿社佳屋督都家屋中的「神聖空間」與「世俗空間」區分相當明顯。就前／後軸而言，由日常社交、製作器物的前庭，到睡眠、縫紉的寢室（*tala*），到不能使用外來飲食、下有墓穴的起居室（*asingtan*），到主柱與穀倉，到除祭祀外盡量避免進入的龕前淨道（*pu-zaya-zayan*），最後到放祭祀用品和古陶壺的靈龕（*tavi*），光線由明亮漸趨於陰暗。就左／右軸而言，進門處與「廁所／豬圈」處有相對的穩定性，由門口進入後，前往家屋後段的通道，日常較少行經，同時散布著一些禁忌的地點；入門後前往廁所的方向，則穿過起居室後靠屋前的一方（或左或右）則屬於起居、飲食生育、排泄的活動空間。

佳屋督都家屋僅有一個靈龕，主要儲放陶壺和祭祀用具等神聖物品，靈龕為家中守護神（*quma-an*）所在之處，位於龕前淨道之後牆上。「廁所兼豬舍」（*pu-atsang-*

an）。由「到豬舍的地方」（*si-djalun-atsang*）進入，踏上側邊外牆及與其相對的牆上高約 90 公分處的踏板，即為廁所。踏板下的空間為豬舍，可飼養 1~2 隻豬。佳屋督都家屋的中央一帶，為室內葬（*pi qumanqan a tsemevel*）的位置，即墓穴（*luvang*），主要設於起居室下方，以蹲踞的方式埋葬，為家中成員合葬墓穴。

圖七：普濟鹿社佳屋督都家屋（I-22）家屋格局（郭素秋，2021：圖 12）
（1. *si-ki-palits*「轉彎的地方」；2. *asingtan（pu-laulau-an）*起居室；3. *luvang* 墓穴；4. *a-vua-vua-n*: 字面直譯為「燒火之後的餘燼」，所指涉者原為灶中間有灰燼的地方，後引申為灶及其周圍的空間；5. *tala*: 寢室；6. *pa-sa-lauz: tala* 靠前牆窗下的石板座臺，中空可作儲藏空間；7. *ereng-an:* 即 *tala* 兩邊的床，為比 *tala* 高約 1 尺的石板平臺；8. *salang*: 指箱形穀倉，此指在室內的穀倉；9. *pu-zaya-zayan*: 龕前淨道，為主屋內主要的禁忌空間；10. *tavi:* 靈龕，為家中守護神（*quma-an*）所在之處；11. *si-djalun-atsang*: 意譯為「到豬舍的地方」（*atsang:* 豬），也是「上到廁所的地方」；12. *pu-atsang-an*: 廁所兼豬舍； 13. *pa-pu-lamien*: 儲藏空間；14. 放置新生嬰兒胞衣和臍帶的位置；15. *paling:* 門；16. *ezung*: 窗；17. *liti-liting:* 前簷下的遮陰處，通常設有石板座臺；18. *ka-tsasav-an*: 前庭）

綜上，從佳屋督都家屋內部格局看來，屬於千々岩助太郎（1937：18）的「北部地方住家」基本型式，只是兩者的出入口和廁所、養豬槽的位置對調（圖八）。筆者結合家屋遺跡分布狀況和部落報導人的口述資料，進行全區的平板測繪，取得各區家屋分布圖（圖五）。後續彙整全區家屋平面測繪圖，與文樂部落已故莊義泰祭司所繪

製的「文樂舊社各家族家屋分布示意圖」進行比對，結合部落的訪談資料，將各家屋的家名於平面測繪圖中標出，最終製表以呈現各家屋與階級制度的關聯，即為表一。

表一 ：普濟鹿社各區家屋的家名、面積與類型（單位：公尺）

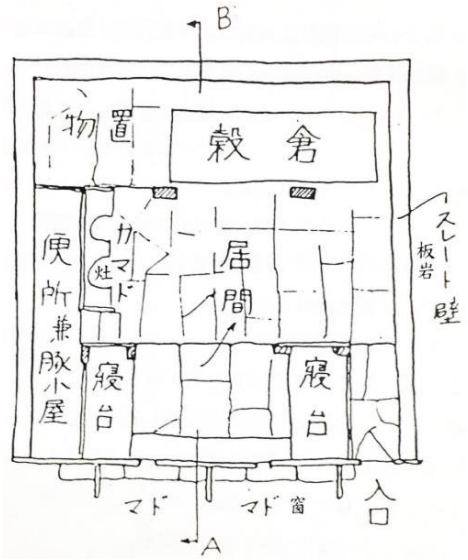
（倘橫寬與縱深相差不及 1m 尺者，以略橫寬型或略縱深型歸類）

I 區 貴族階級		**II 區 平民階級**		**III 區 平民階級**	
I-1	Tagav 測繪時已不存	II-1	Parigalj／5.6x4.9 略橫寬	III-1	Valjilet／?
I-2	Tallgu 測繪時已不存	II-2	Saliljan／7x4.9 橫寬	III-2	Malingaling／5x6 縱深
I-3	Ljavur／4x4.5 略縱深	II-3	Palimecelj／6.3x?	III-3	Palivatj／6x5 橫寬
I-4	Luljangljang／5x4.5 略橫寬	II-4	Qutela／6.3x4.9 橫寬	III-4	Sipitj／6x6 正方形
I-5	Qunevulj 測繪時已不存	II-5	Rupavatjes／7x5.6 橫寬	III-5	Galemegem／4x6 縱深
I-6	Tjuleng／5.6x6.2 縱深	II-6	Paracasav／5.6x4.2 橫寬	III-6	Puvadivan／5x6 縱深
I-7	Lulegeleg／6.7x5.6 橫寬	II-7	Tjavavatan／5.6x4.9 略橫寬	III-7	Tjaraqidis／5x5 正方形
I-8	Tjuveljevelj 複室／11.8x5.6 橫寬	II-8	Tjamatjan／5.6x4.2 橫寬	III-8	Tjamawrul／8x5 橫寬
I-9	Tjungacuq 複室／11.8x5.6 橫寬	II-9	Giring／6x4.2 橫寬	III-9	Paculilj／6x8 縱深
I-10	Avulungan 測繪時已不存	II-10	Rivanrav／5.6x4.2 橫寬	III-10	有家屋，家名不明／6x?
I-11	Adja／5.6x6.2 略縱深	II-11	Zangravan／6.3x4.2 橫寬	III-11	Suvangalj／7x7 正方形
I-12	Drusagasag／5x5.6 略縱深	II-12	Atalep／6.3x4.9 橫寬	III-12	Luglug／5x6 縱深
I-13	Sapayan／4.5x5.6 縱深	II-13	有家屋，家名不明/ ?x3.5	III-13	複室，家名不明／3x6 橫寬
I-14	Lusiguan／7.3x6.2 橫寬	II-14	Lalangan／5.6x?	III-14	Pagugu／8x6 橫寬
I-15	Talimalav／5.6x5.6 正方形	II-15	Tabiwljan／?	III-15	Saljemirgas／6x6 正方形
I-16	Patjaljinu 複室／13.4x5.6 橫寬	II-16	Avuwaran／5.6x5.6 正方形	III-16	Sipitj／5x5 正方形
I-17	Azangiljan*／5.6x5 略橫寬	II-17	Tjalunulj／7x5.6 橫寬	III-17	Tinalaq／5x6 縱深
I-18	Djaremuc／5x5.6 略縱深	II-18	Qaquwangan／5.6x5.6 正方形	III-18	Qidaqiday／7x6 橫寬
I-19	Asagarang／6.7x5.6 橫寬	II-19	Drusuraman／6.3x4.9 橫寬	III-19	Tjuvarvar／7x6 橫寬
I-20	Tjalunulj／5.6x5 略橫寬	II-20	有家屋，家名不明／?	III-20	Galemegem／?
I-21	Tjuqalju 複室，沈久路家屋／13.4x5.6 橫寬			III-21	Palucunuq／6x6 正方形
I-22	Tjawdudu 有祖靈屋、司令臺**／9x6 橫寬			III-22	Palavay／7x6 橫寬
I-23	Pawreljay／6.2x5.6 略橫寬			III-23	Vuruvur／8x7 橫寬
I-24	Djaljumala 簡化總管家屋／5x5 正方形			III-24	Ljeleman／7x5 橫寬
I-25	Patjiqang／7.8x5 橫寬			III-25	Zangravan／12x6 橫寬
I-26	阮枝美巫婆家屋／11.2x5.6 橫寬			III-26	Kutadring／7x7 正方形
I-27	Tabiyuljan 複室／8.4x6.2 橫寬			III-27	Piyagar／6x7 縱深

I區 貴族階級		II區 平民階級		III區 平民階級	
I-28	Paculilj／5.6x5 略橫寬			III-28	Patagilj／5x5 正方形
I-29	Zangravan 測繪時已不存			III-29	Vuruvur／7x7 正方形
				III-30	Palavay／7x6 橫寬
				III-31	Cacavulj／6x5 橫寬
				III-32	Tjaljiqes／6x6 正方形
				III-33	Galemegem／6x5 橫寬
				III-34	有家屋，家名不明／6x6 正方形
				III-35	Tjaripaljan／6x6 正方形
				III-36	Alupenetj／5x7 縱深
				III-37	Qutuc／6x6 正方形
				III-38	日治辦公室、派出所，圓轉建物／?
				III-39	Tjivaliyan／5x?
				III-40	Avuwaran／?
				III-41	Zangravan／5x6 縱深
				III-42	Tjaljiges／6x6 正方形
				III-43	Ljusaljiyan／4x?
				III-44	Taljimarav／7x7 正方形
				III-45	有家屋，家名不明／4x?
				III-46	有家屋，家名不明／?
				III-47	有家屋，家名不明／6x5 橫寬
				III-48	有家屋，家名不明／5x5 正方形
				III-49	有家屋，家名不明／7x5 橫寬
				III-50	Suvangalj 測繪時已不存
				III-51	Temapav 測繪時已不存
				III-52	Vangavngas 測繪時已不存
				III-53	Tjawqayu 測繪時已不存
				III-54	Rudjena 測繪時已不存
共 29 家屋，測繪 24 間，5 間複室、19 間單室，5 間已失。測繪的 24 間中，5 間略橫寬型、11 間橫寬型、2 間正方形、4 間略縱深型、2 間縱深型		共 20 家屋，全部測繪，全為單室。內有 15 間可辨認屋型，包括 2 間略橫寬型、11 間橫寬型、2 間正方形		共 54 家屋，測繪 49 間，1 間複室、48 間單室，5 間已失。內有 40 間可辨識屋型，包括 15 間橫寬型、16 間正方形、9 間縱深型	

* 頭目家屋，吉羅夫敢家族，周污笠副社長聯姻前家屋

** 佳屋都督家族頭目家屋，周九連社長、周污笠副社長聯姻後新建家屋



圖八：千々岩助太郎（1937：18）紀錄「北部地方住家」基本型式
（筆者加註「板岩」、「灶、「窗」楷體中譯）

三、普濟鹿社考古發掘與遺物內涵

（一）、2014 年的考古學研究

2014 年，筆者於普濟鹿社進行首次的考古探坑發掘，其中 TP1、TP2 兩個探坑位於第 I 區的佳屋督都家屋：TP1 位於家屋的前庭；家屋內的 TP2 坑，乃為周污笠、周老連夫妻曾睡過的石板床之下方，此處的遺物與兩人有較直接的關聯（表二）。

土層堆積方面，TP1、TP2 兩個探坑，均下挖至地表下 50 公分即轉為生土層，兩個探坑的土層堆積狀況大致相同，可分為兩層。其中，上層為黑褐色砂土層，為此家屋的主要文化層，TP1 坑於此層出現砂岩石板鋪面，為家屋的前庭地板並做為聯絡通道使用；下層為淡褐色砂土碎石層。另外，於家屋前庭發掘 TP1 時，清理出人形石板，與來義舊社邏發尼耀家族頭目前司令臺旁的人形石板有類似性，唯確切功能不明。

年代方面，普濟鹿社 TP1 坑在前庭砂岩石板鋪面下方所出土的木炭校正年代約在 16~17 世紀，根據口傳，此地點原做為五年祭的祭場使用，此年代或可做為此地點原先作為五年祭刺球場的年代參考，亦與出土的部分遺物年代相符。而家屋內的 TP2 坑 L3 所測出校正年代約在 19 世紀前後，與後述本家屋的絕大多數的遺物內涵的年代大

致相符，或可視為佳屋督都家屋的主要居住年代，即從清代中晚葉持續到日治時期，相當於 19 世紀到 20 世紀前半（郭素秋，2021：141、表二）。

（二）、普濟鹿社的遺物內涵

佳屋督都家屋與第 I 區（貴族階級的家屋群）出土的遺物共計 984 件，總重 39,836.26 公克，包括史前陶器（傳統手製的低溫陶）、石器、瓷器、硬陶（轆轤拉坯製作的高溫陶）、金屬器、玻璃珠、獸骨等，可依種類、時期統計如表二。除了少量 17 世紀或較早的史前軟陶等之外，絕大多數的遺物為 18 後半至 19 世紀的閩粵陶瓷器，19 世紀末至 20 世紀前半的日治時期瓷器、玻璃器等，並可見 20 世紀前半的南投窯燒之硬陶器等，此種遺物的內涵與此家屋群的口傳居住時間大致相符。

而少量年代較早的史前軟陶、打製石製圓盤器（做為蓋子使用）、小型砥石、16~17 世紀的中國醬釉硬陶、安平壺等，主要出土於佳屋督都家屋內部的地面和室內探坑的 L1~L2，由於此家屋是在周老連、周污笠聯姻後才興建，這些較早的器物可能是從周污笠頭目婚前所居住的家屋（圖四中 I-17，即 Azangiljan 家屋）帶入此後建的佳屋督都家屋之中。

磨製石器，乃取用長條扁平的變質砂岩鵝卵石全面磨製而成，長度約在 10 公分左右，有時在其兩端帶有打剝痕，與史前時代常見的携帶型小型砥石有類似性，亦多見於排灣族的舊社遺址之中，不過普濟鹿社的這類磨製石器未見有磨損或錘擊等使用痕跡，族人亦不知其用途，但之前筆者在恒春半島山區的老佛遺址調查時，有排灣族人說這類石器乃做為巫師的法器。

18~19 世紀的硬陶，主要為福建的磁灶窯[7]大罐等，並有多量的福建德化窯或福建中南部民窯的粗製青花瓷碗盤等，製品多較粗糙；另有零星的良質薄硬陶所製作鴉片小罐、蓋等，亦為福建產品。另外，亦見有多量的玻璃珠等珠飾、食用殘剩的豬骨等（表三）。

其中，珠飾共 281 顆，總重 27.46 公克，均出土於第 I 區佳屋督都家屋內部，筆者將家屋內部的土壤帶回，經浮選而發現。包括玻璃珠 276 顆（總重 23.23 克），紅玉髓珠 3 顆（總重 3.03 克，3 顆圓形、1 顆扁菱形），白玉髓珠 2 顆（總重 1.2 克，

[7] Saqacengalj 遺址的釉陶中，有「福建磁灶和其附近的窯址的產品」（陳瑪玲，2004：59），可見福建磁灶窯產的硬陶器，已廣泛見於中排灣、恒春半島舊社遺址。

圓形）。製作技術方面，紅、白玉髓珠均為磨製成形後再穿孔而成。玻璃珠則有捲製、拉長後切成多段而成這兩種製法，其中捲製者有 148 顆（總重 9.89 克），拉長後切製而成者有128顆（總重13.34克）。普濟鹿社頭目家屋內出土的這些珠飾（約距今兩、三百年前），大致與來義舊社頭目家屋內出土的珠飾類似（珠飾出土層位的測年約在距今七、八百年前），尤其以捲製方式捲成多圈而不規整的玻璃珠，均見兩社。

到了 1895 年至 20 世紀前半，因臺灣成為日本的殖民地，在生業、埋葬方式、日用品等方面有了大的轉變。這個時期佳屋督都家屋所出土的遺物，亦反映出大的政治環境改變所帶來的物質遺留來源和種類之鉅變，如中國閩粵的陶瓷器不再使用，而突然轉變為日本或臺灣製作的陶瓷器，並出現一些小型玻璃容器、平板玻璃、金屬鍋、鐵器等日常用品。另外，頭目家屋內採集到白色紐扣 2 顆，各有 4 穿孔，為玻璃陶瓷（摻鉀的鋁鋰矽酸玻璃）。

表二：普濟鹿社第 I 區與佳屋督都家屋遺物分類表

種類	史前陶	打製板岩圓盤器	磨製携帶型砥石	打剝變質砂岩石塊	打剝板岩石片	石 英
件	3	1	3	6	310	6
重 g	55.3	928.7	456.9	95.7	1784.7	3316.9
種類	16~17 世紀醬釉硬陶	17 世紀邵武安平壺	17~18 世紀瓷片	18~19 世紀磁灶窯硬陶	18 後半~19 世紀德化窯瓷器	18~19 世紀華南釉上彩
件	1	2	2	101	60	10
重 g	6.9	31.9	54.7	20839.5	273.5	51.6
種類	18~19 世紀廣東石灣	19 世紀良質硬陶	19 世紀良質硬陶鴉片小罐	19 世紀瓷片	19 世紀後半瓷片	19 世紀末中國青花瓷
件	20	19	2	10	20	1
重 g	186.6	136	8.9	51.6	186.6	36.8
種類	銅錢	穿孔銅器	日治－日本製瓷片	日治－臺灣製瓷片	日治－硬陶	日治~戰後低溫陶火爐
件	2	1	13	2	44	1
重 g	4.65	5.5	51.6	110.9	10330.8	28.5

種類	碳棒	獸骨	穿孔獸牙	獸牙	魚骨	穿孔貝器	貝
件	1	71	1	57	1	2	2
重 g	3.55	233.64	5.8	98.91	0.1	6.1	4.1

種類	鐵器	鐵鍋殘片	鐵渣	金屬片	玻璃珠	玻璃瓶	玻璃片	日治玻璃白色瓷紐扣
件	2	2	8	3	281	8	31	2
重 g	47.15	39.78	42.9	1.15	27.46	344	167.96	0.85

（三）、普濟鹿社的傳世古陶壺與金屬刀

戰後初期從普濟鹿社下遷至現今文樂部落時，有部分珍貴器物未留置於普濟鹿社，而隨著族人一起來到新的部落，其中最特殊者為巫師阮枝美她祭儀時所使用的金屬刀和古陶壺，亦隨她一起來到新部落，並持續用做為祭祀用法器直到她去世之後，目前金屬刀和古陶壺均置放於今羅頭目家屋旁的 Azangiljan 祖靈屋中，分述如下：

1. 古陶壺

現存於 Azangiljan 祖靈屋的 1 件圓腹罐，為臺灣史前陶器常見的泥片貼塑法製作，紅褐色夾砂陶，器高 25 公分、罐口直徑 10 公分、罐口高 2 公分、圓腹直徑 19 公分、圓腹高 21 公分、圈足內高 0.9 公分，素面，罐內置有祝禱時使用且削過的小塊豬骨。

2. 小型金屬刀

小型金屬刀 2 支，為阮枝美巫師生前於普濟鹿社居住時（日治時期）所使用的法器，為傳承自更早的巫婆之物，其年代當更久遠。其中人形銅柄鐵刀者為祈福、祭儀時使用，全長 16 公分，其中鐵刀長 8.5 公分，銅柄為一人臉及其頭上 5 小頭所組成，人臉高 5 公分、人臉厚 1.5 公分，5 小頭厚 1 公分，鐵刀尖端彎向一側（圖版二右），圖版三的照片可見此件器物被阮枝美巫師右手握著的景像。類似的人臉銅柄亦見於恒春半島的老佛遺址、排灣族的傳世銅柄鐵刀。另外，鐵柄鐵刀者則為喪葬、禳除時使用，此鐵柄鐵刀為一體成形，全長 19.5 公分、柄端厚 0.4 公分，由刃尖往柄部逐漸變厚，鐵刀尖端彎向一側（圖版二左）。

3. 大型人形雙鳥頭銅柄鐵刀

大型的人形銅柄鐵刀（圖版四）1 支，為普濟鹿社的傳世大刀，2020 年五年祭時此刀仍為男祭司用於祭儀之中。此刀名 *Dagaraus*，是代表大武山神 *Dagaraus* 的神威，全長 45 公分，鐵刀最寬處為 10.5 公分，銅柄的兩鷹鳥最寬處為 10.5 公分，銅柄上的人像身高 14.5 公分、人臉最厚 2.5 公分、人身厚 1 公分，筆者觀察鐵刀上有使用痕跡。

人形銅柄以合範鑄造，人形的頭頂上有一小孔可讓鐵刀尖端由此孔伸出扣住，以強化裝柄的效果。而扣住鐵刀尖頂的人形銅柄的頭頂小孔旁，可見鐵鏽，鐵高占 20.32%。人形銅柄的人臉的額頭寬廣，人臉兩側外接向外延伸的其他圖案；人物腳下

踩著一條橫桿，此橫桿兩端各有一個鷹鳥頭，鷹鳥頭均為側臉，尖喙、大眼、頭頂上有 2~3 突起。

其中，老鷹被排灣人視為靈鳥和祖先的化身，鷹的羽毛做為的頭飾，只有貴族階級得以使用。普濟鹿社這件銅柄兩端出現的鷹鳥，可能亦有類似的象徵意義。如 1920 年臺灣總督府臨時臺灣舊慣調查會出版的《番族慣習調查報告書第五卷 排灣族第三冊》，提到：

