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A local discourse on the early belief system from the Philippines using evidence from the Guthe Collection
Isang diskursong lokal sa sinaunang kosmolohiya sa Pilipinas gamit ang Guthe Collection

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Abstract

Previous research on foreign ceramics recovered from Philippine archaeological sites focused on their presence, quantity, origins, and interpreted them as status markers. These studies overlooked designs on ceramics which will be investigated in this paper. It is proposed that designs were symbols of a local belief system. This work builds on the local discourse on past cosmology in the Philippines further providing material evidence of a tripartite universe practiced in Southeast Asia. The main source of archaeological evidence are ceramics and other artefacts excavated in central Philippines by Carl E. Guthe in the 1920s, which are now stored at the University of Michigan Museum of Anthropological Archaeology. Using a contextual approach, drawing data from archaeology, ethnohistory, ethnography, and oral literature, the significance of decorations, namely the sun, bird, and reptile motifs is inferred. Analysis confirms that artefacts with these design elements were commonly recorded in burial contexts across the archipelago. This suggests that during the pre-16th century trade between the Philippines and Southeast Asian and Chinese merchants, early inhabitants actively acquired specific designs on ceramics because they were relevant to their belief system which could have been the basis of wealth and status in later periods. Hence, the proposal that local cosmology influenced the acquisition of imported goods.

Ang mga naunang pag-aaral sa mga seramik ng ibang bansa na makikita sa mga archaeological sites sa Pilipinas ay nakatuon sa dami at ang pinanggalingan ng mga ito kung saan ang pagpapaliwanag ay nakatali sa katayuan sa lipunan ng mga gumamit nito. Ang mga unang pag-aaral ay hindi nabigyang pansin ang mga disenyo sa mga seramik. Ang papel na ito ay isang ambag sa diskurso sa sinaunang kosmolohiya ng Pilipinas upang magdagdag ng higit na katibayan ng tatlong bahagi ng sansinukob na pinapaniwalaan sa Timog Silangang Asya. Ang katibayan mula sa arkiyolohiya ay nagmula sa mga seramik at ibang liktao na nahukay sa gitnang bahagi ng Pilipinas ni Carl E. Guthe noong 1920s, na ngayon ay naka-imbak sa Pamantasan ng Michigan Museo ng Antropolohikal Arkeolohiya. Gamit ang kontekstuwal na lapit, kaalaman mula sa arkiyolohiya, kasaysayan,

etnographiya, at kwentong-bayan ay nagpapakita ng kahalagahan ng mga dekorasyon ng araw, ibon, at reptilya na kasalukuyang makikita din sa mga liktao. Ang mga seramik at ibang liktao na may taglay ng disenyong nabanggit ay naitala sa mga libingan sa iba't-ibang pulo. Pinapahiwatig ng pag-aaral na ang sinaunang Pilipino ay masugid na pumipili ng seramik mula sa Timog Silangang Asya at Tsina. Ang pagpili ng seramik ay dahil angkop ito sa kanilang sinaunang paniniwala na maaaring naging batayan ng yaman at katayuan sa mga sumunod na panahon. Samakatwid, ang panukala na ang pag-angkat ng kalakal ay maaaring hinikayat ng sinaunang paniniwala.

Keywords: Philippines, cosmology, ceramics, Guthe Collection, motifs | Pilipinas, kosmolohiya, seramik, Guthe Collection, disenyo

Introduction

In the 14th to the 16th centuries, foreign ceramics recovered in the Philippines were collectively examined as imported goods and interpreted as wealth items associated with prestige (Junker 2000). Large quantities and high-quality foreign ceramics in burials were considered symbols of high status (Junker 2000). Due to the high quantities of foreign ceramics, Junker (2000: 20) noted that the only way to differentiate elite and non-elite burials is to examine the "complex gradations in both quantity and quality of status goods". In central Philippines, Junker (2000) observed that more high-quality Chinese porcelain were found in the coastal chiefly centre of Tanjay while in the secondary centers, Siamese and Annamese porcelain were in higher quantities compared to Chinese porcelain (Junker 2000). Barretto-Tesoro (2008) argued that these ceramics were initially commodities, objects of trade but when they reached the Philippines were reappropriated as ritual objects and items of wealth. However, recent studies on designs on artefacts including ceramics reveal a deeper significance related to cosmology. This current research expands previous works on understanding local cosmology by examining the temporal and geographical extent of the designs to argue that local cosmology influenced the selection of foreign items in precolonial Philippines.