> 「鷹（番語 *qadris*）為本族靈鳥，在社內禁忌捕殺。然在郊外捕獲時，視其為準首級，藏於小石龕內，稱為 *palisi tua qadris*（鷹祭）或 *seman qalja tua qadris*（鷹之 *seman qalja*）。」「北 Paiwan 番 Tjaljaqavus 社在本社若獵獲鷹，獵獲者須殺豬招巫行 *palisi tua seman ljalja?a*（*ljalja?a* 是以石板圍成之小石龕）之祭祀。即對鷹之屍供饌，將一部分鷹之屍體，收藏於小石龕中，儀式與獵獲豹時相同」（臺灣總督府臨時臺灣舊慣調查會，2004：145）。

許功明指出，排灣人認為人死後，首先死者來到 *i tjemakaziang*（中界）的暫時居所，在此先化為蛇（頭目階級者化為百步蛇），再化為禿鷹。當通過了象徵幸福的竹子後，已幾乎化成水昇天。此時，再由造物者決定此人之魂應到冥界（*i makarizeng*）和祖先們在一起，或是直接上到天界（*i tjarhi vavau*）和創立部落的祖神們在一起（許功明 1993:399）。此則口傳，點出幾個重點：一是「蛇」是所有排灣人均在死後會變成的形象，單純的「蛇」或「蛇紋」背後，意味著平民階級的排灣人之死後表徵。二是「百步蛇」為頭目階級所獨有的死後形象。三是不論是頭目階級的「百步蛇」，或是平民階級的「蛇」，之後均後化為禿鷹。「蛇」、「百步蛇」、「禿鷹」，均代表著族人死後的形像，是祖靈的動物形表徵。

與普濟鹿社這件人形雙鷹鳥銅柄鐵刀類似的銅柄，見於較早的距今一千多年前的北部十三行遺址、東北部的漢本遺址。其中，十三行遺址共出土 2 件，其中 1 件人形雙鷹鳥頭銅柄，亦具有合範鑄造、人形的頭頂上有一小孔（可能做為鐵刀外扣以強化裝柄使用）、人臉的額頭寬廣、人臉兩側外接向外延伸的其他圖案，鷹鳥頭均為側臉，尖喙、大眼、頭頂上有突起等特徵，不過雙鷹鳥是站在人頭兩側。十三行遺址其中一件合範成型之人形雙鷹鳥的青銅柄（圖版五），亦為與普濟鹿社黃銅柄類似的全人形，同樣雙手高舉、雙腳外張、束腰、大眼且外帶眼窩線、寬額（但眉毛和鼻子表現較不

顯著）、並有雙鷹鳥側臉，但十三行遺址這件銅柄人物的胸部平坦，普濟鹿社者則兩胸明顯突出，不確定是否有男女性別的差異。且一千多年前的鷹嘴向下極彎，普濟鹿社的鷹嘴則略向下彎。

漢本遺址並出土人形雙鷹鳥銅柄的砂岩合範模具（圖版六），其頭頂上有兩隻鷹頭，鷹鉤嘴均向外，其下的人臉為兩隻大眼和嘴角朝上的大口，但未見雙耳的表現，口下轉為圓筒狀。從這件砂岩鑄模呈現紅色看來，應受過熱，推測可能曾使用來鑄造中空的銅柄，意味著一千多年前的漢本史前人們已能自行製作此類銅柄。尤其，漢本遺址首次出土的一件陪葬鹿角人形雕飾（年代約為距今 1400~1000BP），同時具有排灣式的人頭像、前額上有兩隻蜷曲的百步蛇紋、雙手置於胸前、蹲踞等要素，整個頭部大於脖子以下的身體，下巴、裂齒而笑的大嘴、圓大而深邃的雙眼、寬大的額頭，均被特別強調，與上述十三行遺址的人形銅柄（圖版五）臉部表現有類似性，但漢本遺址這些角雕的雙手反折撐到下巴兩側，手肘放在彎起的膝蓋上，雙腳蹲踞後坐在一平臺（圖版七），相當精緻而特殊。且漢本遺址的家屋為背山面海的階梯式建築，行室內葬；並出土三和文化的人形印紋陶器（朱正宜，2021.08.私人通訊）。

值得注意的是，排灣文化的另外一項重要的文化特質，是行蹲踞的「室內葬」（*pi qumanqan a tsemevel*）。根據民族誌資料，有關排灣文化室內葬的原因有以下兩項：1. 因人有別於其他動植物，若屍體不加覆蓋而任其腐爛，對人類是不利的，埋葬表示對死者的尊敬。2. 因根深蒂固「一家人」的觀念，所以一家人死後埋於自家室內使其骨骸不相離為理所當然。由於埋葬和「家」的觀念相結合，衍生出埋葬的祖先愈多，這家也愈有「福氣」的說法，與生者同在，且相信葬在室內的祖先們就是家屋的守護神（*i qumaqan*）（許功明，1993：405-406）。

蔣斌、李靜怡並指出排灣族家屋和子宮隱喻之間的關聯，可看出排灣族家屋的封閉性和類似子宮孕育生命的能力。如孕婦臨產時若產兒不出陣痛不止，招女巫作安胎之祈禱，其法為解開其緊結物以寬其身，繼而破壞石垣的一端，掀去屋頂的一部分，搖動柱子，碎裂上衣片袖或發出子彈聲等，均強烈暗示家屋和子宮隱喻上的關聯。而家中發生難產死亡，是家屋必須被毀棄的主要理由，因為家屋的基本任務就是孕育生命、誕生生命（就像子宮一樣），這個任務失敗，等於是宣告這個家屋的死亡（蔣斌、李靜怡，1995：189-190、201）。

上述說法雖然無法在普濟鹿社取得明確的口述或考古證據，但筆者認為這是相當重要的觀察。若考慮到室內葬是以「蹲踞姿勢」—雙腳蹲坐於地、雙手反折置於胸前—來埋葬死者，且如上所述，排灣族的傳統蹲踞木雕、漢本遺址陪葬角雕所表現的蹲踞人像（圖版七），姿勢都和這種死者蹲踞埋葬的方式相似，而這三種蹲踞的人像，又都與母體內約 9 個月大的胎兒之姿勢極為相似，筆者推測蹲踞、雙手置於胸前這種姿勢，可能隱含著祈求死者能夠如胎兒重新誕生的願想，即透過埋葬在如同母體子宮的家屋之中，使得死者能夠再度重生的祈願有關，與排灣文化中的家屋「是出生的地方也是死後的居所」這個重要的社會文化概念十分相似。

四、結語

排灣語的家屋稱為 *umaq*，是每一個排灣人生時所來之處，也是死後回歸之處。[8] 在排灣族的社會裡，「家屋」不只是居住的房子，「它同時也代表著權利的象徵和階級的標幟，每一個家屋的主人都有屬於自己階層的家屋名譜，不可以越級使用」（行政院原住民族委員會，2012：15）。家屋本身成為社會體系中唯一穩定且具有延續性與法人性質的單位。排灣族的家有家名，家名基本上是建築物的名稱。一間家屋在非親屬間移轉產權，家名依舊。同一家人因故遷入另一家屋，則採用該屋原有之名（Chiang，1992）。

透過本文的對普濟鹿社的研究理解，可以提供一些新的理解：包括三、四百年來，普濟鹿社一直是嚴謹的家屋社會，家屋不僅只是一個居住的實體空間，而是與人的孕育、出生、生活、死後的居所等有著極為密切的關聯，家屋類似女性的子宮，孕育新的生命，也將死去的家人以類似胎兒的雙手屈置胸前、雙腳蹲踞的姿勢下埋於起居室的地面下，其背後似乎隱含著死者將再以新的生命型態再度誕生，死亡是另一個新的生命的開始。而表達所屬階級位階的家屋名稱，和嚴格依照貴族階級（第 I 區）、平民階級（第 II、III 區）的家屋群分布，亦說明了在建屋之前，對土地的區劃、家屋的命名原則等，均已有嚴謹的要求和約定俗成的作法。

「普濟鹿」是本部落的自稱，以與鄰近的望嘉等社區辨，可以有效凝聚部落共識並標示部落邊界，這個部落邊界是以普濟鹿社的家屋群、各種生計及祭儀空間整體形

[8] 屏東中北部稱村落內固定的居所為 *umaq*，稱田間工作用的小屋為 *tapau*。居住在中央山脈以西，春日鄉以南於移墾地區的排灣族則稱他們的住屋為 *tapau*，而稱墳墓為 *umaq*（蔣斌、李靜怡，1995：169-170）。

塑而成，認同的強度從家屋群逐漸向外遞減。但是，另一方面，透過不同的貴族家族系統，卻跨越部落的邊界，串連起不同部落而形成線狀網絡。如普濟鹿社的羅安吉頭目家族為古樓系統的吉羅夫敢家族、佳平系統的佳屋都督家族聯姻而成，這兩個家族廣泛地分布於屏東和臺東的許多部落，每當某個部落的吉羅夫敢或佳屋都督家族的族人有重要祭儀或婚喪喜慶時，均會邀請不同部落的同一家族的族人前來參與或幫忙，同一家族的「自家人」的到來，除了展現該部落頭目家族具有堅強後盾外，也再一次強化了同一家族跨部落的血緣認同，彌補了單一部落在地緣上所面臨的孤立無援。

普濟鹿社如同排灣族的其他部落，雖然被學者或外來政權歸納為一個族群，但是各個部落卻自成一個獨立的自治單位，以部落做為生活的中心，雖然因為山區生業型態（山田燒墾、狩獵、漁獵、採集等）和生活條件（如水源、採石場等）的極為相似，而必須向部落外緣擴張，尋找適合的地點與資源，以維持生活甚至祭儀所需，與外界的關係雖然保持接觸，但敵友關係卻是瞬息萬變的，也造成不同時期部落邊界的浮動。如以普濟鹿社與鄰近的望嘉舊社之關係而言，17 世紀的荷蘭文獻曾記載普濟鹿社為了怕被望嘉社滅村，不惜與平埔的茄藤社甚至向荷蘭請求保護（翁佳音，1996：18-19）；但是根據筆者多次和文樂、望嘉部落現生耆老訪談的結果，亦透露出清季、日治時期，普濟鹿社與望嘉舊社通婚的情形。

在出土遺物和傳世文物上，普濟鹿社也透露出與來義舊社的關係（如兩社均出平特殊的多重捲製玻璃珠、大型銅柄鐵刀等）。尤其是漢本遺址出土的陪葬角雕所表現的蹲踞葬+雙手置於胸前這種姿勢，亦見於排灣族傳世木雕，與在母體中的胎兒姿勢十分相似，埋葬於室內的墓葬卻陪葬象徵新生命的人像角雕，與排灣文化中的家屋「是出生的地方也是死後的居所」、「是死後的居所也是重新再出生的地方」這個生生不息的概念十分相似。但是，為何在 1400~1000 年前的漢本遺址會出現角雕、人形銅柄這種同時具有百步蛇、人頭像、蹲踞、鷹鳥等要素的圖像表現？此仍有待進一步研究。

另外，「家屋社會」這一概念雖然早自 1950 年代即被提出，但是廣泛的討論要到 1970 年代，文化人類學者認知到家屋在南島語族社會裡的重要性，並利用家屋社會的概念，來思考南島語族的社會組織（Carsten，1987；Errington，1979、1987；Headley，1987）。其中，Levi-Strauss（1982、1987）認為「家屋社會」主要存在於階級社會這點，亦受到學者質疑此一概念在多數缺乏明顯階級制度的南島社會之適用性（如 Macdonald *et al.*，1987）。但是，直到今日排灣族的「家屋社會」仍為貴族和

平民階級所遵行；相對於此，臺灣大多數平權的族群，其「家屋社會」早已無法明辨其發展軌跡。從上看來，Levi-Strauss 認為「家屋社會」主要存在於階級社會這個觀點，即便有所爭議，但階級社會似乎有助於強化並長久維持「家屋社會」的制度。

引用書目

千々岩助太郎

1937《臺灣高砂族住家の研究・第 1-3 報》。臺北：社團法人臺灣建築會。

王煒昶

2004《臺灣原住民族祭典的盛會》。臺北：南天書局。

行政院原住民族委員會

2012《臺灣原住民各族傳統名制》。新北市：行政院原住民族委員會。

周書屹

2010《「多源」的組成與「相似」的風格：試探屏東縣來義部落人群組成與建築風格間的關連》。國立臺灣大學人類學研究所碩士論文。

翁佳音

1996〈歷史記憶與歷史事實——原住民史研究的一個嘗試〉，《臺灣史研究》3（1）：5-30。

許功明

1993〈排樓族古樓村喪葬制度變遷：兼論人的觀念〉，刊於《人觀、意義與社會》，黃應貴編，頁 389-460。臺北：中央研究院民族學研究所。

郭素秋

2020〈現生族群的溯源研究－以來義舊社為例〉，刊於《從史前到歷史－臺灣東半部的文化樣相》，中央研究院歷史語言研究所會議論文集之二十一，頁 335-398。臺北：中央研究院歷史語言研究所。

2021〈傳統原住民部落與外在社會的關係探討：以中排灣普濟鹿社為例〉，《臺灣史研究》28（3）：105-167。

郭素秋、鄭玠甫、黃鐘、林柏丞、胡植慶

2017〈空載光達技術在臺灣山區舊社考古學研究的應用：以排灣族文樂舊社為例〉，《國立臺灣大學考古人類學刊》87：67-88。

陳瑪玲

2004〈Saqacengalj 聚落模式與形貌：一個舊社的考古學研究〉，《國立臺灣大學考古人類學刊》63：50-91。

童春發

2001《臺灣原住民史 排灣族史篇》。南投市：臺灣省文獻委員會。

臺灣總督府蕃族調查會

2015[1921]《蕃族調查報告書第八冊 排灣族、賽夏族》。中央研究院民族學研究所編譯。臺北：中央研究院民族學研究所。

臺灣總督府臨時臺灣舊慣調查會

2004[1920]《番族慣習調查報告書第五卷 排灣族第三冊》。中央研究院民族學研究所編譯。臺北：中央研究院民族學研究所。

蔣斌、李靜怡

1995〈北排灣家屋空間結構與意義〉，刊於《空間、力與社會》，黃應貴編，頁 167-212。臺北：中央研究院民族學研究所。

Carsten, Janet

1987 Analogues or Opposites: Household and Community in Pulau Langkawi, Malaysia. In *De la Hutte au Palais: Sociétés 'à Maison' en Asie du Sud-Est Insulaire*. Charles Macdonald, ed. Pp. 153-168. Paris: Centre Nationale de la Recherche Scientifique.

Chiang, Bien

1992 House in Paiwan Society. Paper presented at the International Symposium on Austronesian Studies Relating to Taiwan (ISASRT), Institute of History and Philology, Academia Sinica, Nankang, Taipei, Dec. 29-31.

Errington, Shelly

1979 The Cosmic House of the Buginese. *Asia* (1):8-14.

1987 Incestuous Twins and the House Societies of Insular Southeast Asia. *Cultural Anthropology* (2):403-444.

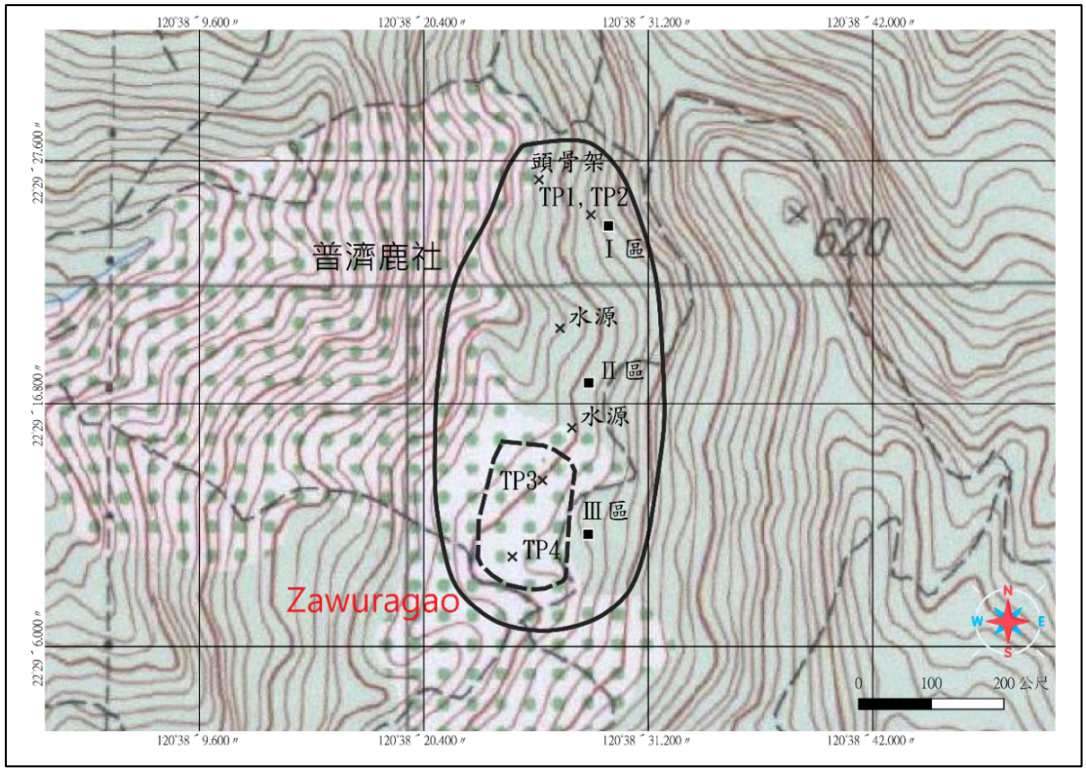
Headley, Stephen C.

1987 The Body as a House in Javanese Society. In *De la Hutte au Palais: Sociétés 'à Maison' en Asie du Sud-Est Insulaire*. Charles Macdonald, ed. Pp 133-152. Paris: Centre Nationale de la Recherche Scientifique.

Levi-Strauss, Claude

1982 *The Way of the Masks.* Modelski, S. trans. Seattle: University of Washington Press.

1987 *Anthropology and Myth: Lectures 1951-1982*. Willis, Roy trans. Oxford: Basil Blackwell.

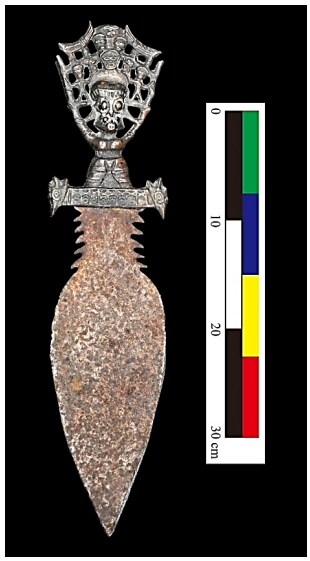


圖版一：普濟鹿社範圍、試掘探坑位置、重要地點與聚落分區

（虛線範圍為 Zawuragao 遺址。底圖套疊經建版 1/25,000 地形圖）

圖版二：Azangiljan 祖靈屋的小型刀（左，長 19.5 cm）與祖傳小型銅刀柄（右，長 16 cm）

圖版三：普濟鹿社阮枝美巫師老照片（手上的銅刀圖版二的銅刀。引自王煒昶，2004：232 圖）



圖版四：普濟鹿社的傳世大型黃銅柄鐵刀（長 45 cm）

圖版五：十三行遺址人形雙鳥青銅柄（T0030259，H 區墓 19）

圖版六：漢本遺址人形雙鳥銅柄砂岩模具（朱正宜提供）

圖版七：漢本遺址陪葬鹿角人形雕飾雕

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A Review of Archaeological Organization and Practices in Taiwan

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Abstract

Since the mid-twentieth century, the worldwide practice of archaeology has taken many different forms, especially in terms of its management: state-based, regional/federal-based, city-based, private, commercial/contract-based, academic, amateur, etc. Although archaeology, as a profession, is generally organized in accordance with the dominant ideologies of the time, on a national level it is adjusted to address specific needs and domestic ideological dynamics. While archaeological management practices are more complex and nuanced than framed by a simple dichotomy, such a structure usefully highlights overlapping similarities and differences. On the one hand, Japan, France, Italy, Greece, and many others made the initial choice for a mainly state-based archaeology, in which the state handles the practice and regulation of archaeology. On the other hand, countries like the USA, UK, Canada, and Australia chose a largely commercially-based archaeology, which is essentially a privatized and de-regulated practice. Such stark differences made us question whether archaeologists in both systems do the same job and have the same objectives? Furthermore, what is the situation in Taiwan? What choices have been made and what still needs to be done to define the future of archaeology in Taiwan? Even though archaeology largely relies on public institutions and their members, archaeological practice in Taiwan is now mainly done within a 'salvage archaeology' or 'contract-archaeology' model involving public and private operators. Funding for salvage

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archaeology comes through the 'polluter-payer' principle, which is developer-based and embedded in a market economy. This specific market configuration comes with well-known issues experienced worldwide, but the organization of archaeology in Taiwan presents some unique successes and challenges due to the history of its specific development. It retained large public archaeological institutions and structures that mainly support research, giving a more hybrid character to Taiwanese archaeological practices. It is suggested here that we are entering a period of transformation in Taiwan with the more common application of salvage practices and the advent of private operators, which may present several choices for the structural orientation of archaeology in Taiwan.

Keywords: Archaeological heritage management, Organizational structure of archaeology, Rescue archaeology, Market economy, Taiwan

當代臺灣考古學的組織與實踐

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中文摘要

自二十世紀中期以來，考古學實踐在全世界發展出許多不同的樣貌，特別在管理與控制的不同層面，包括國家主導的、地區／聯邦主導的、城市主導的、私人主導的、商業考古、學院派考古或業餘考古等不同體制。然而，考古學作為一門專業，往往受到當代主流思想的塑形，而更重要的，則是在一個民族國家的尺度下隨著其內部思潮的變遷而調整。

本文從一種簡化的二分法進行觀察與分析（當然，全球尺度考古學管理的實踐自然是更加複雜且細微），包括日本、法國、義大利或希臘等地區，係採取國家主導的考古工作（即考古學實踐以及管理由國家來進行），而美國、英國、加拿大或澳洲等國，則大體上選擇商業化的考古工作模式（即採行私人化與鬆綁管制的實踐）。此兩種系統下的考古學者是否進行著同樣的工作，並且懷抱相同的目標？臺灣的狀況又是如何？臺灣過去選擇了什麼樣的方向，以及未來可能會面臨怎樣的決擇？

透過分析顯示，即使在臺灣的考古學研究仍大體仰賴公立機關進行審查或執行，現今的考古學實踐主要在「搶救考古」的模組下運作，透過「污染者自付」原則（受到 1992 的瓦萊塔會議之啟發），也就是土地開發者出資委託考古家執行，導致將考古學放入了一個競爭性的市場經濟之中。這種競爭性市場結構伴隨的問題在世界各地歷歷可見，然而特定基於本地開發過程所衍生的特殊問題，卻是臺灣的考古管理所特有的。本文認為我們正面臨在一個轉捩點上，是否應持續以市場經濟邏輯為主導，或者轉而從質疑的態度面對當代的資本主義思維，重新將考古學導向社會文化的面向，而非遵循追求產值增長的教條。

關鍵字：考古遺產處理、考古學組織結構、搶救考古、市場經濟、臺灣

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Introduction

The present study is part of a long-term line of research that investigates how archaeological practices are structured around the world. Moreover, this research examines how the effects of dominant political-economy policies and their ideological background affect current archaeological work and archaeologists. Since 2011, I have dedicated most of my research efforts and publications to exploring and interrogating the links between knowledge and power and "to address the structures of power and authority" (Hamilakis, 1999: 60, 75). In keeping with this endeavour, as with the recent publication of Frank Muyard (2022) dedicated both to the history of Taiwan archaeology and to its present state, this research paper will focus on the current organisation of archaeology in Taiwan.

Semi-directed interviews[1] conducted across the Island between 2016 and 2018 form the basis of this research as well as all subsequent discussions. Additionally, this study took place with the support of students from the National Taiwan University (NTU) and from the National Cheng Kung University (NCKU). Twenty-four participants (quoted anonymously here) working within the archaeological community shared their perspectives as well as quantitative data on Taiwanese archaeology. Some adjustments to these data were done in 2020-21. However, it should be noted that most figures concerning management, budget, and a large part of the archaeological activities are not available, absent, or still difficult to access, making a compilation of strictly quantitative data nearly impossible at present. As such, the current analysis relies essentially on qualitative data gathered through direct testimonies of a representative sample of archaeologists (i.e., approximately 55% of the current population of archaeologists active in Taiwan, comprising a total of 45 to 55 individuals).

Questioning the nature of archaeological practices in Taiwan

1. Contextualising Taiwanese archaeological practices in a global political-economy

[1] Memorandum of understanding, interview consent forms, various authorisations, and list of questions are available on demand.

Every country possesses cultural heritage legislation developed according to the dominant ideology of the time, which implies a specific conception of the role occupied by archaeology in society. Generally, this falls into three categories: 1) privatised (in a strict capitalist interpretation), so that archaeological practices should be made compatible with the market economy; 2) state-based (in a socialist system and/or in some social-democracies which sustained some public services essentially inherited from the pre-1980s era), implying that protection of cultural heritage is a citizens' right supported by taxes and taken care of by civil servants; and 3) in-between or hybrid (with a mixture of various compromises between the two previous tendencies).

Yet, a hyper-capitalistic hegemony, which emerged in the 1980s, was progressively implemented globally (Harvey, 2007). This quickly had an effect on archaeological management policies (notably through the internationally influential European Valletta convention of 1992) and asserted that archaeology needed to be closely integrated with land-use planning and supported financially by the 'polluter payer-principle'. It resulted in the emergence of a "developer-funded archaeology" (Willems and Dries, 2007: 66), dedicated to what is called today: 'salvage archaeology', 'rescue archaeology', 'preventive archaeology', or 'contract archaeology'. Since then, a globally dominant discourse, very much visible in Anglo-American literature dealing with archaeological management, has stated that: "Early involvement of archaeologists in the development process can provide a better protection to sites and a better planning process" (Cleere, 1989: 12). While this assertion seems to be common-sense, this statement is particularly questionable in the sense that this 'early involvement' does not necessarily provide 'better protection' (if any) to archaeological sites. In fact, it only provides greater legitimacy (within a development-led logic and its adapted legal framework) for archaeologists to extract material and data from a limited space defined by a developer, but without assessing the significance of a site in scientific or social terms. At the same time, while such an approach does provide archaeologists with more job opportunities, we must interrogate ourselves as to the nature of such jobs and their social justification. It should be kept in mind that the aim of 'salvage archaeology' is directed towards the removal of archaeological sites before their destruction. The main objective of such 'early involvement of archaeologists' is then only to facilitate construction development. Therefore, this model has nothing to do with the 'protection' of archaeological sites

and built heritage for the benefit of citizens, but rather offers much more with a quick cleaning of sites in the interest of a developer.

In addition, the widespread reluctance of most governments to invest in the establishment of archaeological institutions with permanently employed archaeologists has resulted in the progressive and global conversion of archaeology towards an Anglo-American version of the profession, even in the systems traditionally considered state-based such as France (Zorzin, 2016b) or Japan (Zorzin, 2013). The defining characteristics of this market-compatible model are:

1. The polluter-payer principle directly finances salvage archaeology, and the developer selects the salvage archaeology operator.
2. Archaeological operators (private or state-based) conduct 'salvage archaeology' in a competitive market by winning contracts.

Taiwan is embedded in a capitalist framework, in a very similar way as Japan and South Korea, all under the strong ideological influence of the USA (Cai, 2008: 117-150). For archaeology, such a context would imply that all actors would be expected to participate in the competitive market economy, resulting in a fully privatised archaeological system. Yet, as in Japan, this is not the case in Taiwan. As such, considering Taiwan's former and present economic and political context, what structural 'category' of archaeology would Taiwan fall into? What could explain the specific development of archaeology in Taiwan? What are the tendencies and a foreseeable future for the structure of archaeology in Taiwan?

2. Taiwan: A state-based archaeology? A competitive system, regulated or unregulated? Or, a hybrid system?

Archaeology in Taiwan has always been and still is fundamentally related to research institutions. Historically, the main figures have been the National Taiwan University (NTU), formerly called the "Taihoku Imperial University" (臺北帝國大學) (Blundell, 2001; Liu, 2001; Nobayashi, 2001; Wu, 1969), and the national research institute - Academia Sinica 中央研究院, with the Institute of History and Philology 歷史語言研究所 (Liu, 2011; Murowchick, 2012). The state has sponsored archaeology since the beginning of the Japanese colonization in 1895 as a mission serving the Japanese governor and directed by Japanese scholars. Nowadays, to a certain extent, state sponsorship continues through academic institutions. At first glance, and

compared to other archaeological systems in the world, archaeological practice in Taiwan seems to correspond to the definition of a state-based archaeology.

However, its configuration is more complex because it cannot be equated directly with the once centralised state systems such as the one of France before 2003 (Demoule and Landes, 2009; Schlanger, 2006, 2007, 2016; Zorzin, 2016b), or the regionalised one present in Japan until recent transformations (Habu and Okamura, 2017; Okamura and Matsuda, 2010; Uozu, 2019). Both French and Japanese archaeological systems are now partially privatised (Blein, 2019; Zorzin, 2013). In comparison, Taiwan has no state archaeological service *per se* equivalent to the INRAP in France, the "boards of education (*kyouiku iinkai*) of local government on both prefectural and municipal levels" in Japan (Okamura and Matsuda, 2010: 99), the central Archaeological and Museums Council in Greece, or the *Soprintendenze Archeologia, belle arti e paesaggio* in Italy. Instead, Taiwan still possesses a dominant, non-centralised, state-based academic and museum network (Figure 1 – ¾ of the figure). Nevertheless, it is embedded in the neoliberal framework in effect in all the countries cited above, whether they still support a state-based archaeological system or not. This dominant doctrine, for which Taiwan has taken part since the mid-1980's (Tsai, 2001: 359), is based on the belief that "market openness, fiscal austerity, and privatisation of public sector" (ibid.) should be prioritized for the benefit of a thriving society[2]. However, these assumptions have been generally and repeatedly proven to be false by economists like Piketty (2014, 2020); for archaeology, they have proven to be hardly compatible with ethical and sustainable practices (Aparicio Resco, 2016; Hamilakis and Duke, 2007; Hamilakis, 1999; Hutchings, 2018; Hutchings and La Salle, 2015; Kehoe, 2007; Parga-Dans, 2019; Shanks and McGuire, 1996; Zorzin, 2015a, 2015b, 2016a). Nevertheless, in archaeology, and more specifically in salvage archaeology, such a doctrine would provoke: 1) the establishment of competition between operators within an open market; 2) archaeology to be de-funded from the

[2] In Taiwan, since the 1990s, democratic life is essentially dominated by two parties: the "Democratic Progressive Party" (DPP) and the "Chinese Nationalist Party" (KMT). They respectively belong to the 'Liberal International' and the 'International Democrat Union' groups, which is comparable to the dualism of the North American political system, divided between 'progressive' and 'conservative'. However, both have followed the same neoliberal economic doctrine since the 1980's (Tsai, 2001).

state and replaced by the developer-funded system; and 3) ultimately to have private operators replace state-based operators.

In terms of regulations for archaeological activities in Taiwan, the state has defined the guidelines for the treatment of heritage at large by the "*Cultural Heritage Preservation Act*" (CHPA – Ministry of Culture, 1982) and its later updates (2016a). Yet, as no central state body dealing with archaeology was created in Taiwan, no one in a permanent position in the government apparatus can directly oversee the implementation of its regulations and play an independent and neutral role (i.e., without financial dependence on the client/developer, or the obligation to gain contracts). In Taiwan, this is in fact the role of an interim committee composed of archaeologists (essentially recognized scholars), who work and compete within the archaeological network. It needs to be emphasized here that this established committee-apparatus is particular to Taiwan, and largely contributes to its distinctiveness. Despite some issues that we will develop later in this contribution (notably the fact that the members are placed in possible conflicts of interests by being both judge and party within the competitive market), most interviewees agree that this interim committee contributes to the positive functioning of archaeology in Taiwan. It has also been successful in opposing some cases of potentially destructive development. However, as with any other system implemented across the globe, it comes also with some issues which this article will try to address.

Since 1997, five successive amendments of the CHPA (Ministry of Culture, 2016b) have made significant progress. Yet, it has been pointed out that, since 1982, the main problem of the CHPA was the absence of forceful mechanisms to enforce its regulations. As a result, cultural heritage suffered under the *laissez-faire* attitude of local authorities and was at the mercy of potential conflicts of interests with local developers (Tsai, 2012). As underscored by Hsia Chu-Joe, a Professor at Graduate Institute of Building and Planning, NTU, in Taiwan, "the real enemy of conservation efforts has been the prevalent development-centric mentality" (cited in Tsai, 2012; and see also Hsia, 2006: 91-101).

All in all, archaeology in Taiwan can be defined as an 'in-between' or hybrid system. It is composed of a vast majority of state institutions and some private operators but is simultaneously driven by a public mission. At the same time, it is firmly embedded in a competitive and

deregulated market economy when it comes to salvage archaeology. As such, this system produces an archaeological practice that is somewhat paradoxical: it is both a public service (for the preservation, research, and display of archaeological remains) conducted by scholars, and a collaborator with development by mitigating the destruction of heritage through contract-archaeology, following the standards of the free-market economy, i.e., minimum time and cost spent by the developer to respect its legal obligations.

Although the neoliberal influence did not come with a massive privatization of archaeological operators in Taiwan, since 2012 there has been a clear inclination towards the privatization of salvage archaeology (Chen, 2014; and see Figure1 – bottom-right). This occurred together with the disengagement of the state, leading to a lack of direct regulation of archaeological activities. As an example, there can be ineffective enforcement of the existing regulations when it directly opposes development, as highlighted by Liu Yi-Chang (Tsai, 2012; see also the recent case of Hanben in Zorzin, 2018). The fact that developers are corporate groups or, more commonly, state agencies (e.g. Ministry of Transport), does not make a difference in Taiwan, as they are all implementing the same neoliberal logic (Tsai, 2001). This favors competitive mechanisms and market-driven goals and does not necessarily prioritize the common good (especially when it concerns culture or ecology).

Finally, in the case of Taiwan, it is possible to evaluate to what extent 'salvage archaeology' is dominant in the practice of archaeology[3]. As a limited example, we gathered some information for Taichung County from 2011 to 2019: 96.5% of interventions (160 operations) were salvage archaeology, while the remaining 3.5% (6 operations) corresponded to research programs. However, to have a full understanding and complete picture of the current dynamics in Taiwan, data gathered from all counties or, at least a representative sample, will be necessary to form a clear image of trends over the last decade and to define future trends. Over the last three decades, archaeology in Taiwan is trending towards a privatized and deregulated model but it possesses

[3] However, it could be determined that state funding comes from very restricted resources: National Science Foundation; Institute of History and Philology - Academia Sinica, with its own research funding for archaeological projects (about 5 million NT$/year); Museums; National Bureau of Cultural Heritage for non-rescue archaeological projects (about 20-30 million NT$/year).

numerous particularities, exceptions, and nuances in its implementation. We will now focus on deconstructing in detail the functioning of the Taiwanese archaeological network.

Salvage Archaeology: An attempt of deconstructing the industry through archaeologists' voices

Today, pressure on urban and rural areas caused by the pace of development remains high in Taiwan with a relatively stable GDP growth rate fluctuating between - -7.88% (1st quarter of 2009) and +12.02% (2nd quarter of 2010), with an average rate of 3.22% between 2008 and 2021 (DGBAS, 2022). Even in 2020, as one of the few countries in the world not experiencing a recession, Taiwan's GDP has managed to stabilize around this average in the face of the ongoing Covid-19 crisis and of the US-China trade war, with an average annual rate of +3.36%, (ibid.). Economic growth rate in Taiwan even continued rising by +6.57% in 2021 despite global economic major disruptions (ibid.).

Since the 1980s, the construction of infrastructure and new buildings brought about a more systematic implementation of salvage archaeology thanks to the CHPA and its amendments, but there were also some negative consequences of these activities. It was stated by a scholar from Academia Sinica that, "In Taiwan, archaeologists have less time, energy, and budgets to devote to problem-oriented research" (Chen, 2011: 59), notably because of the lack of archaeologists available to cope with the development demand. The problem of the 'rushed nature' of salvage archaeology has often been discussed in Taiwan, but the outcome of such activities is still quite challenging for many as it seems to negatively alter the nature of the archaeological work. This is illustrated by interviews of archaeologists about fieldwork which are representative (i.e., opinions very often expressed):

> [Shu-fen]: the problem with the systematic use of salvage archaeology is that we can't keep the sites in situ, and we always have to do "preservation by records". Paradoxically, the recording process must be done under high time pressure and with very limited financial means, and this cannot comply with the minimum ethical requirement for a proper archaeological excavation before the destruction of a site.

> [Shu-hui]: Under time pressure, archaeologists often have to use the wrong excavation methodology, notably 'aleatory levels', too systematically, when a 'single context' method should have been used… not to mention the recurrent problems of water invasion. In these conditions, salvage archaeology in Taiwan equates, sometime, to the 'murder' of a site.

Today salvage archaeology constitutes a major part of archaeological activities in Taiwan. Even if is not structured nationally by a central institution, there are archaeologists in non-permanent administrative positions (i.e., on 1-year contracts) present in the administration of certain counties (within local sections of the Bureau of Cultural Affairs) who try to fill the role of assisting in daily/routine activities (See Figure1, top-left). Such work is carried out in parallel to the interim national committee mentioned previously, which possesses the pivotal task of validating the selection of archaeologists/operators and evaluating their reports. All in all, the salvage archaeology industry is open to archaeologists coming from research centres such as Academia Sinica, universities, museums, private units in archaeology, as well as to non-archaeological consultants (engineers, architects, environmental specialists, etc.) in certain cases.

The latter can obtain contracts as soon as there are no archaeologists present in an evaluation committee, and when 'excavations' are not named as such but labelled as 'dismantling investigations' as for example. According to my interviewees, it is not an uncommon situation, and it allows excavations to be conducted without any archaeological expertise involved in the fieldwork, and without applying the standard regulations for archaeological activities. The absence of both of these results inevitably in damaging archaeological sites and not recording them properly.

1. Analysing the salvage archaeological process induced by the CHPA

Regardless of the archaeological institution involved (i.e., academia, museum, or private operator), the procedure in case of development can be understood as follows: a developer (being a private corporation or a state administration) has a construction/development project which requires excavations or soil disturbance. At the location of the development, regardless the County, City, or Special Municipality 直轄市, administration is the administrative entity that asserts the legal obligation of archaeological investigations to the developer and eventually

facilitates the procedure. As illustrated in Figure1 (top-left), this government apparatus (or its local manifestation) has almost no archaeologists, as is the case for Taipei, with zero experts in a densely populated city of 2.65 million inhabitants. This absence is an issue because, in an environment driven by extremely high development pressures, archaeology can be perceived as an obstruction to development, investments, and profit-making. As such, archaeologists employed by cities/municipalities are vital in controlling development projects. Otherwise, there is very little chance a site would be preserved without sufficient understanding of the archaeological remains, archaeological process, powerful stakeholders, acquaintance with the development industry, and public support/lobbying. Such a case would trigger a 'salvage archaeology' response, according to national policies, but with no or very limited possibility for further involvements (preservation, research, public archaeology, etc.), other than just applying the law and producing a report allowing the destruction of the site. Thus, archaeology is essentially reduced to a technical operation.

In any case, the options available for developers differ depending on whether the developer is part of the public administration or a private corporation. According to the regulations of CHPA, there are two ways in which this can be done. I will refer to them here as: Option A for private developers, or Option B for public developers.

(1). OPTION A: Private/Corporate development project

A. A private developer usually directly contacts a researcher/professor/expert in archaeology to ask them to carry out archaeological investigations before a development starts. This means there is no public call for tender. A list of recommended contacts should be provided by the Bureau of Cultural Affairs, or perhaps the developer has already worked with an archaeologist before. In either case, individual archaeologists are contacted first, especially those who are well known, in Academia Sinica, NTU, NCKU, National Museum of Natural Science (NMNS), and National Museum of Prehistory (NMP). More recently, an increasing number of individuals at some private companies are on this initial list. The fact that the individuals contacted are prominent is not an obligation specified by law, but this is more part of a habitus favoring senior researchers because they have years of

experience in salvage archaeology, prepared teams, and funds to support big projects as requested by the law (Ministry of Culture, 2021, See Art. 4 & 5). Some of them also are well connected with the national committee in charge of the project's follow-ups and are themselves part of the same committee. These are reassuring factors for any developer seeking an archaeological operator which fulfils all the criteria defined by the law (ibid.), and who is eventually able to deliver results on time.

B. It is the developers that choose the archaeologist/unit, and they are the ones who also pay for the fieldwork (following the 'polluter-payer' principle). The selected archaeologist is, according to interviewees, most often part of the same list comprising seven senior professors and researchers as well as some cultural anthropologists.

C. If the archaeologist contacted first turns down the offer, then they would be asked to suggest another potential candidate.

D. In certain circumstances, such as when there are no notable archaeologists available to take on the projects or they are too busy to proceed, then, other individuals (less prominent), smaller institutions, or smaller private units might be able to obtain the contract with the developer.

E. After the designation of the archaeologist in charge of a project, the process will be implemented as follows:

   a. A compulsory desktop assessment, an archaeological survey and test pits must be completed by the archaeological team, for the developer to be allowed to proceed to the next legal step of a construction project.

   b. An evaluation report must be produced by the archaeological team and validated by the national committee of archaeological experts (for sites designated culturally important), or by the local Bureau of Cultural Affairs (for low potential areas or unlisted sites).

   c. If it is deemed necessary by the national committee of experts, a phase of archaeological excavation would be initiated, resulting in the production of an excavation report. In this case, a contract is signed between the private developer

and the archaeological operator. This would define the budget, including the cost of materials and working force, as well as the time required. It would also specify in advance the area that can be covered by the archaeological excavation without extensions to the allotted excavation time or trench sizes unless a new excavation application is submitted.

d. After validation, the final report remains at the local Bureau of Cultural Affairs and at the developer's headquarters; a total of approximately 10 reports are produced and distributed to various administrative divisions of Taiwan.