Data for this study comes from the Guthe Collection currently stored at the University of Michigan Museum of Anthropological Archaeology. Carl E. Guthe (1927), as head of the University of Michigan Philippine Expedition in the 1920s, collected materials from Central Philippines and Northern Mindanao. Students at the University of Michigan studied the collection, but to date, only few Filipino scholars analysed subsets of the collection. Dizon (1988) examined metal implements for his doctoral dissertation. Basilia (2014) investigated the beads focusing on the production sequence. Romualdez-Valtos (2010) inspected earthenware vessels for a future project.

Approaches in cognitive archaeology established that we could understand past cosmology using indirect historical analogy and contextual method (Marcus and Flannery 1994; Paz 2012). The designs or motifs and their significance will be established using archaeological, ethnohistorical, and ethnographic data from the Philippines and surrounding areas.

Production methods of local pottery will not be included here because these have been studied elsewhere (Favereau et al. 2016; Solheim 1964, 2002). Discussion on sources of the foreign ceramics will also not be included here.

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Framework

Indirect historical analogy and contextual method are used in the analyses of the motifs. Examining indigenous belief brings light to the importance of these motifs. Indigenous belief was not centralized, and animism and ancestral veneration were widely practiced. In 2014, Lasco attributed to the nature of the cosmology of Austronesians to explain why the Philippines had no large temples or structures before Spanish arrival in the 1500s. Lasco (2014) stated that temples in Southeast Asia are found mostly on the western part of the region and belonged to populations practicing Hinduism and Buddhism, while the rest continued to follow the Austronesian belief system (Figure 1). Indigenous cosmology is a tripartite universe composed of three levels, the Kaitaasan, Lupa, and Kailaliman. Kaitaasan is literally the zenith or vertex, interpreted to be the Upperworld (Figure 2, Capistrano-Baker 2011a), Lupa is ground where the living exists or Middleworld (Schwartzberg 1994), and Kailaliman is the abyss (translation mine) or Underworld (Capistrano-Baker 2011a; Tenazas 1982). They are interpreted as heaven and underground but not heaven and hell. Each level has its own corresponding symbols.