(2). OPTION B: Public development project

A. When a development project is proposed by a public structure, such as the Ministry of Transport, it can be posted on the Internet as a call for tenders. As such, this bidding system, defined as: "an occasion when companies are told they can compete for work by offering their best price" (Cambridge Dictionary, 2021) creates de facto a 'market' for salvage archaeology in Taiwan (Figure 2), with regular invitations to tender (every 6 months)

Figure 2: Example of a tender for Public Construction Commission Executive in Yuan (http://web.pcc.gov.tw/prkms/prms-searchBulletionClient.do?root=tps)

As a matter of comparison, a non-competitive structure for archaeological projects (comparable to the French INRAP before 2003) would imply the employment of an internal/state working force. In this model, the selection for a project from such a group would be based on a range of criteria (location of the archaeological services, knowledge/competencies, research question, team capacities, laboratory capacities, etc.), and not on which provider proposed the shortest time and lowest price like in a free-market economy. In a non-capitalistic configuration, archaeology is kept outside of the open market and protected from competition and its known deleterious effects on the quality of the work (Zorzin, 2016b). This is not currently the case in Taiwan.

B. Anyone in the archaeological network (Figure 1), with a degree in archaeology or anthropology, with the relevant experience, and with the demonstrated capacities to support a team, analysis, research, and storage (Ministry of Culture 2021, See Art. 4 & 5) can answer the call for tenders. In this configuration all actors enter a competitive process to win a contract. The quality criteria for the selection of the archaeological unit are supposed to be guaranteed/regulated by the archaeologist's capacity to obtain the certification of qualification (ibid.) through the national committee of experts. As such, given equal competencies and qualifications of different archaeological operators, the choice falls to the public developer. In the end, this choice would be essentially guided by proposed time (the quickest), and cost (the cheapest), not by scientific or social outcomes, for which a developer has no interest and no competence whatsoever.

C. See point (e) in Option A for the next steps.

Variation for Option B: with a public developer, it is necessary for the final report to pass the review of the national committee of experts to receive the full payment of the salvage excavation project.

(3). Discussion of the issues raised by contractual Options A and B

A. A competitive market?

One of the issues in the process of establishing a contractual relationship between private developers and archaeological entities comes from the fact that Option 'A' does not appear to be openly competitive while, in fact, it is very much so in its practice. At first glance, it might not look like it abides by market rules because it does not include an invitation for tender. Yet, it is competitive because the developers (as they are increasingly aware of how things work) can contact multiple archaeologists/ archaeological operators and request evaluations, assessing the resulting quotes mostly by focusing on criteria like the speed of excavation and on price. As such, competition is fully present but not in the open. It is a matter privately discussed between the developer and each archaeologist/ archaeological operator.

Furthermore, since there are no proper standards to evaluate archaeologists, developers usually pick the cheapest one, which forces archaeologists to cut their budgets almost systematically. So far, there are no formal standards at the national level for things like excavation methods, budgets, material sorting, or the production of archaeological reports. Therefore, the budget is expected to decrease under the pressure generated by the competition coupled with the need to obtain contracts: the financial viability of an archaeological operator (including employee's salaries, equipment, laboratories, research, etc.), whether it is private or public, depends on obtaining them. If the leader of an archaeological unit is a scholar (i.e., a civil servant), their salary does not depend on gaining a contract, yet all other employees and the structure of the entity itself depends on it, making the acquisition of a contract a matter of survival.

Based on comparisons with other countries, such as France or Canada, when private operators initially are present or begin to multiply (in both private and public sectors), the effects of competition really start to be felt already after five to ten years (Confédération Générale du Travail, 2013: 11-18). In Taiwan, the effects of competition between operators were predicted to be felt during the decade before 2020, but it still needs to be evaluated quantitatively to what extent competition is now fully effective or not.

Nonetheless, if the choice made by the developer was not considered suitable by the national committee of experts, notably due to the professional qualifications of the team, the application for excavation might be rejected. Then, the developer would be requested to make a new arrangement with the archaeological operator chosen to find a qualified archaeologist. However,

this process leads some archaeological operators to use the same qualified names repeatedly to secure contracts, even though these individuals are not available. The result is that the fieldwork will seem to lack a competent leader and there will be an unavoidable degradation in the quality of work. This issue should be also correlated with the fact that there are very few archaeologists who are qualified to monitor archaeological activities (e.g., surveys, test-pits, excavations, etc). In such a competitive configuration, it seems that an increase in the number of archaeologists would be necessary and urgent. However, we will see below that this conclusion might be a questionable one, as it does not challenge the development-led logic currently applying to the fieldwork.

B. The national interim committee of experts

The strength of the interim committee of experts resides in its role as a national regulator. According to the testimonies collected by this study, the role of the committee in defending the public's interest (i.e., to preserve the Cultural Heritage of Taiwan), has been truly effective in many cases. The decision to protect a site (i.e., the refusal to validate a development project on a designated site, or adjustments to its implementation) belongs to this interim committee. This has resulted in some development projects being successfully stopped to protect significant archaeological sites.

In contrast, the decisions taken by the committee regarding which archaeological sites are designated to receive preservation by records before destruction, is, also according to my interviewees, sometime based on an economic consideration. This is fueled by the so-called 'development-centric mentality' mentioned earlier (Tsai, 2012), as well as the socio-economic pressure that comes with it, resulting sometimes in favoring development over preservation of sites *in situ*.

Furthermore, the committee is facing another problem when it comes to regulating the activities of other actors (notably private salvage operators) which regularly compete for contracts with the members of the committee themselves. The members of the committee can block the validation of a project by a certain company, while the leader of that company has no say in the activities of the scholars. This configuration is ethically questionable because the academic members of the committee are at risk of being both judges and competitors. As a matter

of comparison, in a partially state-based structure such as France, a civil-servant, trained as an archaeologist, and hired by a regional authority (*Direction Régionale des Affaires Culturelles - DRAC*), would act as the regulator between the developer and the archaeological operator. This individual would not have any direct role or potential financial interest in an archaeological salvage contract. They would be in a neutral position to implement the regulations, check the quality, as well as to request modifications (to the archaeological operator and/or the developer) in terms of evaluating the price and temporal duration of projects, team compositions, etc.

C. The effect of competition and of the contractual relationships between developers and archaeological operators in Option B, but also applicable to Option A

One consequence of competition is to risk stark declines in prices as soon as the pressure rises on operators to gain contracts. For archaeology, that means reducing the resources to accomplish the numerous basic tasks. That is especially the case for post-excavation operations (e.g., analyses, research, and publications) which are less visible, often abstract, distant in time, and are not immediately quantifiable in terms of areas or volumes. As such, it is easy for developers not to pay for post-excavation tasks as they often come after the production of the report, and the required time is often minimized in the initial evaluation and negotiation of budgets. Fortunately, in Taiwan, some of the material might be analyzed through projects funded by the state, which compensates for the lack of developer's funds dedicated to the task.

Furthermore, after the establishment of a contractual relationship with a private or public developer, very little margin is left over for re-negotiations in case of major discoveries (see Zorzin, 2018, with the case of Hanben). The contractual relationship fixes timelines, which does not provide space for the unexpected, even though this is inherently part of archaeological fieldwork. This places archaeological operators/ archaeologists at risk of being taken to court by the developer for not respecting the initially defined schedule, even though archaeologists cannot and should not have to predict an exact excavation schedule. Since the contractual relationship also is based on the smallest amount of area required for the development to proceed, this tends to transform archaeological sites into small, fragmented pieces. Such an approach considerably reduces the general understating and significance of an archaeological site. An example of this comes from the case of Shihsanhang, where development prevailed in the 1990s (Lee, 2006: 49,

53-54), and where only a very small part of this recognized major archaeological site could be excavated, and even less preserved and displayed.

Since 2005, the high demand for salvage archaeology coupled with the minimal time and means granted for post-excavation work produced by the development-led logic has resulted in the considerable delay in the production of archaeological reports. "*The Regulation for Examination of Qualification to Excavate on Archaeological Sites*" (2021: Art. 8) states that a report must be produced before accepting the next contract, and that the accepted delay is fixed at 3 years after the completion of an archaeological activity. In fact, some reports are simply never produced or emerge only after significant delays due to the overload of work experienced by the few active archaeologists in Taiwan. Again, the first reaction here might be to solve this problem by increasing drastically the number of archaeologists. To a certain extent, that would work in the short-term, but that would also mean fully integrating archaeology within the development-logic instead of challenging the initial social, economic, or ecological relevancy of a development project. This brings us back to a fundamental question that needs to be answered collectively and acted upon: are archaeologists technicians complying to market requirements or do they challenge the latter if too many concessions have to be made?

D. Use of reports - What future for archaeological data?

Of the reports that have been written, many are kept by archaeologists who are very unlikely to provide them to the person requesting them. Moreover, old reports (before the digital era) are most of the time impossible to find. As stated by Chia-hao: "[…] *archaeologists in Taiwan* [as in many other countries] *form an old/middle-aged group who have the tendency to keep their own data for themselves, not-allowing other people to use it. But as a scientific discipline, they should make the data accessible and let other people make their own analyses and provide their own perspectives, and, in the end, to accumulate the knowledge within the discipline. This is a major problem. They tend to protect their territory*". Furthermore, accessibility of the reports is not guaranteed because of the high turnover of the employees of the local Bureau of Cultural Affairs, making it difficult to locate reports. Yet, the Bureau is currently extending its storage of archaeological reports, allegedly housing thousands already, suggesting that accessibility will soon be made much easier, and hopefully will include a centralized registration system.

Integration of Taiwanese archaeology within developmental/ environmental procedures: A synthesis of the major issues at stakes

1. Archaeology as a technical operation conducted by non-archaeologists

Since 1994, even without structured governmental guidance, archaeology was *de facto* integrated into the Environmental Impact Assessment (EIA). It was codified only informally under four general steps of the Archaeological Heritage Assessment (AHA): desktop assessment, field investigations (survey and/or test pits), assessing of the value and significance of the site, and recommendations. However, there are no obligations for the developer to use the services of archaeologists to proceed to the AHA, which were and still are conducted partially by profit-oriented engineering or non-archaeological consultant companies. As a result, the latter simply fail to comply with the minimum requirements of the AHA, compromising the integrity of potential archaeological sites (Chen, 2011: 68). They are in fact only truly dealing with visible and surface heritage remains but are likely to destroy archaeological sites as they do not recognize them and have no interest in preserving them, given the potentially high financial costs. Equally, developers are very unlikely to be caught in the act during the destruction of a site. The decision to accept the AHA report belongs to the local county Bureau of Cultural Affairs. As described above, this sometimes can occur without the presence of any competent archaeologists within the Bureau (as is the case in Taipei), potentially mixing local interests and political agendas into the decision-making process. Given that numerous pre-salvage archaeological procedures are not controlled by archaeologists and are not structured by official guidelines, this results in the recurrent problems of defective investigations and mistaken recommendations made by inadequately qualified companies. These deliver results to local counties or municipalities that often are not concerned with archaeological sites or with the potential value and wider significance of cultural heritage.

2. Rushed salvage excavations with poorly adapted methodologies, and the secondary status of salvage archaeology.

These issues are not only related to the simple lack of systematic archaeological investigations done by trained archaeologists and the general shortage of trained field archaeologists. Even though the excavations are conducted by archaeologists, the current

organization of salvage archaeology (i.e., contract-based) pressures archaeologists into making certain methodological choices which might be harmful to both the archaeological sites and the capacity of archaeologists to interpret them. An example of this was given by several interviewees:

> [Ya-ting]: How many archaeologists [are working] in Taiwan? and how many excavations are going on in Taiwan? They are all working in different institutions like universities or museums…so, how can they have time to be in the field at all time, and especially when they have three or four projects going on. Who is going to be on the site? All those students and workers, and assistants, of course… who are not trained in archaeology. The only thing they can control is by digging by arbitrary layers of 10cm and just collect the artefacts! If you are good enough, you might find features and then you will have the chance to record them but you won't really have the time to think about the connections between different features. All archaeologists are more or less doing the same thing.
>
> [Wen-hsiung]: In salvage archaeology, there is a discrepancy between who is in charge and who is really on site. The ones on site are probably students, and some experienced workers. It depends on who [oversees] the project: some archaeologists will go on site very frequently, but some will go only once a week or even less… so it really depends on people.

Furthermore, as stated by Chih-chiang below, salvage archaeology has been the entire responsibility of a few academic archaeologists in Taiwan until very recently, with the following consequences:

> [Chih-chiang] Now, there are many archaeological and research projects, but the developers are the ones who can choose the archaeologists to do the projects, who are most of the time the same [scholars]. Most of them have more than one project at the same time, so if we assume that an archaeologist's responsibility is to keep an eye on the field… how can you do three projects at the same time!?... […] They admit that this is a very big problem, and we need much more people working in archaeology! […] If someone is a professor at the university or a researcher, they can take contracts

> and register a project through their research divisions or university department. I think that if they have 5 projects, maybe 1 or 2 projects would be registered with the main divisions, but there are three more contracts signed directly with the professors, as a consultant. They won't admit that they are acting as a private company/consultant, but they only want to be considered as academics. […] This is the same situation everywhere in Taiwan. I think that most of the professors won't stay in the field when the project is running, but they will come once a week, or once a month, because they have other things to do.

This is what was presented by my interviewees as the *status quo* of the practice of salvage archaeology in Taiwan. To be fair, it was also mentioned that certain sites differ from this general trend, and there are some scholars who have enough time or take the time to pay closer attention to specific projects. In certain cases, they use customized methodologies for the excavation and for the data collection of a specific site. They even disseminate knowledge by promoting site visits though the involvement of media (Cheng, 2020; Chiang, 2018, 2020; KaoguHTSKY, 2021).

However, and overall, this situation of rushed excavation and degraded methodologies generate what is often experienced and described by many archaeologists as a 'second-class [salvage] archaeology' compared to a research environment. This is also the case in numerous other countries with a CRM-centered archaeology such as the UK or Canada, or even with state-based salvage archaeology such as France.

Salvage archaeology does not receive direct support from the state or from the counties to negotiate the necessary time and funds to properly conduct archaeological investigations. There is no motivation to do so if salvage archaeology is seen only as an actor of the development industry. As a result, the small number of archaeologists active in Taiwan cannot deal properly with the high amount of work, even if they wanted to. As such, to cope with the demand, some professors in academia started running their own salvage archaeological units within the universities, parallel to their academic activities. Yet, as practical as this solution can be in terms of training, redistributing resources, reduction of costs, control of the entire operations, storage of material, and bridges for research, it also could be a detrimental choice for archaeology in Taiwan. There is a high chance that this semi-independent operator will split from the university

in the future, and this model overly emphasizes the technical aspects of archaeological practice. In the UK, this type of dual association (i.e., academia/museum and salvage archaeology) was established but in some cases ended with the privatization and separation of the salvage activities from its original research and public matrix (e.g., the Museum of London Archaeology). Another approach to cope with the high demand placed on salvage operations is the creation of private operators, which happen in Taiwan since 2012 (See Figure1 - bottom-right). This is also an immediate practical solution and rather efficient one, but a risky one in the long-term (See Zorzin, 2015a, 2015b, 2016). The use of a private operator could be a hazardous path to take in terms of its perennial existence under an increasing competitive environment. Given the obligation to obtain contracts to survive, archaeological entities in such a structure might find it increasingly difficult to resist potential pressure from developers. Indeed, they may push them towards complacency in dealing with archaeology according to the needs of the developers, namely the rapid pace and low price of proposed archaeological work. Yet, all types of salvage archaeology (private or public) are susceptible to this issue if unprotected by an external regulator, and by the enforcement of laws. Here the problem does not necessarily come from the opposition between private or public, but more from the opposition between research-based/state-funded/ regulated archaeology and salvage contract-based/developer-funded/unregulated archaeology.

3. A shortage of archaeologists?

The archaeological community in Taiwan comprises around 45 to 55 active archaeologists. However, the actual working community in archaeology should be re-evaluated at between 150 and 200 individuals, ranging in positions from university professors, laboratory experts, employees of museums or private operators, research assistants, to fieldwork technicians (Figure 1). If we privilege the higher estimation, we evaluate that 62% of the people working in archaeology do so in various public institutions (with the vast majority employed in academia); the remaining 38% do so within private operators. The appearance of the latter only began in 2012-2013, and the creation of four companies at that time remains a controversial topic among the archaeological community. With Taiwanese archaeology operating in a capitalistic system regulated by the rules of supply and demand, the small number of professionals recognised as archaeologists became an issue given the high demand generated by the legal obligations of the

implementation of the CHPA. Now, the first solution to effectively overcome the current issues would be to increase the numbers of archaeologists to around 400 qualified individuals. This is a large increase, compared to the current estimate of 45-55 archaeologists.

Yet, while increasing the number of archaeologists might appear to be a straightforward solution, the outcomes of such change would depend on the long-term orientation chosen for the organisation of archaeology in Taiwan:

(1). In the case of the choice of a privatized system for archaeology, it would constitute a further acceptance of archaeology merely as an armature of the development industry. In this case, by prioritizing development, the aim of salvage archaeology will always be preservation by records. As such, it can give the illusion of preservation through the production of reports. Yet, as shown earlier, excavation reports and the scant amount of time and means attributed to them, cannot allow archaeologists to produce reflexive, analytical, interconnected, and meaningful publications. In some cases, excavations will result in further research and even in the display of some artefacts in museums, but this remains marginal in relation to the large proportion of salvage archaeology projects conducted nowadays. In this specific configuration, an increase in numbers of active archaeologists would be qualitatively irrelevant.

(2). In contrast, a state-preventive archaeological network like the one of France or Japan could constitute a viable solution, but not if the development-led logic is still dominant and applied as suggested above in a privatized system. If a Taiwan state-archaeology system is chosen, it is only if the laws and the regulations can be modified to more firmly protect archaeological remains and research that an increase in the number of archaeologists would make a significant difference for Taiwanese society, as state-archaeologists would be in a better position to oppose development and facilitate preservation. In that case, increasing the number of archaeologists to establish a presence in every county, and in every main city of the island would, indeed, be good and necessary, but that would not be enough without challenging the whole economic system archaeology is embedded into.

Some conclusions

Taiwanese archaeology is fundamentally structured on a state model, non-centralised, and partially state funded. The state-based characteristic of archaeology is manifested by public institutions and the role of civil servants: most archaeological experts are employed by state-run universities, research centers, and museums. However, archaeology in Taiwan never developed a national or regional structure, and a systematic and new form of archaeology has developed since the 1980's: 'salvage archaeology' or development-led archaeology. Since the implementation of the CHPA in 1982, salvage archaeology is not paid for by Taiwan's citizens through taxes, but essentially by developers (unless the developer is a state body) through the 'polluter-payer' principle. This has modified the relationship of archaeological fieldwork practice from civil servant to citizen, to civil servant to developers, with a contract acting as the new regulator between them, manifested in contract-archaeology. In parallel, things like analyses, research, teaching, evaluations, publications, and exhibitions have remained essentially conducted within the public sector, paid for and conducted for the citizen. However, since 2012, archaeological practice itself has been partly detaching from the public sphere and being integrated into the development industry through the creation of private operators.

We tried here to deconstruct the process of salvage archaeology while documenting two possible options: a corporate development project or a public development project. Some of the main issues we identified are listed below. These issues are shared by most nations where archaeology has been fully integrated into a competitive-market structure and made compatible with the imperative of economic growth:

1. The existence of a regulating committee formed by scholars is a unique and highly valuable specificity of the Taiwanese archaeological system, notably in its cumulated experience and in its independence in the decision-making process. However, the very limited number of its members and their competition with each other for contracts and access to archaeological material and data can cause this decision-making process to be contentious. Furthermore, and on a larger scale, its members cannot necessarily directly oppose development, simply because development is central to capitalist 'common-sense' and, so far, is practically unchallengeable in Taiwan.

2. Because the activities are of a “salvage” nature (i.e., they are taken by developers/ archaeologists in reaction to an event or discovery by whatever means are available at the time) rather than a preventative approach (in which all actions are taken in prevention of a development project and conducted by a large number of experienced, well-trained archaeologists using a highly organized structure dedicated to archaeology), minimal time and financial margins are left for changes or to redefine priorities during the unpredictable archaeological process.
3. Archaeological knowledge production is often limited to grey literature, but as mentioned, and despite clear regulations, reports are consistently delayed or are not produced at all.
4. In the case of an ‘invitation for tender’, it is expected that the cheapest bid will win the competition, regardless of archaeological standards (themselves still not clearly defined). This results in a subsequent decline in the quality of excavations and reports. Such a phenomenon has been experienced globally in all places where a competitive system between archaeological entities was made compulsory.
5. Overall, archaeological practice in Taiwan suffers from the absence of professional archaeologists on site: archaeology is often done by workers and/or students not fully trained in archaeology.
6. There is a lack of archaeologists in local municipalities, cities, and counties. Some geographical voids in terms of archaeological competencies, such as in the municipalities of Taipei City or New-Taipei City are a worrying matter, because it does not allow archaeology to be considered within the decision-making processes. By default, archaeology is treated as a nuisance.

The practice of archaeology in Taiwan is conducted by a limited but vibrant, knowledgeable, and skilled community. However, as stated earlier, in its present development-led configuration, the only way to comply with the minimum standards for archaeological practice and solve some of the immediate issues presented here would be to proceed urgently to a drastic increase (+800%) of fully trained archaeologists both present in the field and at various levels of administration.

However, at this stage, a fundamental question should be asked and answered collectively: is this development-driven archaeology, fully integrated into the capitalistic logic, what we want for Taiwan? Alternatively, and in opposition to that approach, the advent of a more socially involved archaeology (such as 'public archaeology', 'indigenous archaeology', etc.) and one less dependent on development, might rather require challenging the current economic model, and urgently redefining the aims and modalities of our discipline, perhaps focusing on a 'slow science' approach, based on an economic 'de-growth logic' (Flexner, 2020; Zorzin, 2021). This is indeed not yet realistic within the current and dominant ideological framework of Taiwan, but that should not stop us from opening a constructive reflection on the definition and the aims of our work.

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References

Aparicio Resco, Pablo, ed.

2016 *Archaeology and Neoliberalism*. Madrid: JAS Arqueología.

Blein, Charlotte

2019 L'archéologie préventive, une source de solutions pour demain? Réflexions sur les enjeux scientifiques et sociétaux de l'archéologie préventive face aux effets délétères du néo-

libéralisme. *Canadian Journal of Bioethics / Revue canadienne de bioéthique* 2 (3):120-127.

Blundell, David

2001 A Century of Research: Austronesian Taiwan, 1897-1997. In *Austronesian Taiwan – Linguistics, History, Ethnology, Prehistory.* David Blundell, ed. Pp. 2-42. Berkley: University of California Press.

Cai, Kevin G.

2008 The Taiwanese Political Economy Since 1945. In *The Political Economy of East Asia*. International Political Economy Series. London: Palgrave Macmillan. https://doi.org/10.1007/978-0-230-30522-9_6 (accessed January 15, 2021).

Chen, Hui-Zhen 陳惠珍

2014 Weixing chuangye: Shugu wenchuang kai Taiwan kaogu zhuanye xianhe 微型創業－庶古文創開台灣考古專業先河 [Micro-entrepreneurs - Dr. Zhu opened a precedent for Taiwan archaeology]. 《中國時報》*[China Times],* January 8th. http://www.chinatimes.com/newspapers/20140108001415-260204 (accessed April 12, 2018).

Chen, Kwang-Tzuu 陳光祖

2011 The protection of archaeological sites in Taiwan. *Conservation and Management of Archaeological Sites* 13(1):58-75.

Cheng, Jie-Fu 鄭介甫

2020 Laku laku xi liuyu de shanzhong chuanqi 拉庫拉庫溪流域的山中傳奇 [The legend of the mountains in the Rakulaku Creek Valley]. http://guavanthropology.tw. (accessed March 20, 2020).

Chiang, Chih-Hua 江芝華

2018 Gongyuan li de kaogu jihua 公園裡的考古計畫 [Archaeological project in the park]. http://guavanthropology.tw (blog) (accessed July 9, 2018).

2020 Kaogu yizhi de kenengxing 考古遺址的可能性 [Possibility of archaeological sites]. http://guavanthropology.tw (blog) (accessed September 21, 2020).

Cleere, Henry, ed.

1989 *Archaeological Heritage Management in the Modern world*. One World Archaeology, Vol 9. London and New York: Routledge.

Confédération Générale du Travail (CGT) – General Confederation of Labour

2013 *Le secteur privé en archéologie preventive.* Montreuil: CGT.

Demoule, Jean-Paul, and Christian Landes, eds.

2009 *La Fabrique de l'Archéologie en France*, (INHA & INRAP). Paris : Éditions La Découverte.

DGBAS - Directorate-General of Budget, Accounting and Statistics, Executive Yuan, R.O.C.

(Taiwan)

2022 Global Reach. Achieving Quality. https://eng.dgbas.gov.tw/mp.asp?mp=2 and National Statistics – Republic of China (Taiwan). https://eng.stat.gov.tw/point.asp?index=1 (both accessed in June 30, 2022).

Flexner, James, L.

2020 Degrowth and a sustainable future for archaeology. *Archaeological Dialogues* 27(2): 159-171.

Habu, Junko, and Katsuyuki Okamura

2017 Japanese archaeology today: New developments, structural undermining, and prospects for disaster archaeology. In *Handbook of East and Southeast Asian Archaeology*. Junko Habu, Peter V. Lape, and John. W. Olsen, eds. Pp. 11-25. New-York: Springer.

Hamilakis, Yannis

1999 "La Trahison des archéologues" Archaeological practice as intellectual activity in postmodernity. *Journal of Mediterranean archaeology* 12(1):60-79.

Hamilakis, Yannis, and Philip Duke, eds.

2007 *Archaeology and Capitalism: From Ethics to Politics.* Walnut Creek: Left Coast Press.

Harvey, David

2007 *A Brief History of Neoliberalism*. Oxford: Oxford University Press.

Hsia, Chu-Joe 夏鑄九

2009 Dui Taiwan dangqian gong e yichan baocun de chuqi guancha: Yidian pipanxing fan si 對台灣當前工業遺產保存的初期觀察：一點批判性反思[A preliminary observation on the conservation of industrial heritage in Taiwan: A critical reflection]. 《國立台灣大學建築與城鄉研究學報》 [*Journal of Building and Planning National Taiwan University*] 13:91-106.

Hutchings, Richard M.

2018 Meeting the shadow: Resource management and the McDonaldization of heritage stewardship. In *Human-Centered Built Environment Heritage Preservation – Theory and Evidence-Based Practice*. Barry L. Stiefel and Jeremy C. Wells, eds. Pp. 67-87. Abingdon: Routledge.

Hutchings, Richard M., and Marina La Salle

2015 Archaeology as disaster capitalism. *International Journal of Historical Archaeology* 19(4):699-720.

Kaogu HTSKY

2021 Dang kaogu zai hutoushan gongyuan 當考古在虎頭山公園 [When archeology is in Hutou Mountain Park]. https://www.facebook.com/kaoguhtsky (accessed February 15, 2021).

Kehoe, Alice B.

2007 Archaeology within marketing capitalism. In *Archaeology and Capitalism. From Ethics to Politics*. Yannis Hamilakis and Philip Duke, eds. Pp. 169-178. Walnut Creek: Left Coast Press.

Lee, Bing-Lin 李秉霖

2006 *Baocun de zhengzhi yu zhanshi de jingji: Shisanhang yizhi de bowuguan hua*《保存的政治與展示的經濟：十三行遺址的博物館化》[*Conservation Politics and Exhibition Economy: The Museumification of Shihsanhang Archaeology Site*]. MA thesis. Institute of Social Research and Cultural Studies, National Chiao Tung University.

Liu, Yi-Chang 劉益昌

2001 Prehistory and Austronesians in Taiwan: An Anthropological Perspective. In *Austronesian Taiwan- Linguistics, History, Ethnology, Prehistory*. David Blundell, ed. Pp. 366-398. Berkley, Taipei: Hearst Museum/ Shung Ye Museum of Formosan Aborigines.

2011 *Taiwan quanzhi juansan zhuminzhi kaogu pian*《台灣全志・卷三・住民志・考古篇》[*Taiwan General Record, Part 3, Inhabitants Book, Archaeology Volume*]. Nantou: Taiwan Historica.

Ministry of Culture (MOC) - 文化部

2016a *Cultural Heritage Preservation Act*., amended on July 27, 2016, Taipei, Taiwan. https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=H0170001 (accessed March 20, 2018).

2016b *Organization history*. https://www.boch.gov.tw/en/#link (accessed June 12, 2017).

2019 *Enforcement of the Cultural Heritage Preservation Act.*, amended on December 12th, 2019, Taipei, Taiwan. https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=H0170004 (accessed January 10, 2020).

2021 *The regulations for examination of qualification to excavate on archaeological sites*, amended on January 1st, 2021, Taipei, Taiwan. https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=H0170057 (accessed March 3, 2021).

Murowchick, Robert E.

2012 *Kwang-Chih Chang 1931-2001 - A Bibliographical Memoir*. Washington: The National Academy of Sciences.

Muyard, Frank

2022 Taiwan's Place in East Asian Archaeological Studies. In *Taiwan Maritime Landscapes from Neolithic to Early Modern Times*. Paola Calanca, Liu Yi-Chang, and Frank Muyard, eds. Pp. 21-46. Paris: École Française d'Extrême-Orient.

Nobayashi, A.

2001 Retrospect of Taiwan archaeology: Then Japanese colonial period. In *Austronesian Taiwan – Linguistics, History, Ethnology, Prehistory.* David Blundell, ed. Pp. 322-336. Berkley, Taipei: Hearst Museum/ Shung Ye Museum of Formosan Aborigines.

Okamura, Katsuyuki, and Matsuda Akira

2010 Archaeological heritage management in Japan. In *Cultural Heritage Management: A Global Perspective.* Phyllis M. Messenger and George S. Smith, eds. Pp. 99-110. Gainesville: University Press of Florida.

Parga-Dans, Eva

2019 Heritage in danger: The collapse of commercial archaeology in Spain. *Archaeological Dialogues* 26(2):111-122.

Piketty, Thomas

2014 *Capital in the Twenty-First Century*. Cambridge, London: Harvard University Press.

2020 *Capital and Ideologies*. Cambridge, London: Harvard University Press.

Shanks, Michael, and Randall H. McGuire

1996 The craft of archaeology. *American Antiquity* 61(1):75-88.

Schlanger, Nathan

2006 Archaeology in France- Preventive archaeology in France: Saving the past for the future. *Minerva* September/October 2006: 25-29.

2007 Archaeological investigations of soils in France- Grounding the past in the soil at the French Institut national de recherches archéologiques preventives (INRAP). *Local land and soil news* 20/21(I/07):22-24.

2016 If not for you: The nation state as an archaeological context. *Archaeological Dialogues* 23(1):48-59.

Tsai, June

2012 Experts call for new approach to Taiwan Heritage. *Taiwan Today* August 10, 2012. http://www.taiwantoday.tw/ct.asp?xItem=194644&ctNode=436 (accessed July 7, 2017).

Tsai, Ming-Chang

2001 Dependency, the state and class in the neoliberal transition of Taiwan. *Third World Quarterly* 22(3):359-379.

Uozu, Tomokatsu

2019 Archaeological heritage management in Japan. In *Historical and Archaeological Heritage Management and Cultural Tourism in India and Japan: Issues and Prospects for Development*. Veerasamy Selvakumar and Manabu Koiso, eds. Pp. 354-371. Thanjavur, Kobe: Tamil University and Kobe Yamate University.

Willems, Willem, and Monique van den Dries

2007 The origins and development of quality assurance in archaeology. In *Quality Management in Archaeology*. Willems, Willem J.H. and Monique H. van den Dries, eds. Pp. 1-12. Oxford: Oxbow Books.

Wu, David Yen-Ho

1969 A short history of archaeological studies in Taiwan from 1895 to 1949: With a bibliography. *Asian Perspectives* 12:105-112.

Zorzin, Nicolas

2013 The political economy of Japanese archaeology: Reflective thoughts on current organisational dynamics. *Japanese Journal of Archaeology* 1:5-21.

2015a Dystopian archaeologies: The implementation of the logic of capital in heritage management. In *Disentangling contract archaeology*- A special issue of the *International Journal of Historical Archaeology* 19(4). Cristóbal Gnecco and Adriana *S.* Dias, eds. Pp. 791-809. New-York: Springer.

2015b Archaeology and capitalism: Successful relationship or economic and ethical alienation? In *Ethics and Archaeological Praxis I*. Cristóbal Gnecco and Dorothy Lippert, eds. Pp. 115-139. New-York, London: Springer.

2016a New managerial strategies in British commercial archaeology. In *Archaeology and Neoliberalism*. Aparicio Resco, ed. Pp. 297-325. Madrid: JAS Arqueología S.L.U.

2016b Économie et philosophie politique de l'archéologie préventive française- Naissance, institutionnalisation et in-corporation d'un commun. *Les Nouvelles de l'archéologie* 146:55-60.

2018 Archaeology and development in Taiwan- the case of Hanben. *Journal in Public Archaeology* (7):21-32.

2021 Is archaeology conceivable within the degrowth movement? *Archaeological Dialogues* 28 (1):1-16.

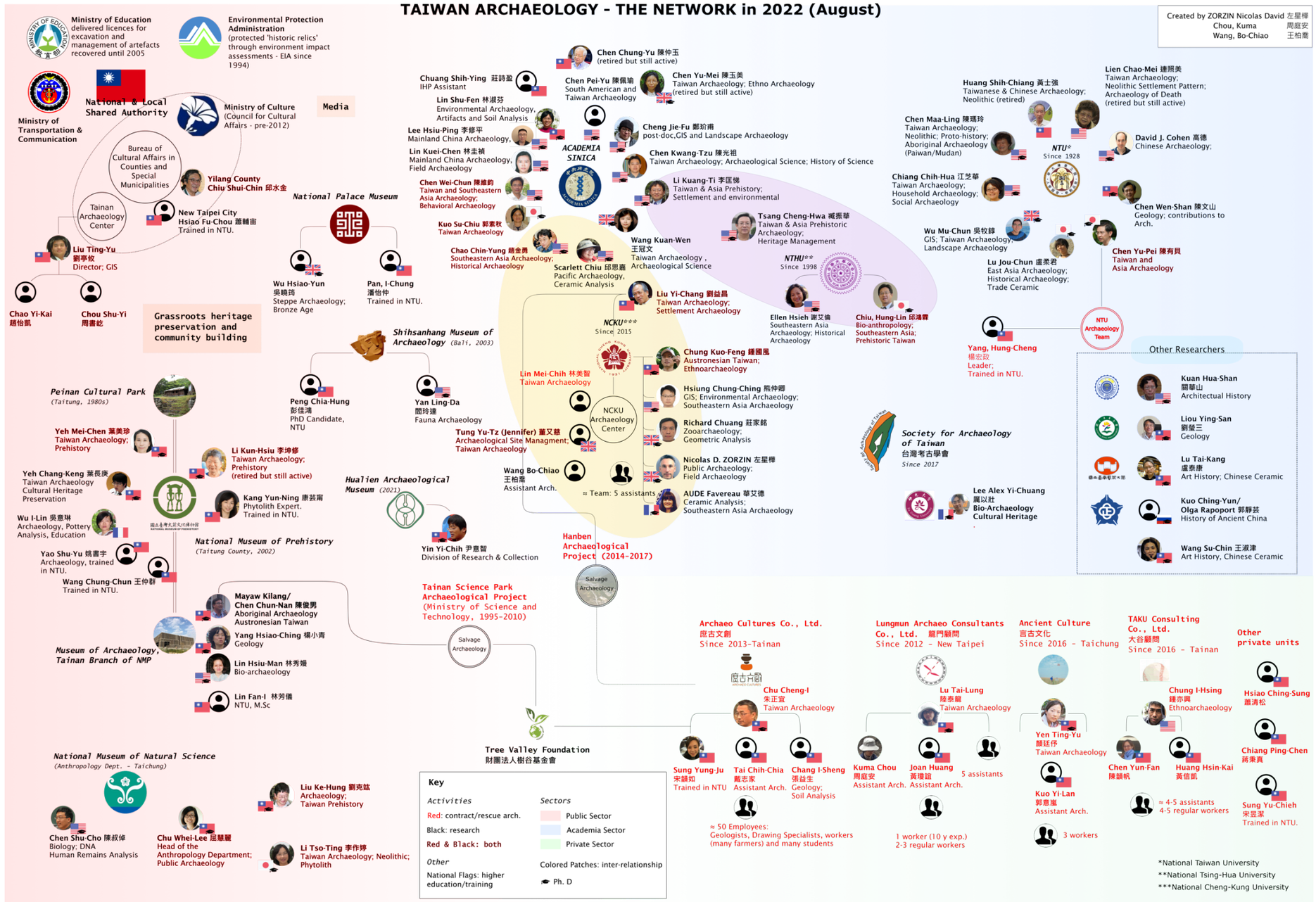

Figure 1: Taiwan archaeology- the network in 2022 (August)

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陳瑪玲*

摘要

臺灣考古學在日治時期開始生根發展後，已有一百二十餘年，步履也正邁在 21 世紀初之際，筆者藉由此篇文章分享歐美考古學界如何為進入 21 世紀而作準備、又提出何種的挑戰試圖引領考古學的研究發展。同時也分享與謝世忠在 2014 至 2015 年期間合作執行科技部「人類學門熱門及前瞻性研究議題調查」計畫下，筆者對考古學門熱門及前瞻性研究議題進行調查與分析的結果。綜合這二面向資訊，也順應上述二者所關注的研究議題為視角，對過去臺灣考古學的發展方向與成果加以檢視，並思考她未來展望的可能方向，而提出以「研究議題的拓展與深化」、「明確認知方法論與研究取徑的重要性與實踐在研究上」、「在研究成果上能具累積與進深性」、「發揮量化分析成效與具體實踐在資料的系統性分析上」等面向的挑戰與努力與學界同仁共勉。

關鍵字：臺灣考古學、前瞻性研究議題、考古學發展史

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What are the Challenges Facing Taiwan Archaeology for toward 21st Century?

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Abstract

It has been more than 120 years since the rooting and development of Taiwan Archeology during the Japanese occupation period. What are the challenges facing and in which direction moving Taiwan Archaeology forward for the next decades? With its progression towards the early 21st Century, this article would like to share on how the Euro-American archeology profession prepares its way to enter the century and proposes the kind of challenges that attempt to lead the research and development of archeology. Meanwhile, this article would also like to share the survey and analysis results under the subject of "Investigation of Popular and Farsighted Archeological Research Topics," as a project cooperated with Shihchung Hsieh between 2014 and 2015 granted by the Ministry of Science and Technology. Combining this two-fold information and taking the above concerning research topics as viewpoints, past archeological development and achievement in Taiwan are to be examined and its future possible directions of development to be explored. Thus "Expansion and Deepening of Research Themes," "Explicit Cognition the Significance of Research Methodology, Approach, and its Application," "Accumulation, Improvability, and progression of Research Outcomes" and "Elaborating Quantitative Analysis and its Application on Data Process" are brought up as challenges to be endeavored among the Profession in the Taiwan Archaeology.