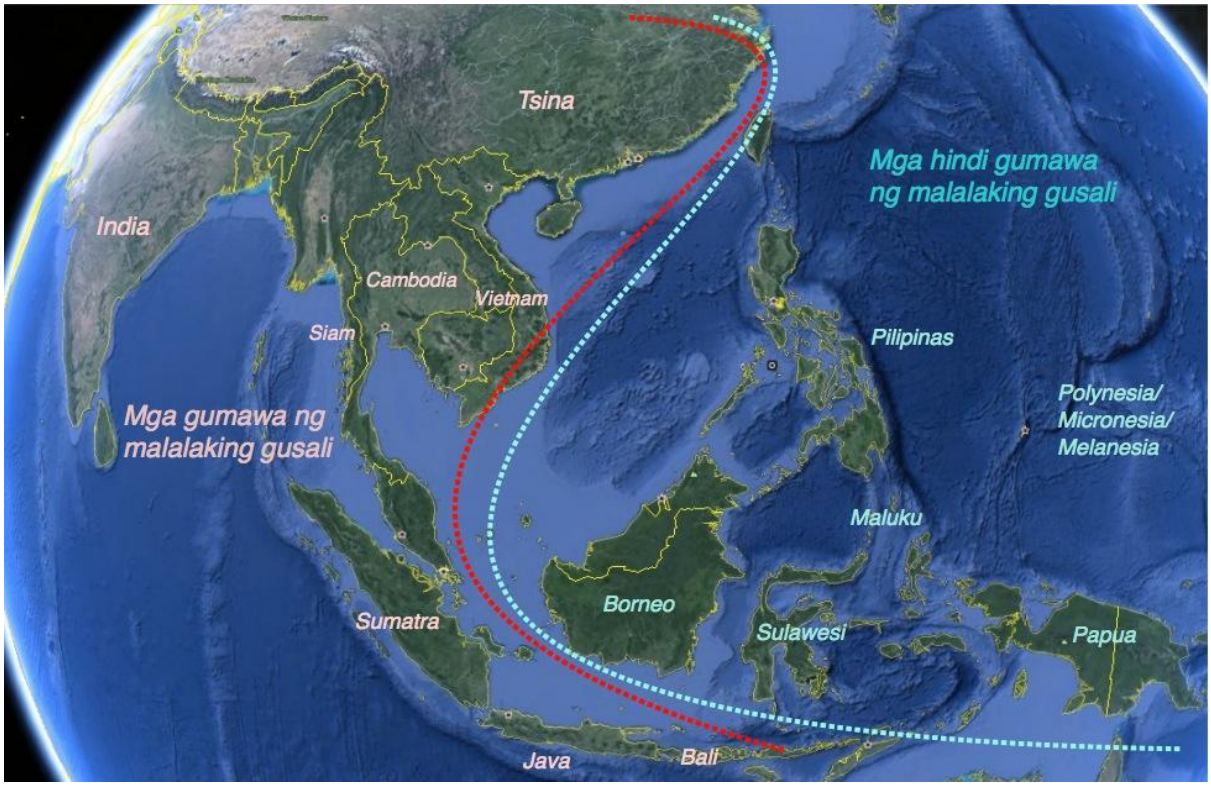
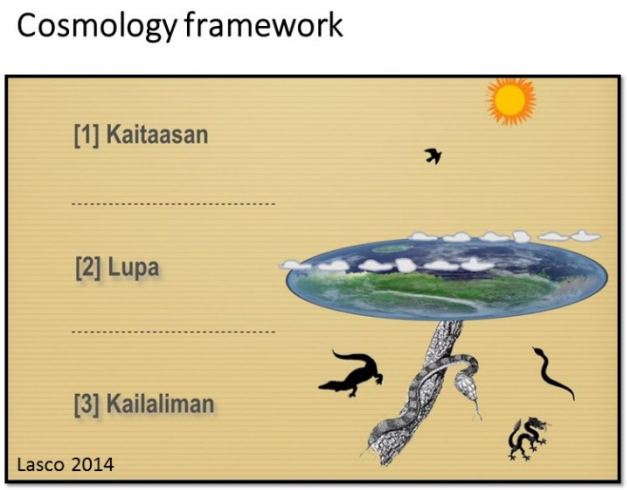


Fig. 1 Map of Southeast Asia showing the divide between the areas with temples on the west and those without on the east. According to Lasco this is due to the belief system practised in these areas (Lasco 2014) Source: Courtesy of Lorenz Lasco.

Kaitaasan is represented mainly by the sun and bird, and the Kailaliman dominated by snakes and other reptiles. While Lupa is represented by a tall tree that connects Kailaliman and Kaitaasan through its roots and branches, it can also be represented by a water buffalo (Löffler 2002 [1968]). This belief system is evident in indigenous pile houses where the raised living floor is the Lupa, the roof and the space below is the Kaitaasan, and the space below the living floor is the Kailaliman (Capistrano-Baker 2011a; Lasco 2014). Kaitaasan can also be represented with stars, roofs, umbrellas, male figures, and phallic symbols. While the Kailaliman can also be represented with various reptiles, fishes, female figure, and pudenda. Salazar noted that some objects combined Kaitaasan and Kailaliman symbols. These symbols were based on Salazar's (2004, 2005; Peñalosa

and Salazar 2018) literature survey of cultural groups in the Philippines, Taiwan, Kalimantan, Moluccas, Solomon Islands, Marquesas, Easter Island, Fiji, Samoa, New Zealand, and Melanesia. Salazar's study illustrated how the motifs became stylized and localized through time and space. He argues that these motifs originated in Hemudu, China at around 5000 BP and brought to ISEA by the Austronesians, following the Out-of-Taiwan Model (Bellwood 2017). I shall return to this point below.