Keywords: Taiwan archaeology, Research subject, Development of Taiwan archaeology

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一、前言

哈佛大學人類學博士移川子之藏於 1928 年規畫、籌建「土俗人種學講座」，臺灣考古學因有此正式學術機構的成立而生根，然而學術專業人員的養成，是奠基在同為哈佛大學人類學博士的李濟先生於 1945 年創立的國立臺灣大學考古人類學系；而此同時，中央研究院承續殷墟的研究，讓專業的實踐工作也在臺灣延展落實，這些基礎成就了臺灣考古學的發展。筆者曾在過去的十幾年、在不同階段檢視或考量臺灣考古學的發展：2000 年〈試論臺灣考古學理論應用與系統性知識建立的問題〉、2006 年〈由《考古人類學刊》看考古學在臺灣的歷史留痕〉、〈從二國際學術會議（SAA & WAC）看世界考古學研究發展的趨勢與尋思臺灣考古學未來發展〉。而 2014 至 2015 年與謝世忠合作進行科技部「人類學門熱門及前瞻性研究議題調查」計畫，對考古學門熱門及前瞻性研究議題進行調查與分析。這些或從理論與方法論或研究議題出發，加以檢視或觀看臺灣考古學的發展方向與成果。

Trigger 在他的 *History of Archaeological Thought* 一書中，由研究取徑的視角，去檢視全球各地的考古學發展，但其中也關注到研究議題的討論。李光周先生在 1996 年發表的〈對於臺灣考古研究的若干認識〉一文中，對臺灣考古學的研究發展也作了檢視，當時為呼應美洲考古學的發展，同時也在勉勵臺灣考古學發展的腳步須跟上美洲，在分期上以研究議題取向為重，分成四個不同的階段：古器物研究、族群文化淵源研究、人與環境關係的研究、人類學取向的研究等。這樣的分期與討論，多少也能與 Trigger 的研究議題有所貼近，讓我們在世界考古學的發展框架下看到臺灣考古學的發展步調。研究議題的關注與研究取徑有其呼應性，由研究議題仍多少能窺視到學者的理論、研究方法、關注的面向，更重要是對「物」的概念、想像的討論。

因此，在臺灣考古學生根發展後已有一百二十餘年，步履也正邁在 21 世紀之際，此篇文章將以上述的文章與計畫成果為基礎，以研究議題的視角再觀看一次臺灣考古學的發展，並思考她未來展望的可能方向，以與學界同仁共勉。

二、國際考古學如何邁入 21 世紀？

美洲考古學會發行的國際期刊 *American Antiquity* 曾於 2014 年刊登一篇研究報告，是一群歐美考古學家在時間將邁入二十一世紀前，為考古學的何去何從把脈的文章。這群考古學家思考進入二十一世紀後，未來的 25 年或更長遠的時期，對考古學具劃時

代的挑戰性或須有所突破的研究議題該是什麼？他們於 2012 年 4 月 1 日至 6 月 30 日在網路上發出問卷，蒐集歐美各地學者的意見，總共回收了 181 份回覆，其中 44%未切題，而確實針對問題回覆者，則被分為二類，一屬研究議題，另一屬方法論與方法面向的議題，另有較零星者則屬考古學實踐與更多公眾教育需求的面向。全數 181 個回覆中，177（79%）來自美國，其次是歐洲（12%）；而 45%來自學術單位，32%來自諮詢機構，14%來自政府相關單位。長者回覆較年輕人為多（66% 比 32%），學生最少；男性則佔 62%。

這些學者們於同年 7 月 31 日至 8 月 1 日舉行了一個工作坊，進一步就問卷所得作討論。首先，在工作坊中先請參與者各自提出所謂劃時代具挑戰性議題的標準與原則為何，再彙整成檢視、整理這些回覆的標準。其中提出的幾項重要原則為：

（一） 須與當代社會相關

（二） 應具全球性的重要性

（三） 當有足夠資料可加以處理解決、但過去因缺少資料或證據而無法處理者

（四） 須能融合跨領域合作。

隨後，依據此標準彙整回覆之問卷、以及參與者在工作坊所提出的認為具劃時代的重要議題，並由大家討論篩選而成結論，在上述所說的文章中呈現與刊出，作為國際考古學界在研究上共勉的努力方向與目標。

檢視這些議題可看見大都圍繞在文化的動態過程面向上，其中可再細分為五類：

（一） 出現、社區、複雜化（Emergence、Communities and Complexity）

1. 領導者、社會不平權、市場經濟等是如何出現與維持運作？領導者維持其地位並使社會轉換（包括一般社會及其領導者的社會或政治特質的產生與管理）的策略為何？
2. 不同規模的人群社區的轉換、出現，及其規範成員行動的機制為何？
3. 小社群為何與如何在空間和人口上發展、轉變成大規模社群以及複雜的政治體系？
4. 系統性地研究史前與歷史時期的城市地景，當可對社會與人口發展過程如何影響、形塑都市化帶來理解與新的洞見。

5. 人群內部的分裂性衝突或外部的戰爭，在文化複雜化的演變過程中所扮演角色為何？

（二） 復振、堅持、崩解（Resilience、Persistence and Collapse）

1. 社會的差異如何被持續？
2. 釐清社會與環境的變異和複雜性在社會運作上所扮演的角色，以及在不同規模社會所產生的差異、衝擊程度為何？
3. 社會的崩解是否有一跨文化的規則？是否可加以預測？
4. 理念體系如何形塑經濟、政治、與儀式體系？

（三） 遷動、流動、遷移（Movement、Mobility and Migration）

1. 哪一類發展過程會引起並造成人類的全球性擴散？
2. 環境、人口變動、聚落結構、以及人群遷動間的關係為何？
3. 人類如何能居於特異的環境中？文化與生物性的適應又如何轉換成有效的結果？
4. 人群為何會發生遷移？為何在一些情境下遷移的人群足以維繫其認同，而在其他情境下則會接受新意？

（四） 認知、行為、認同（Cognition、Behavior and Identity）

1. 現代性的行為是在何種生物、社會、文化與環境的互動作用下產生？
2. 人群的認同如何形成？其過程中所產生的長遠與大規模影響為何？
3. 地景與經驗場域的空間和物質形貌、及其重塑過程如何影響社會發展？

（五） 人與環境的互動（Human-Environment Interactions）

1. 人類活動如何形塑地球的生物與物質體系？人類又是在何時成為這些體系的主宰者？
2. 哪些因素造成史前與歷史時期人口的增長或限制？
3. 哪些因素影響著史前與歷史時期人群的生存、健康與生活福祉的發展？
4. 為何狩獵採集者會開始進行植物與動物的管理？在何情境下，此種管理引來了動植物的畜養？
5. 農業經濟為何產生、擴散、強化？而生產能量、人口與創新間的關係又是什麼？
6. 人類如何回應突發的環境變動？
7. 人類如何認知與反應短期和長期的氣候環境變動？

三、過去十年間國際考古學關注的研究焦點

看著學者為未來考古學的研究方向把脈，不免讓人要提問，那過去考古學又走過了什麼樣的路徑？關注了什麼？留下了什麼樣的腳印？因此，筆者在謝世忠執行的科技部計畫「人類學門熱門及前瞻性研究議題調查」下，選取了國際考古學界所認知最著名與重要的國際期刊 *American Antiquity*、*Cambridge Journal of Archaeology* 與 *Archaeology in Oceania* 三份期刊，作為美洲、歐洲、太平洋與東南亞三地區的代表，以及最大的國際考古學學會年會、也是含有最多參與會員的 *Annual Meeting of Society for American Archaeology*，與最多元國際人士參與的 *World Archaeology Congress* 二國際會議，作為對象進行分析國際考古學界過去的研究趨勢。分析項目與面向包括研究涉及的地區、主題、使用的資料、研究取徑框架或方法論等，藉以了解國際考古學界所關注、熱衷與聚焦的研究主題為何。三期刊選取自 2006 至 2015 年 10 年期間出版的研究論文，而二會議由於考量所有發表的論文數量過多，非人力所可負荷，故擇取計畫執行期間近二次（2014 年、2015 年）會議所發表的場次主題內容為主要分析的材料。分析結果顯示，「社會過程」在這五個期刊與會議中都進入了前面的排序。「地景與空間」與「物質文化、器物」在其中四個期刊、會議中都進入了排序前五名。另外，「人與環境互動關係」則在三個期刊、會議中進入前五名排序。各個期刊與會議性質有所差異，其間關注的主題有所不同當可理解，但高比例相同的排序涵蓋率，當就可視這些議題被關注的高強度性。因此，就分析的結果而言，或許可加以詮釋，在過去的十年間考古學研究的發展中，具「全球性」或「世界性」高度熱門的主題有「社會過程」、「地景與空間」與「物質文化、器物」等，其中又以「社會過程」最備受關注。而「社會過程」中又以社會網絡、社會組織與結構、社群認同與邊界、社會複雜化、儀式與社會記憶、人觀與成人等研究議題為重點。「地景與空間」係以空間結構與土地運用、社會組織結構、空間性、儀式、文化地景等研究面向為主。「物質文化、器物」則著重在器物生產制度與組織、功能、意義、技術、物質性等議題的討論。「人與環境互動關係」則偏重適應策略與生業活動、社會關系與結構、人群的遷動與移動性、食物生產等面向的研究分析。

四、臺灣考古學如何走過二十一世紀？

（一）、臺灣考古學走過的足跡

2006 年筆者在〈由《考古人類學刊》看考古學在臺灣的歷史留痕〉一文中，認為《考古人類學刊》所登載的考古學文章，承載著臺灣考古學成長的紀錄，因而在文章中檢視所登載在上的考古學文章，用以討論考古學在臺灣發展的樣貌與趨勢。其間談到：檢視人類學系碩博士論文，以遺址發掘資料的整理並討論其文化歸屬或討論與其他遺址、文化的親源或互動關係為主題的，在近二十年、十年內，仍佔考古學相關論文數目的 1/3 強，顯示文化史相關的議題仍是臺灣考古學界關注的焦點之一，這點與《考古人類學刊》刊登的文章狀況未盡相符。在刊物上的文章顯示早期文章所關注的議題，大都屬討論某類器物的文化意義或起源與變遷、特定體質屬性的比較分析或文化訊息等，而後期涉及學科本身發展相關議題的討論與各類不同考古學議題的研究，如社會組織、水利運用變遷、空間分析、聚落形態與系統、器物製造技術、人與環境關係、貿易與社會經濟變遷、族群分類等各式的議題。此文檢視的成果呈現前後期在關注的議題上，焦點由器物本身轉向遺址與人群社會相關的總總不同面向上，這個轉變是否顯示了臺灣考古學對於考古學資料可研究、可處理與探討的議題，有了不同的觀點或概念？或是因為資料的累積，而可運用致探討議題的範圍擴增了？對照李光周（1996）就研究議題取向分析而劃分的四個不同階段的論述，有著互相呼應的趨勢。而他列為第三、第四期的人與環境關係及人類學取向的研究，在上述晚期各類不同考古學議題的研究中，可見到一些痕跡。但就臺灣地區整體的考古學文章與碩博士論文所關注的議題，以遺址發掘資料的整理、其文化歸屬、文化的親源或互動關係為議題的，仍佔考古學相關文章、論文數目的 1/3 強的現象而言，李光周以研究取向所作的分期，所指涉的第三、第四期的人與環境關係及人類學取向的研究，或許只能視為是一些新要素加入的時期，而不能視為是主要發展的趨勢。

這篇文章完成後的這十幾年，臺灣考古學的足跡又是如何的樣態？檢視國內人類學與考古學門最主要的《考古人類學刊》、《臺灣人類學刊》、《中央研究院歷史語言研究所集刊》與《田野考古》等四份期刊，2006 至 2020 年間出版的共 55 篇考古學相關文章（去掉基礎發掘報告形式的類別），其間所處理的議題有空間分析（社會結構、地景與集域分析）、器物意義與器物製造技術、族群的體質或病理特性、物質

與人群的親緣關係、人群互動與交易、人與環境資源以及生業策略或技術、資料庫與紋飾分析、消費模式與社群組成、技術體系與社群、3D 與科技技術在考古學的運用等。這些顯示似乎有新的議題發展，但討論文化的親緣與人群的互動關係或器物製造技術等的基礎議題仍佔約 50%，是否顯示臺灣考古學在走過的路徑上，在基礎知識的建構上尚待努力與累積？或對於新的或進深的議題的開發與努力尚待推動？

（二）、臺灣考古學界對未來研究發展的展望

在檢視過國際考古學界對未來的展望後，回頭觀看臺灣考古學對未來發展的視野又如何？由前面所提及的「人類學門熱門及前瞻性研究議題調查」計畫下，對考古學門熱門及前瞻性研究議題進行問卷調查，由擲回的回覆內容檢視，學者對未來當推動發展的新研究議題的觀點相當多元、分歧，較被關注認為須推動發展的是關於舊社考古學如原住民人群起源、發展史、原住民與史前文化關係等的議題。其次為地景、器物與工藝技術等以新概念引入為基礎的研究議題。關於國際學界會對臺灣地區感興趣的研究議題，學者的理解與回應多聚焦在古南島語族的源流與遷移議題上。而對於近年來臺灣最感興趣與投入研究的議題，學者的認知也相當集中於南島語族的起源、遷移與擴散，以及舊社考古學與原住民源流、臺灣歷史、臺灣與周遭地區人群的互動與貿易的研究。學者對於臺灣當前迫切須發展的研究議題，回應也相當多元，最多關注在文化資產與公眾考古學的面向，其次為臺灣史前文化史、南島語族起源、擴散與臺灣原住民源流、原住民與舊社考古學。對於臺灣地區考古學門當持續維持熱門發展的議題的回應，仍以臺灣史前文化史、古南島語族遷徙與擴散、人群的互動與貿易網絡為主；但新近議題如公眾考古學與文資保存、舊社考古學、歷史考古學、跨領域或科技考古學等也稍受關注。關於國際考古學界最感興趣的研究議題的認知，較多提及臺灣週遭與鄰近地區範圍的考古學研究，主要包括：舊石器至新石器時代文化的轉遞、稻米起源、公眾考古學與文化資產、複雜社會起源發展與崩解、古南島語族起源與擴散、科技考古學等。而關於跨領域上當發展的研究議題的回應，更加分歧多樣，稍受關注的有：GIS 與空間分析、動物考古學、地質考古學、體質（生物）人類學等。而涉及研究議題的則有：工藝技術與物質文化、人與自然環境的互動、考古學田野方法、同位素分析取徑處理的古食性等。

相較於上述國際性的發展，臺灣考古學者在問卷回應中所提出的臺灣熱門研究議題、急迫需發展的研究議題、應當持續維持熱門發展的議題，都較聚焦在與南島語族相關的區域性議題；但新近議題如公眾考古學與文資保存、舊社考古學、歷史考古學、跨領域或科技考古學等就較跨出區域的特性。部分臺灣熱門研究議題如區域性交易（社會網絡）可與上述分析結果呈現的「世界性」發展相呼應，而最熱門的區域性的人群遷移與擴散（如太平洋與東南亞的南島語族）相關議題，在 *American Antiquity* 與 *Archaeology in Oceania* 都有相當數量的文章，美洲最早人群的遷入與早期太平洋人群進駐某些島嶼的討論即是一例。

由問卷所得的臺灣最熱門或迫切須發展的研究議題的想法，與上一節臺灣過去十幾年來的研究興趣與累積不盡相同，無論是過去進行的或對未來所提出的新議題，研究數量與關注的人數都屬少數，這或許與個別學者可能會有的新發展議題較為相關，這是否意謂著個人開展新議題的規劃，已有了一些基礎成果？若如此對於新的或進深的議題的開發與努力或有推動的可能性？

（三）、進入 21 世紀臺灣考古學須挑起的挑戰與努力

臺灣考古學的研究如何能展現出對臺灣、周邊地區、甚至國際學界的重要性，這是臺灣考古學須挑起的挑戰，也因此當釐清與劃定須努力的方向與實踐的目標。

1、研究議題的拓展與深化

由上述的整理檢視，臺灣關注的研究與成果多數仍侷限在臺灣地區內，而成果似乎也仍在基礎的累積上，那未來如何展現其貢獻與重要性？綜合前述的檢視，考量到臺灣考古學的區域性特質，同時未來發展仍須尋求與國際發展接軌、對話，在持續熱門的議題上，或許我們仍可以眾望所歸的南島語族起源擴散及與周邊的互動、舊石器時期人群的活動與轉遞入新石器文化發展等的相關研究議題為重，期許因著史前人群在這特有的地理位置上，發展與呈現了其獨特與重要的文化內涵與其過程，能被深入與細緻的建構起來。但此一區域性的議題要能與其他地區有所對話與提出貢獻，卻須考古學的研究在視野與分析取徑的面向上，跳出自我論述的框架，並提升至跨越區域的層次。另，在人與環境的互動關係，以及器物等物質文化特性與製造技術的相關主題上，能尋求分析的落實並突破於文化史框架的研究。

如前所述，國際性的熱門研究議題為「社會過程」與「地景與空間」等的範疇，但在「社會過程」面向上，臺灣考古學除少數零星的成果外，尚未有系統性的研究發展，更難見到顯著成果的呈現與累積，建構的臺灣史前文化面貌一直無法在此面向有所論述與呈現。反觀「世界性」的研究發展卻多以此為主，也早已累積了一定的成果。換言之，對臺灣考古學界而言，當是應該將此範疇作為未來積極推動與有所關注的熱門與具挑戰性的研究議題，尤應系統地去尋求發展；而其中的社會組織、社會結構與社會網絡等議題尤其基礎與重要。如此，臺灣史前文化的研究與討論才能有所深化，也才能與國際有所接軌與對話。至於「地景與空間」方面的議題，由於空間屬性既具實質物質基礎也深含抽象內涵，本身可為研究議題，也能成為物質、社會與認知理念等面向研究的切入點與路徑，其多元豐富與多層次的特性可帶來更多研究的啟發與可能性。2005 至 2006 年國科會的熱門前瞻研究計畫的分析成果，提出的前瞻性研究議題也包含有聚落考古學一項，然檢視自 2005、2006 年後 10 年來臺灣考古學在這面向的研究成果，卻未見有相關的具體發展成果，著實可惜。因此之故，未來不只應當繼續推動聚落考古學的研究，且當更須拓展至「地景與空間」的層次，讓涵蓋面能更廣與深，並視為不只是熱門議題，更是一項前瞻性的發展方向去建立推進的研究視野。

2、明確認知方法論與研究取徑的重要性與具體實踐在研究上

筆者 2000 年寫作了〈試論臺灣考古學理論應用與系統性知識建立的問題〉一文，回應 1997 年黃應貴寫論的〈對於臺灣考古「學」研究之我見：一個人類學者的觀點〉一文對臺灣考古學的期許；2020 年又書寫〈從考古學的視角談「聚落：一個考古學與人類學研究的匯合點」一文，回應黃應貴〈聚落：一個考古學與人類學研究的匯合點〉一文對臺灣文化人類學與考古學的提點。在後者黃應貴呼籲二學門需要：「脫去現代性知識的限制、尋求超越以理性及經驗論科學觀所帶來的觀念與認識現象時造成的視野限制、反省與跳出本體論帶來的思維束縛或僵硬的界線限制、並進一步建立史識與創新的追求 」，這樣二學門的彙整才能帶來效益、讓臺灣人類學為學術界帶來貢獻。筆者在對後者的回應文中也表示認同黃應貴這樣的呼籲，在認識論與本體論上的反省、以及關注史識與創新的追求，會為無論是文化人類學或考古學帶來更多的可能性與突破性的成果，二者在這些面向上當認知到與致力追求。然而在文中筆者也提醒：「考古學知識建構的本質，讓創新無法無中生有，新視野須有相應的方法論配合，否則只能仍是個文化人類學或社會科學的論述。」

在 2000 年的文章中，筆者一樣論述了方法論對考古學研究的重要性，在此也同樣再次提出，關注它與明確建置在研究中，作為臺灣走入 21 世紀須挑起的挑戰與努力的面向。筆者所謂的方法論或研究取徑所指涉的是：「學者們對問題或現象進行研究時，依著所要處理的問題與涉及的理論，設定研究進行的運作邏輯與原則，規劃當用何種具體的方法與有效的研究技術，界定當掌握的資料，設定何種變數和現象與研究問題相關、如何觀察、分析資料、與辯證，以呈現問題所需的相關訊息，以達到對問題的理解與提出解釋或詮釋，並終能達到建立知識的目的」。筆者雖也強調過臺灣學者當正視理論（真正實際操作或影響學者們在建構問題、設計研究策略、及進行詮釋等背後的主導思惟）在整個學科的地位，以及在研究與詮釋上的作用與影響，而對這關注的強度也並沒有變過或減低過，但為避免即使有新的或突破性的研究議題，若研究與論著形成理論高架在上，而資料卻只是瑣碎地呈現，理論和旨趣所涉及的相關變數，以及掌握這些變數的資料等未能清晰、系統地予以釐清，造成勾連物質遺留與人類行為間的關係無嚴謹論述或辯證過程，理論或視角與資料形成斷裂，讓論述仍只存留在研究者的思維概念中，而無法真正讓物說話，並建立起對研究對象有效理解的論述與知識。

五、結論

如前言所述，臺灣考古學的發展已有一百二十餘年，腳步也已踏進 21 世紀，我們該如何觀看臺灣考古學的發展，並思考她該如何展望未來？此文藉著由研究議題的視角檢視國際考古學如何邁進 21 世紀、過去十年的發展、臺灣考古學走過的足跡、臺灣考古學學者所展望的未來為何等，進而提出邁步在 21 世紀臺灣考古學須挑起的挑戰與努力方向：須在研究議題上尋求拓展與深化、明確認知方法論與研究取徑的重要性與具體實踐在研究上。另外，臺灣考古學的根基一部份來自北美洲，由李濟在創建國立臺灣大學考古人類學系時引入奠基，檢視北美洲考古學直至當代的發展，筆者認為其具有的特性：

（一） 北美傳統的人類學意涵，強調不同分支整合發展的特性。雖然這特性因著各分支發展越來越專精，已實如各自獨立的領域而有所不符，然而因著「人」仍為各自核心議題，時而仍須彙整參照，甚至帶出新的可能的連結。

（二） 強調量化的分析並能落實在考古學資料實質的分析上。此特點並非單指早期的質量二元的發展，而更多是晚期質量包容與互證的發展。

（三） 理論與知識有效性的重視。

（四） 不斷在吸納各學科的理論與方法，創造新的分析取徑與方法、極力截長補短，致使多方的發展無論在方法或議題上已不是那麼的壁壘分明。

這樣的特性是否能為臺灣考古學在發展的展望上也能提供些參照？上述的特性在第一點上臺灣考古學是分享了這樣的基礎，第四點上多數臺灣考古學家在歐美取得學位，對於新理論、新研究議題、新取徑往往是易於引介與參酌的。而在理論與知識有效性的重視、量化的分析並能落實在考古學資料實質的分析上、致力創新與截長補短，當是臺灣考古學須考量加入突破與努力的目標：

(一)、突破與努力在研究成果上能具累積與進深性

要在理論與知識上具有效性、要能創新，其基礎都在研究成果能豐厚、累積與進深，即無論是在屬單一遺址或是一區域性議題的研究，以及研究取徑的運用上，都須要在研究上能持續、累積與進深。然而我們不能否認，臺灣考古學雖致力在進行發掘與研究（近期的搶救發掘更盛），但研究與成果卻是零散，高比例的遺址與出土文物只經過一次的發掘與整理，結果呈現在報告中，就再也沒有進一步的研究分析。因此，臺灣考古學須致力突破這種困境，對一遺址、區域或出土文物能持續、累積與進深的研究，讓對一遺址、一區域、一議題等的理解與知識能具多面、有效與累積性。

(二)、發揮量化分析成效與具體實踐在資料的系統性分析上

量化分析非是考古學知識建立的必要途徑，但不可否認借助各種量化的分析技術可排除主觀的認定帶來的誤差，同時可化繁為簡揭示隱藏在雜訊背後的資訊或未被關注到的資訊，突破個人視角的可能侷限，也讓質與量能因辯證關係而產生更多的可能性，讓考古學資料在探尋過去人群的種種上發揮更大的效用。然而量化分析的運用是須鑲嵌在理論思維與適切的方法論下，實際落實在與議題相關的資料上進行系統性的分析與辯證關係，才能真正發揮它可為考古學研究帶來的效益。

總結而論，臺灣考古學在走過這 21 世紀之時，筆者期盼她的步履是帶著對研究議題的拓展與深化、明確認知方法論與研究取徑的重要性並能實踐在研究上、在研究成

果上能具累積與進深性、發揮量化分析成效與具體實踐在資料的系統性分析上等面向的挑戰與努力，使得她在這臺灣的地土上所印記下來的足跡，能為臺灣的歷史與人群的過往譜繪出更豐厚與深廣的內涵，使得臺灣被看見的，不只是壯麗秀美的山川地景，也有著豐厚、深濬、多元的過去與未來。

引用書目

李光周

1996〈對於台灣考古研究的若干認識〉，收錄於《墾丁史前住民與文化》，李光周著、尹建中編，頁31-44。台北：稻鄉出版社。

陳瑪玲

2000〈試論臺灣考古學理論應用與系統性知識建立的問題〉，《考古人類學刊》55：33-48。

2006a〈由《考古人類學刊》看考古學在臺灣的歷史留痕〉，《考古人類學刊》66：3-24。

2006b〈從二國際學術會議（SAA & WAC）看世界考古學研究發展的趨勢與尋思臺灣考古學未來發展〉，《歷史月刊》16（2）：20-26。

2020〈從考古學的視角談「考古學與人類學研究的匯聚」一文〉，《考古人類學刊》92：25-30。

黃應貴

1997〈對於臺灣考古「學」研究之我見：一個人類學者的觀點〉，《考古人類學刊》52：129-139。

2020〈聚落：一個考古學與人類學研究的匯合點〉，《考古人類學刊》92：1-24。

Kintigh, Keith, Jeffrey Altschul, Mary Beaudry, Robert Drennan, Ann Kinzig, Timothy Kohler, W. Frederick Limp, Herbert Maschner, William Michener, Timothy Pauketat, Peter Peregrine, Jeremy Sabloff, Tony Wilkinson, Henry Wright and Melinda Zeder

2014 Grand challenges for archaeology. *American Antiquity* 79(1): 5-24(20).

Trigger, Bruce G.

2006 *History of Archaeological Thought*. London: Cambridge University Press.

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Formosa and the Silk Road: A Mysterious Bronze Object from Taiwan

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Abstract

This paper is focused on one of Taiwan's important cultural treasures: an extraordinary bronze plaque discovered at the nationally designated archaeological site, Shihsanhang. This large and massively casted strap-end depicting a standing camel and its rider has long been recognized as a non-local item, possibly connected to the Silk Road. However, less is known about its 'social life' and artistic analogies. From this perspective, I will not only analyze the object and its archaeological background, but also intend to place it into the context of Taiwan's broader maritime interactions during her prehistoric times.

Keywords: Taiwan, Archaeology, Shihsanhang site, Bronze plaque, Silk Road

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福爾摩沙與絲路的交會：
從臺灣出土一件特殊青銅器談起

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中文摘要

本文聚焦在臺灣珍貴文化遺產之一：國定十三行考古遺址出土罕見的青銅腰牌。這件相對大件的模鑄銓尾描繪著站立的駱駝及騎師，無疑體現外來器物風格，並可能和絲路有關。然而，以往研究對於它所述說的社會生活以及風格藝術淵源討論有限，基此，作者通過解析該件青銅器的考古背景與器物風格，探討史前臺灣在更為廣域的海上互動網絡的脈絡。綜整考古、文獻與圖樣訊息，本文認為這件非凡的青銅銓尾可能屬於唐代製品（並可能晚到元代），體現了當時的世界主義，融合多重的文化風格，充分展現東西方藝術風格的交會。雖然青銅銓尾在臺灣顯然佚失其原本的功能和用途，卻在十三行地區重新被賦予全新的文化意，呈現出在地的接納以及再詮釋的過程。類似的文化接納與再脈絡化的現象，也見於中國六世紀前出現羅馬玻璃器，大量生產的生活器物被重新詮釋為特殊的珍稀物品，具備豐富的儀式和象徵意涵（Hoppál，2016、2018）。如此特殊的青銅器出現於十三行遺址，無疑描繪出十三行本地社群廣域的跨文化連結活動，從而將史前臺灣整合納入古代絲路複雜網絡中的一環。

關鍵字：臺灣考古、十三行遺址、青銅腰牌、絲路

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Introduction

In 1991 during the excavations of the famous Shihsanhang site 十三行遺址 (hereafter SSH), an extraordinary bronze plaque of non-local origin was uncovered. The artefact itself is a large and massive casted strap-end (*chawei* 銙尾) with stylized relief of a standing camel and its rider. The depiction of both the camel and rider suggests a close connection to mediator cultures operating along the Silk Roads, the complex networks of land and maritime routes across Eurasia. It is important to note that bronze, especially decorated bronze items, are relatively rare at SSH and further mounted belts were clearly alien from the costume repertoire of SSH culture .

In this regard, several questions might be raised. How and when this strap-end arrived to Taiwan? Where was it made? How can its peculiar iconography be detected in visual arts of the various Silk Road cultures? How could such alien material be received by the local community? Despite the fact that giving a precise date to the artefact or finding its place of origin is still a very problematic matter, it is obvious that it was a non-local item, thus reflects to the complex networks of the SSH people and connects Taiwan with several nodes of the Silk Roads.

Object descriptions

The bronze plaque was uncovered from the illustrious SSH site in 1991, which is one of the most recognized archaeological sites in Taiwan, situated in Bali district of modern New Taipei City. The object was discovered in burial No. 62 from the B area, an area occupied by several other burials dated to the Metal Age. The burial was badly preserved, only a few pieces of human teeth and small fragments of other bones (most likely of a juvenile based on the teeth) remained along with a number of burial goods. Altogether 43 artefacts were buried with the deceased, many of which were non-local objects.[1] The associated 10 *Kaiyuan Tongbao* 開元通寶 coins, the longest used and most important currency of the Tang 唐 Dynasty (618-907 AD), provide *terminus post quem* for the burial.

The object itself is a large and massive casted strap-end with rounded loop and linear frame (Figure 1). Its full length is 6.61 cm, its maximum width is 4.27 cm and its maximum height is 0.53 cm. All basic information is available in the digital database of Institute of Philology and

[1] Many of them are only single beads though.

Archaeology 歷史語言研究所, Academia Sinica 中央研究院, while the object itself is currently held at the Shihsanhang Museum of Archaeology 十三行博物館.

On the central section a stylized relief of a standing camel and its rider is depicted against the depressed background. The camel is standing with slightly raised front left leg, turning its head and looking at its male rider, thus its pronounced and rounded right ear is shown along with its right eye and long eyeshadows.[2] It has a long face, and a stylized wide strap is visible on its muzzle. Its tail is thick and curly, but it is also possible that a rolled carpet or another type of mercantile good is depicted. Possibly a square or short rectangular shaped cushion covers its back. Its male rider is portrayed with flat head piece (possibly a hat?), long beard and moustache, and slightly almond-like eyes. He most likely wears a long-sleeved upper dress and rests his hand(s) on his leg(?) or possibly a long carpet-like(?) material swung across the back of the animal. The camel is possibly standing on sand dunes(?) or lotus flower(?),[3] which however the official description interprets it as clouds (Figure 2).[4] The left side of the object is pierced by five small vertical holes, while on the right side there are only two located in the upper and lower corners (Figure 3). The function of the holes is uncertain, it is possible that they were applied to help fixing the strap, or were pierced secondary in order to tie the object to something else (piece of fabric?).[5] The asymmetrical position of the holes might suggest the latter. The reverse of the strap-end is hollow with five pronounced rivets. (Figure 4)

The problems of Artistic Analogies

1. General Observations

> To nearsighted people, many things appear strange. They see a camel and think it is a horse with swollen back. 少所見，多所怪，睹駱駝，言馬腫背
>
> *Mou-tzu Li-huo lun* 牟子理惑論 (Keenan, 1994: 82)

[2] Its height, long neck and legs and the whole posture of the animal suggest that a camel has been depicted, although the idea of being another ungulate (horse perhaps) cannot be totally ruled out.

[3] The author would like to thank the idea provided by Dr. Ágnes Kelecsényi, head of the Department of Oriental Collection, Library and Information Centre of the Hungarian Academy of Sciences.

[4] http://archeodata.sinica.edu.tw/2_3/teaching_website/TWgolden01_T0030434.html 以及 http://catalog.digitalarchives.tw/item/00/1c/21/2c.html (accessed June 10, 2019)

[5] The author would like to thank the idea to Dr. Zsófia Rácz, Institute of Archaeological Sciences, Eötvös Loránd University.

Although it is quite problematic to find a close analogy to its peculiar pattern, thus no exact date can be given, but from its style it is very likely that the strap-end is not earlier than the Tang era, in fact, the overall casting style even indicates a Yuan or later date (Sun , 2010: 1174-1175).[6] Moreover, as it was mentioned above, the Kaiyuan Tongbao coins also provide a Tang period *terminus post quem*. It has been long assumed that the artefact arrived to Taiwan from or via mainland China.[7] Indeed, similar shapes of strap-ends are relatively common from as early as the Tang Dynasty, but especially in the Liao 遼 (916-1125 AD), Jin 金 (1115-1234 AD) and Yuan 元 (1271-1368 AD) periods. The usual belt set contains belt buckle(s) (*daikou* 帶扣), square/rectangular and oval(-like) shaped mounts (*kua* 銙) and strap-end(s) (*chawei* 銙尾), most often made of jade, precious metals[8] or (gilded) bronze, being fastened to a leather belt (*ting* 鞓) by small rivets (Xu, 2016). Originally, wearing such mounted belts (*diexie dai* 蹀躞帶) and their simplified versions (*kuadai* 銙帶) was a Central Asian nomadic influence which became gradually more recognized during the Jin 晉 (265-420 AD), North Wei 北魏 (386-534 AD) and the Northern and Southern Dynasties 南北朝 (420-589 AD), while later in the Tang Dynasty the fashion became widespread but strictly regulated (Li, 2001: 22-24; Tian, 2016: 63). Not only the emperors and court officials wore decorated belts but lower officials (both civil and military), commoners and typically foreigners too. However, the number, shape and materials of the mounts varied greatly depending on the status and identity of their owners, despite that regulations also varied slightly through time (Feng, 2009: 52). Bronze and iron belts with six or seven mounts were generally attributed to low-ranked officials (*liuwaiguan* 流外官), common people (*shuren* 庶人), foreigners (*buqu* 部曲) and slaves (*nubi* 奴婢), according to *New History of the Tang Dynasty* 新唐書.[9] The archaeological evidence dated to the Tang period shows that (gilded) bronze belts are far less represented than jade specimens (Tian, 2016: 64), but during the Liao

[6] The author would like to thank the opinion to Dr. Lu Yahui 盧亞輝, Institute of Archaeology, Chinese Academy of Social Sciences 中國社會科學院考古研究所.

[7] Although a Southeast Asian arrival is also assumed, it seems to be less likely to the author. See: http://archeodata.sinica.edu.tw/2_3/teaching_website/TWgolden01_T0030434.html. (accessed June 10, 2019)

[8] For the latter see e.g. a stolen item from the collection of East Asian Art: http://collections.meaa.org.uk/view-item?i=1726&WINID=1549267573878 . (accessed June 10, 2019)

[9] See e.g.: *New History of the Tang Dynasty*: Volume 24 Treatises 15: Carriages and Attire《新唐書》卷二十四志第十四〈車服〉. More detailed historical references *conferatur* Tian (2016: 62-65).

and Jin Dynasties bronze became widely used.[10] Three main types of pattern of (jade) belt sets can be recognized: human, animal and floral motifs. Humans are mostly foreigners, who are often depicted performing dance or playing with musical instruments, although belt plaques portraying individuals showing Han features are also existing. Animals are often deers, lions or mythical creatures (Shaanxi History Museum, 2003: 208). These patterns became more elaborate and complex since the Five Dynasties 五代 (907-960 AD), and the number of materials and techniques used for decorations also increased greatly (Ma, 2006: 135; Feng, 2009: 52).

The massive appearance of the SSH specimen suggests that it was casted (*zhuzao* 鑄造), although in the case of metal belts other techniques were also employed, such as chasing, repoussé (*qiaohu*a 敲花) and granulation (*hanjinzhu* 焊金珠) for decorations. It is also interesting that the frame around the depressed background for this SSH piece clearly differs from the obverse side of similar metal strap-ends, but instead resembles jade strap-ends. This may have suggested that the decoration of the SSH piece might have been inspired by engraved jade belts. For instance, similar frame can be found on the jade strap-end with pattern of dancing human figures from Hejiacun 何家村 (Yang, 2017: 109). Another example (Figure 5) can be found in *The Complete Collection of Unearthed Jades* 中國出土玉器全集 (Gu, 2005: 82). Moreover, inspiration of jade engraving techniques on metal belts, or even imitation of jade belt ornaments, might not have been extraordinary in Tang China, as for example the Shaanxi History Museum stores a bronze belt set with great technical similarity to the jade belt set with gold rivets from Hejiacun again (Figure 6; also *c.f.* Tian, 2016: 66-67 with another example).[11]

Various representations of camels (with or without riders) are again, foreign influences in China (e.g., Kanuer, 1998: 18, 34-43), and belt plaques with camel design- but typically made by open work technique- which had already appeared in the 4th century BC, were derived from nomadic art of the Steppe region, where they were common phenomenon (Korolkova, 2007). As the quote in the chapter title from Master Mou's 'Li Huo Lun illustrates, in Han times camels were already widely known phenomena thus eligible for such significant manual of Chinese intelligentsia– still crudely depicted though (Kanuer, 1998: 39-41). During the Tang era depicting

[10] The mixture of different materials, e.g., jade and gilded bronze, can also be found (Li, 1987; Wu, 2013).
[11] http://www.sxhm.com/index.php?ac=article&at=read&did=10695 (accessed June 10, 2019)

camels became characteristic for the period. As important means of transportation across the deserts, these animals soon became the most illustrative mark of cross-cultural interactions, and were used as symbols of prosperity of the Silk Roads (Qi and Genito, 2017: 47-49), indicating close relationship to foreign cultural elements. Depicting camels and their riders were relatively common in other forms of visual arts, such as ceramics and textiles, and the motif is often regarded as proof of encounter with West Asian art traditions (e.g., Kadoi, 2009: 16; Zhao, 1999: 97-99). Camel representations- particularly camel figurines- reached their zenith in Tang times, but it seems that their production (along with other animal sculptures) reappeared in the Yuan Dynasty (Kadoi, 2009: 87, note 73).

Although earlier examples exist, representations of foreigners, just like those of camels, also start to appear in a larger scale from the 3rd to 5th centuries when cross-cultural interactions became increasingly vivid (Mahler, 1959: 120; Qianling Museum 乾陵博物館, 2008: 16). In many cases foreigners are represented in close connection to camels: as their riders, traders or musicians, and performers entertaining the public, but individual images can also be found. From the Tang era foreigners can be regarded a very popular theme of several forms of visual arts, and they are also portrayed on belts plaques to a greater extent (*c.f.* Fan, 2008: 82).

At the same time, the stylized depiction of the camel and its rider of the SSH specimen narrows the possibility to find analogies to their iconographic elements. However, some wider examples can be drawn. Camel portrayals with their foreign riders can be found on massive belt sets from and beyond the Tang period, although none of them has exactly the same design as the SSH piece[12].

In fact, certain details of decoration of the SSH object cannot be regarded as a set of commonly used motifs/elements of the Tang-Yuan period decorative arsenal. For instance, the static posture of the SSH camel with its head turned sideways/back to its rider is less usual in Chinese visual arts as such camels are usually represented in a much more vivid and dynamic

[12] For example, one belt set claimed dated to be Liao Dynasty can be found: https://www.cang.com/trade/goods/6441823. Possibly another type of ungulates can be seen here: http://www.gucn.com/Service_CurioStall_Show.asp?Id=2486542 or here in reduced quality (modern imitation?) : http://bbs.chcoin.com/show-10276240.html?authorid=57094, or further on a Yuan Dynasty jade strap-end from the Guanfu Museum 觀復博物館 http://www.jianbaodangan.com/uploads/allimg/141011/216-1410112302034P.jpg (accessed June 10, 2019)

posture (Figure 7).[13] Moreover, due to its broadly formed decoration it is quite problematic to define the exact species of the camel depicted (one or two humps), but it cannot be excluded that it might be a dromedary or Arabian camel (*Camelus dromedarius*), similar to pottery figurine from Dai Lingyang's tomb 戴令言墓 in Luoyang 洛陽 of Tang period, currently held at the Beijing Palace Museum 北京故宫博物院.[14] A more recognized example of dromedary was discovered in Qi Biming's tomb 契苾明墓 in Xianyang City 咸陽市, currently held in the Xianyang Museum 咸陽博物院.[15] At the same time, Arabian camels are less frequently represented in Chinese visual traditions, despite the fact that they were not unacquainted as already mentioned in the *Hanshu* 漢書.[16]

2. Further analogies

Again, as the camel and its rider are rather crudely depicted and badly-preserved, it is even more challenging to find other comparable artistic elements in the visual traditions of the Tang-Yuan era. Taking into account all unclear details and problematic identifications of certain motifs, in the following, some possible comparableness will be introduced. Such element- being as dubious as it is- might be the shape of the possible cushion on the back of the camel. In general, among the Chinese camel representations oval or longer rectangular cushions slung across the animals are depicted, however said examples can also be found less-frequently in Tang and later decorative arsenal.[17] At the same time, similar portrayals to the possible SSH camel cushion are

[13] For example, the Tang camel and its rider from collection of the Metropolitan Museum of Art. https://commons.wikimedia.org/wiki/File:Met,_camel_and_rider,_tang_dynasty.JPG. Auction examples of jade can be found on websites with unclear dating. http://www.997788.com/211941/search_271_65541434.html and http://www.997788.com/217842/search_271_66263656.html (accessed June 10, 2019)

[14] https://www.dpm.org.cn/collection/sculpture/234234.html (accessed June 10, 2019)

[15] http://www.xywwly.gov.cn/ww/jpjs/355547.htm. Other examples of dromedary figurines from China dated to Sui 隨 and Tang periods found in the collection of the Metropolitan Museum of Art 1974.289.4 and 63.175.1.: https://www.metmuseum.org/art/collection/search/63005?&searchField=All&sortBy=Date&ft=camel&offset=20&rpp=20&pos=32 and https://www.metmuseum.org/art/collection/search/62991?&searchField=All&sort By= Date&ft=camel&offset=20&rpp=20&pos=34 (accessed June 10, 2019)

[16] 《漢書》西域傳卷 096 上〈大月氏國〉.

[17] Examples see in the decorated cushion on the Tang Dynasty camel discovered near Xi'an held in the collection of the Shaanxi History Museum, Xi'an might be similar to the badly depicted carpet of the SSH piece. http://www.sxhm.com/index.php?ac=article&at=read&did=10476 (accessed June 10, 2019)

relatively common in Persian art e.g., on bowls and tiles depicting the story of Bahram Gur from the 12th and 13th centuries[18] or on miniatures from the 15th and 16th centuries (Figure 8).[19]

Another unusual detail is the thick curly tail of the camel. Tang and later camels are usually portrayed with straight tail or with no tail present (e.g., Qi and Genito, 2017: 44), although curly but slimmer tails also exist.[20] A curly and relatively thick example can be seen on the claimed to be Han Dynasty jade camel on an auction website (Figure 9).[21]

Identifying the base on which the camel is standing is again a problematic element. Among the possible interpretations, i.e., cloud, sand dunes or lotus, the most similar representations to the SSH piece are the several depictions of lotus- the flower associated with Buddhism.[22] Although animals are less frequently portrayed on a lotus base, comparable iconography can be seen on a Javanese ring from the collection of the Metropolitan Museum of Art. On the gold jewelry dated to the 8th-11th century, an elephant is standing on a relatively similar lotus base (Figure 10).[23] Camels can also be found in context of Buddhist imaginary, particularly from 5th century, e.g., on the Buddhist-Daoist stela made by Wei Wenlang 魏文朗 from 424 AD (Li, 1994; Wang, 2005: 29, 43; Wong, 2004: 109-114).[24] Moreover, the gate of An Jia 安伽's tomb depicts three camels standing on a lotus pedestal- in a Zoroastrian context (Shaanxi Sheng Kaogu Yanjiusuo, 2003). However, the whole scene, and particularly the representation of the lotus is

[18] See for example a piece in the collection of the Metropolitan Museum of Art. Striklingly on 10.56.2. https://www.metmuseum.org/art/collection/search/445993?&searchField=All&sortBy=Date&ft=camel&offset=60&rpp=20&pos=67 (accessed June 10, 2019)

[19] See a miniature with an attribution to Bihzad, Herat (Binyon *et al*., 1933: pl.87a; Adamova ,2004: 1, fig. 1)

[20] For example a Tang figurine from the Sotheby http://www.sothebys.com/es/auctions/ecatalogue/2008/fine-chinese-ceramics-works-of-art-including-chinese-and-japanese-art-from-the-collection-of-frieda-and-milton-rosenthal-n08464/lot.96.html# (accessed June 10, 2019)

[21] Further description can be found in Chinese Han Dynasty Hetian Jade Camel and Old Man Statue Dimension: 145x55x85(mm) https://www.liveauctioneers.com/en-gb/item/57271537_chinese-han-dynasty-hetian-jade-camel -and-old-man-statue (accessed June 10, 2019)

[22] Form of the lotus petals (*lianban* 蓮瓣) can be found on Tang metalwares, strikingly similar to the inner pattern of the gold bowl (*yuanyang lianban wenjin wan* 鴛鴦蓮瓣紋金碗) from the notable Hejiacun hoard 西安市南郊何家村窖藏 (Shaanxi History Museum, 2003: 109-114).

[23] https://www.metmuseum.org/art/collection/search/50244?&searchField=All&sortBy=Date&when=A.D.+500-1000&ft=lotus&offset=40&rpp=20&pos=43 (accessed June 10, 2019)

[24] Camels also appear in the context of Zoroastrianism such as Yu Hong 虞弘's sarcophagus (Juliano, 2016: 30-31).

quite different from the SSH object.[25] Another interesting example can be found on Yu Hong 虞弘's sarcophagus on which not only a camel (and its rider) surrounded by lotus flowers is depicted, but a fire altar with lotus petals represented in a way comparable to the SSH piece can also be found (see Figure 12, Shaanxi Sheng Kaogu Yanjiusuo, 2005).[26]

Foreigners are often depicted with beard particularly in Tang times, however chiefly with a carefully trimmed one, e.g., Qi and Genito (2017: 47). Long beards- like in case of the SSH plaque- are less common. An example of a relatively long bearded foreigner can be found in the collection of the Beijing Palace Museum.[27] Similarly, aforementioned head-piece (the 'flat hat' [*maoyan* 帽檐]) on the SSH item is less frequent among foreigner portrays,[28] thus it is possible that he is wearing a decorated headband (*jinjin shufa* 錦巾束髮) as in case of the Tang figurines from Jialicun 嘉裏村 tomb 1 and from Qi Bimin's tomb (Han, 2000: 28-29). Possibly some other type of head scarf (*touxi fujin* 頭系襆巾) like in case of the Tang figurine discovered in Chigangchong, Changsha 長沙市赤崗冲, currently held at the Hunan Museum 湖南博物館.[29] It is also possible that it is a crudely depicted as belted headwear (*futou* 襆頭), like on many of the Tang foreigner figurines, such as in the collection of the Beijing Palace Museum.[30]

As camels are usually heavily loaded with several goods, it is not uncommon to find an extra carpet swung across the animal's back,[31] however the existence of the extra carpet on the SSH piece is very provisory (Figure 11)

[25] Depctions of camels and caravans on stone reliefs see Rong (2005), which are all particular in respects of Western influence or likely connection to Westerners such as Sogdians 粟特.

[26] The author would like to thank Dr. Gábor Kósa (MTA – ELTE – SZTE Silk Road Research Group) for pointing out this interesting iconographic analogy.

[27] https://www.dpm.org.cn/collection/sculpture/233424.html.html (accessed June 10, 2019)

[28] A possible example can be seen on object from an auction website with unclear dating: http://www.997788.com/211941/search_271_65541434.html (accessed June 10, 2019)

[29] With a long introduction see: http://www.hnmuseum.com/zh-hans/zuixintuijie/%E8%83%A1%E4% BA%BA%E7%89%B5%E9%AA%86%E9%A9%BC%E4%BF%91 (accessed June 10, 2019), while for various foreigner representations can be found in Qianling Museum (2008).

[30] For example: https://www.dpm.org.cn/collection/sculpture/233425.html (accessed June 10, 2019); More detailed discussions on Hu dress 胡著 during the Tang Dynasty can see found in Li (2001: 43-46).

[31] For example the Northern Wei/Northern Qi camel figurine from the Metropolitan Museum of Art https://www.metmuseum.org/art/collection/search/49543?&searchField=All&sortBy=Date&ft=camel&offset=20&rpp=20&pos=30, or a questionable example from an auction website with unknown date https://www.cang. com/posts/ post/820061 (accessed June 10, 2019) Also see Knauer (1998: 44-69, 106-108).

Concluding remarks

In light of the above, it can be concluded that the overall depiction of the pattern, i.e., the static posture, and curly and thick tail of the camel, along with the hat and beard of its rider, and the rectangular or square shaped cushion over the animal together, cannot be regarded as typical representations in China during Tang/Yuan dynasties, nor in other cultures of the Silk Roads (though less recognized analogies might exist). At the same time, as individual elements these motifs all existed in the mainland, and many were derived from non-local artistic practice. Those iconographic analogies suggest that the strap-end could not be made earlier than the Tang, during the period when both the fashion of wearing mounted belts and depicting camels with their foreign riders were widespread. At the same time, using bronze for belt ornaments only became extremely popular during the Liao and Jin Dynasties. Moreover, casting details along with the overall style of the pattern and some iconographic elements even suggest a later, possibly Yuan Dynasty date, when a revival of camel representations can also be detected.

Although at this point only the Tang *terminus post quem* seems to be certain, by finding a closer analogy or/and giving a more precise date of the SSH site with the B62 burial, we might be able to have a better insight on the actual production date and possibly even the production place of the SSH item.

Taking into accounts all its peculiarities, the strap-end seems to arrive from the mainland, where in fact it is an example of alien inspiration as indicated by both the camel and its rider. Moreover, the abovementioned atypical details of its pattern suggest that different traditions might have played role in forming its design in accordance with the Tang(or later) taste/preference - among which a certain Western Asian influence can be detected. As it is the case with other belt sets with multicultural design (Shaanxi History Museum, 2003: 206), possibly the SSH object might have been made by a non-local craftsman or was produced in a non-local workshop, most likely for consumer(s)/community(ies) residing in mainland China.

Taking that bronze belts were generally attributed to commoners and foreigners, and camels and their foreign riders were mostly associated with the Silk Road trade activities and multiculturalism, it is possible that originally the belt set (including the SSH strap-end) might have been related to somebody involved in such activities. However, this idea needs to be

confirmed by further study on the social background and identity of the decease buried with such mounted belts of multicultural designs, including depicting camels, lions, and foreigners etc., in and beyond the Tang era.

Further considerations on the social background of the artefact

Despite the fact that giving a precise date to the artefact or finding its place of origin is a very problematic matter, it is obvious that it was a non-local item, thus reflects to the complex networks of the SSH people. Although less is known about its place of production, but thanks to its well-documented context, a few thoughts about its position in the receiving culture can be formed.

As the burial was badly preserved, little is known about the exact position of the artefact within the pit but it is quite clear that no other items of the original belt set were placed into the burial, thus the strap-end is a lone piece without its set. It is also very clear that it was not in a wearing position, most likely placed into the pottery along with other non-local items. Its finding context, together with the lack of other pieces of the belt set, might suggest that its owner/deceased (or the community responsible for the burial) had no intricate understanding regarding the functionality of the object, or that they simply did not intend to use it in a wearing context.

Bronze as a material, especially decorated objects made of bronze are quite rare at SSH site (Tsang and Liu, 2001: 82-83) and it is a broad yet accurate assumption that such mounted belts are alien from the SSH culture costume repertoire. Also, based on its peculiar decoration and relatively rare material, and considering from presence of other non-local objects in the same burial (although non-local items are fairly common among other burials in general), it may be again a broad yet plausible postulation that the strap-end was a valuable item, although it would be premature to decide whether it might have been a prestige object or simply an ‘exotic’ item without any immaterial value. The fact that it was buried as a lone piece might either suggest that it was treasured for a long time before its burial, while all other pieces of its belt set had been lost with time, or that it was acquired as an individual piece, even without the belt itself. If we accept that the asymmetrical holes on its sides were pierced secondarily, their mere existence would also

prove that the object was tied to something and thus was not used for its intended(original?) purpose .

To be sure, all of the abovementioned peculiarities fall within the context suggesting a specific reception and reinterpretation of this interesting object, in which the strap-end had lost its original function and was attributed with new understanding(s)/meaning(s). Such communal and culturally specific reception (when a non-local item got a new interpretation) can also be seen in case of Roman glass vessels in pre-6th century China, where the mass-produced Roman glass from common utensil was reinterpreted to be a genuine prestige object and was enriched by ritual and symbolic aspects (Hoppál, 2016, 2018).

All things considered, this extraordinary strap-end is an example of cosmopolitanism, perhaps post-Tang(?), showing several cultural traditions and its mere existence is interconnecting the West and the East through artisan performance. Its presence at SSH site clearly illustrates the vast cross-cultural connections of the local community, and integrates Taiwan into the complex network system of the Silk Roads.

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References

Adamova, Adel T.

2004 The Iconography of a Camel Fight. *Muqarnas: An Annual on the Visual Culture of the Islamic World* 21:1-14.

Binyon, Laurence, James Vere and Stewart Wilkinson

1933 *Persian miniature painting: Including a critical and descriptive catalogue of the miniatures exhibited at Burlington House, January-March, 1931.* London: Oxford University Press.

Fan, Shuying 範淑英

2008 Sihai lai zun danqing xiezhao: Tangdai fanren hua de yangshi ji qi gongneng hutan 四海來尊丹青寫照－唐代蕃人畫的樣式及其功能初探 [Universally respected for painting portraiture: Style and function of paintings portraying foreigners of Tang Dynasty].《四川文物》*[Sichuan Cultural Relics]* 2008(5):80-85.

Feng, Yingzhi 馮盈之

2009 Zhongguo gudai yaodai wenhua lüelun 中國古代腰帶文化略論 [On belt culture in ancient China(sic)].《浙江紡織服裝職業技術學院學報》*[Journal of Zhejiang Textile and Fashion Vocational College]* 1:50-54.

Gu, Fang

2005 *Zhongguo chutu yuqi quanji Di er juan, Neimenggu, Liaoning, Jilin, Heilongjiang*《中國出土玉器全集第 2 卷・內蒙古、遼寧、吉林、黑龍江》*[The complete collection of unearthed jades in China Vol. 2nd: Inner Mongolia, Liaoning, Jilin, Heilongjiang].* Beijing: Kexue chubanshe 科學出版社.

Han, Jianwu 韓建武

2000 Shaanxi Tang mu chutu de huren yong 陝西唐墓出土的胡人俑 [Foreigner figurines unearthed in Shaanxi].《收藏家》*[Collectors]* 4:22-29.

Hoppál, Krisztina

2016 Contextualising Roman-related Glass Artefacts in China. An Integrated Approach to Sino-Roman Relations. *Acta Archaeologica Academiae Scientiarum Hungaricae* 67:99-114.

2018 New shades of old materials. Changing Roles of Gold and Glass Artefacts in the Barbarian States of China. *Chronica* 18:114-136.

Juliano, Annette L.

2016 Converging traditions in the imagery of Yu Hong's sarcophagus: Possible Buddhist sources. *Journal of Inner Asian Art and Archaeology* 1:29-50.

Kadoi, Yuka

2009 *Islamic Chinoiserie: The Art of Mongol Iran*. Edinburgh: Edinburgh University Press.

Keenan, John P.

1994 *How Master Mou Removes Our Doubts: A Reader-Response Study and Translation of the Mou-tzu Li-huo lun.* Albany: State University of New York Press.

Knauer, Elfriede Regina

1998 *The camel's load in life and death- iconography and ideology of Chinese pottery figurines from Han to Tang and their relevance to trade along the Silk Routes*. Zurich: Akanthus.

Korolkova, Elena

2007 Camel Imagery in Animal Style Art. In *The Golden Deer of Eurasia: Perspectives on the Steppe Nomads of the Ancient World*. Joan Aruz, Ann Farkas and Elisabetta Valtz Fino, eds. Pp. 196-207. New Haven, Conn. and London: Yale University Press.

Li, Liyou 李逸友

1987 Liaodai daishi kaoshi--cong Liao Chenguo gongzhu Fuma hezangmu chutu de yaodai tanqi 遼代帶式考實--從遼陳國公主駙馬合葬墓出土的腰帶談起 [Notes on the Liao Dynasty Girdle Style (sic)]. 《文物》 *[Cultural Relics]* 11:29-37.

Li, Song 李凇

1994 Beiwei Wei Wenlang zaoxiang bei kaobu 北魏魏文朗造像碑考補 [Study on Wei Wenlang's stela of the Northern Wei]. 《文博》*[Relics and Museology]* 1:52-57, 108.

Li, Yi 李怡

2001 *Tangdai Hanzu nanzi fushi yanjiu* 《唐代漢族男子服飾研究》 *[The study on the dress of the Chinese men in Tang Dynasty (sic)]*. Master thesis. Xi'an Shaanxi Shifan Daxue 西安陝西師範大學.

Ma, Dong 馬冬

2006 Gedai chunqiu: Zhongguo gudai pige yaodai fazhan lüelun 革帶春秋：中國古代皮革腰帶發展略論 [Leather belt of Chun Qiu: brief discussion of the development of leather belt in ancient China]. 《中國皮革》 *[China Leather]* 12:133-135.

Mahler, Jane Gaston

1959 *The Westerners Among the Figurines of the T'ang Dynasty of China.* Rome: Istituto Italiano per il Medio ed Estremo Oriente.

Qi, Dongfang 齊東方, and Bruno Genito 葛嶷

2017 *Yi bao xi lai: Kaogu faxian de Sichou zhilu bolaipin yanjiu* 《異寶西來：考古發現的絲綢之路舶來品研究》 *[West and East Archaeological Objects along the Silk Road]*. Shanghai: Shanghai Guji Chubanshe 上海古籍出版社.

Qianling Museum 乾陵博物館

2008 *Silu huren wailai feng: Tangdai huyong zhan*《絲路胡人外來風：唐代胡俑展》 *[Exotic flavor of the foreigners on the Silk Road: terracotta Hu Man of the Tang dynasty]*. Beijing: Wenwu chubanshe 文物出版社.

Rong, Xinjiang 榮新江

2005 Beizhou shi jun mushi guo suojian zhi sute shang dui 北周史君墓石槨所見之粟特商隊 [Studies on the Sogdian caravan as Seen in the Relief of the Shi's Tomb of the Northern Zhou(sic)]. 《文物》 *[Cultural Relics]* 3:47-56.

Shaanxi History Museum 陝西歷史博物館

2003 *Huawu da Tang chun: Hejiacun yibao jingcui* 《花舞大唐春：何家村遺寶精粹》 *[Selected Treasures from Hejiacun Tang Hoard]*. Beijing: Wenwu chubanshe 文物出版社.

Shaanxi Sheng Kaogu Yanjiusuo 陝西省考古研究所

2003 *Xi'an Beizhou An Jia Mu* 《西安北周安伽墓》 *[The Northern Zhou Period An Jia's Tomb in Xi'an]*. Beijing: Wenwu Chubanshe 文物出版社.

2005 *Taiyuan Sui Yu Hong mu* 《太原隋代虞弘墓》 *[Yu Hong's tomb of the Sui Dynasty from Taiyuan]*. Beijing: Wenwu Chubanshe 文物出版社.

Sun, Hwa 孫華

2010 *Zhongguo meishu quanji Di si juan, qing tong qi*《中國美術全集第 4 卷・青銅器》 *[The Great Treasury of Chinese Fine Arts Vol. 4th. Bronze Vessels].* Hefei: Huang Shan shu she 黃山書社.

Tian, Weili 田衛麗

2016 Tangdai daikua de shiyong zhidu_Guancang daikua shangxi 唐代帶銙的使用制度--館藏帶銙賞析 [Use of the Tang Dynasty mounted belts]. 《文物天地》 *[Cultural Relics World]* 6:62-87.

Tsang, Cheng-hwa 臧振華, and Yi-chang Liu 劉益昌

2001 *Shisanhang Yizhi Qiangjiu yu Chubu Yanjiu* 《十三行遺址搶救與初步研究》 *[Preliminary Study on Shisanhang site]*. Taipei: Taipeixian Zhengfu Wenhuaju 臺北縣政府文化局.

Wang, Eugene Yuejin

2005 *Shaping the Lotus Sutra: Buddhist Visual Culture in Medieval China.* London and Seattle: University of Washington Press.

Wong, Dorothy C.

2004 *Chinese Steles: Pre-Buddhist and Buddhist Use of a Symbolic Form.* Honolulu: University of Hawaii Press.

Wu, Mo 吳沫

2013 Liaodai yu diexie dai de tezheng fenxi ji qi wenhua 遼代玉蹀躞帶的特徵分析及其文化探源 [Characteristics and cultural origin of Liao Dynasty jade belts]. *Chifeng Xueyuan Xuebao (Hanwen zhexue shehui kexue ban)*《赤峰學院學報》(漢文哲學社會科學版) *[Journal of Chifeng University (Philosophy and Social Science Chinese Edition)]* 7:13-18.

Xu, Zhengzheng 胥箏箏

2016 Tangdai nanxing fushi yaodai jiexi 唐代男性服飾腰帶解析 [Analysis on belt of men's apparel in Tang dynasty(sic)].《絲綢》 *[Journal of Silk]* 11:66-73.

Yang, Wei 楊瑋

2017 Tangdai yu daikua shang de huren jile xingxiang 唐代玉帶銙上的胡人伎樂形象 [Representation of foreigner musicians on Tang Dynasty jade belts].《絲綢之路研究集刊》 *[Journal of the Silk Road Studies]* 2017(1):108-121.

Zhao, Feng

1999 *Treasures in Silk: An Illustrated History of Chinese Textiles.* Hong Kong: ISAT Costume Squad Ltd.

Figure 1: Front view of the camel plaque. (Courtesy of the Institute of History and Philology, Academia Sinica)

Figure 2: Drawing of the plaque. (Courtesy of the Institute of History and Philology, Academia Sinica)

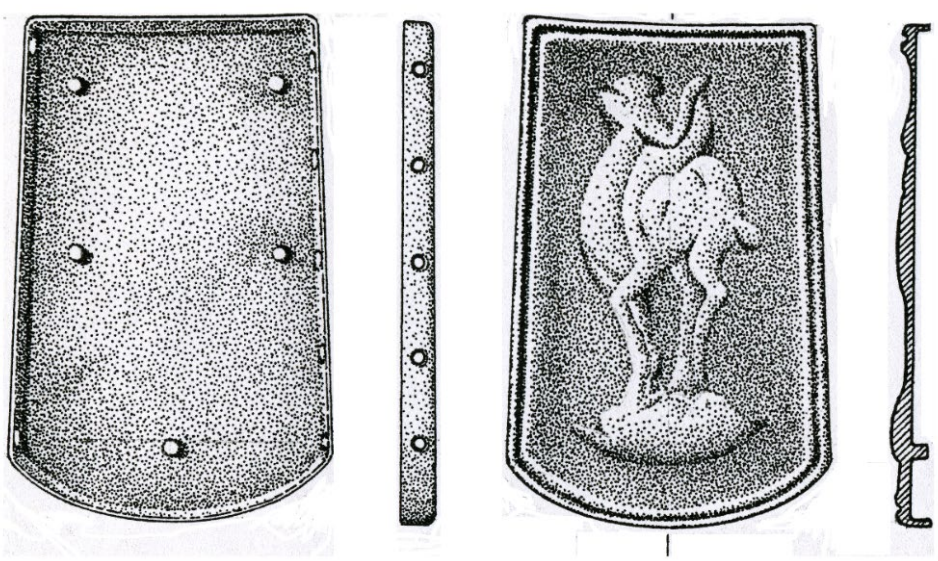

Figure 3: Drawing of the camel plaque by the author based on pictures provided by the Institute of History and Philology, Academia Sinica. Note that figure 3 is somewhat different from figure 2 due to different artists' reconstructions.

Figure 4: Back view of the camel plaque, Courtesy of the Institute of History and Philology, Academia Sinica

Figure 5: Early Liao Dynasty jade strap-end with pattern of human figures from Inner Mongolia. (Gu, 2005: 82)

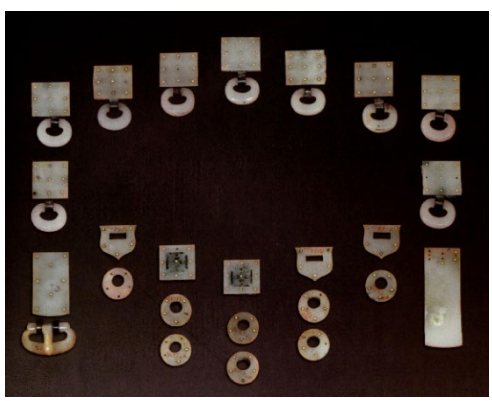

Figure 6(a-b): Tang Dynasty jade belt set and its bronze technological counterpart from the collection of the Shaanxi History Museum (Tian 2016: 67, figures 11-12)

Figure 7: Tang Dynasty camel figurine from the Metropolitan Museum of Art. Image source: Wikimedia Commons.

Figure 8: Tile depicting Bahram Gur and Azada. Courtesy of the Metropolitan Museum of Art.

Figure 9: Jade camel figurine represented with a thick curly tail. Courtesy of the Quan Rong Gallery.

Figure 10: Ring with an elephant standing on a lotus. Courtesy of the Metropolitan Museum of Art.

Figure 11: Camel figurine represented with an extra carpet. Courtesy of the Metropolitan Museum of Art

Figure 12: Line drawing of the relief depicting fire altar with lotus petals on the base of Yu Hong's marble sarcophagus. (Shaanxi Sheng Kaogu Yanjiusuo 2005: 134, Figire 181)