Belief in a tripartite universe is shared by the Ngaju Dayaks of Kalimantan (Borneo) (Löffler 2002 [1968]; Schärer 1963; Schawartzberg 1994). Schärer (1963), who lived in Borneo from 1932 to 1939, illustrated the different features of the Tree of Life, which mainly consists of a hornbill and a watersnake. The Upperworld is represented by the hornbill; and the Middleworld, which corresponds to the Philippine Lupa, is believed to be carried on the back of a snake, which represents the Underworld (Schwartzberg 1994). In some groups, a dragon, scorpion, or turtle or even tortoise can represent the Underworld. Upon death, the watersnake takes the corpse away and the hornbill "brings the spirit to the village of the dead, for the spirit comes from the Upperworld" (Schärer 1963:78). Thus, the dead and his/her spirit is carried on a boat carved with the heads of a hornbill and watersnake (Schärer 1963). Material evidence for the Ngaju Dayak's tripartite cosmos is found on an engraved container that "represent phenomena associated with the mortuary cult", wherein a "hornbill-prowed spirit boat transports the dead" and a stern that resembles a snake to the Underworld where crocodiles abound (Schawartzberg 1994: 708).



Kaitaasan symbols	Kailaliman symbols
Sun and its other representations	*Snake and its other representations*
Chicken/Bird	Crocodile/Lizard/Turtle
Star/Meteor/Shooting Star	Wild Boar
Roof	Fish/Sea serpent
Umbrella	Female Figure
Male Figure	Pudenda
Phallic Symbol	
Sun-Snake Combination	
Roof-Snake	
Fish-Chicken	
Turtle-Sun	
Crocodile/Lizard-Snake	

Translated from Salazar 2004:95

Fig. 2 Left: Southeast Asian concept of the Tripartite Universe (Lasco 2014) (Image courtesy of Lorenz Lasco). Right: Symbols for the Kaitaasan [Zenith/Above/Upperworld] and Kailaliman [Abyss/Below/Underworld] levels of the tripartite universe (Translated from Salazar 2004: 95)

Related literature

In this section, evidence from the Philippines, Southeast Asia, and Oceania will be presented to argue for the early appearance of the sun, bird, and reptile motifs in the region prior to the arrival of

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Southeast Asian and Chinese ceramics in the 10th century CE. Evidence presented here emphasizes a non-Chinese influence.

Philippine materials

Salazar (2004, 2005), a Filipino historian, observed that sun, bird, and reptiles, including their stylised representations, adorned many Philippine cultural objects. He proposed that these were symbols of the Austronesian belief system because they were associated with Austronesian-speakers in the Malayo-Polynesian region. Initially, he investigated cultural objects from the Philippines and later expanded the study to include other parts of Southeast Asia and Oceania. He discovered that these symbols were linked with status and mortuary practices.

Following Salazar's lead, Barretto-Tesoro (2008) analysed decorations on ceramics recovered from 15th century CE burials in Calatagan, Batangas Province (Figure 3). Sun and bird motifs were found on blue-and-white wares, and sun motifs were incised on earthenware vessels (Figure 4). Early Spanish missionaries recorded that the sun and a blue bird were considered sacred among early Tagalogs (Conquest of the Island of Luzon 1903 [1572]; Chirino 1969 [1604]; Colin 1906 [1660]), who were believed to be the ethnolinguistic group that occupied Calatagan (Barretto-Tesoro 2008).

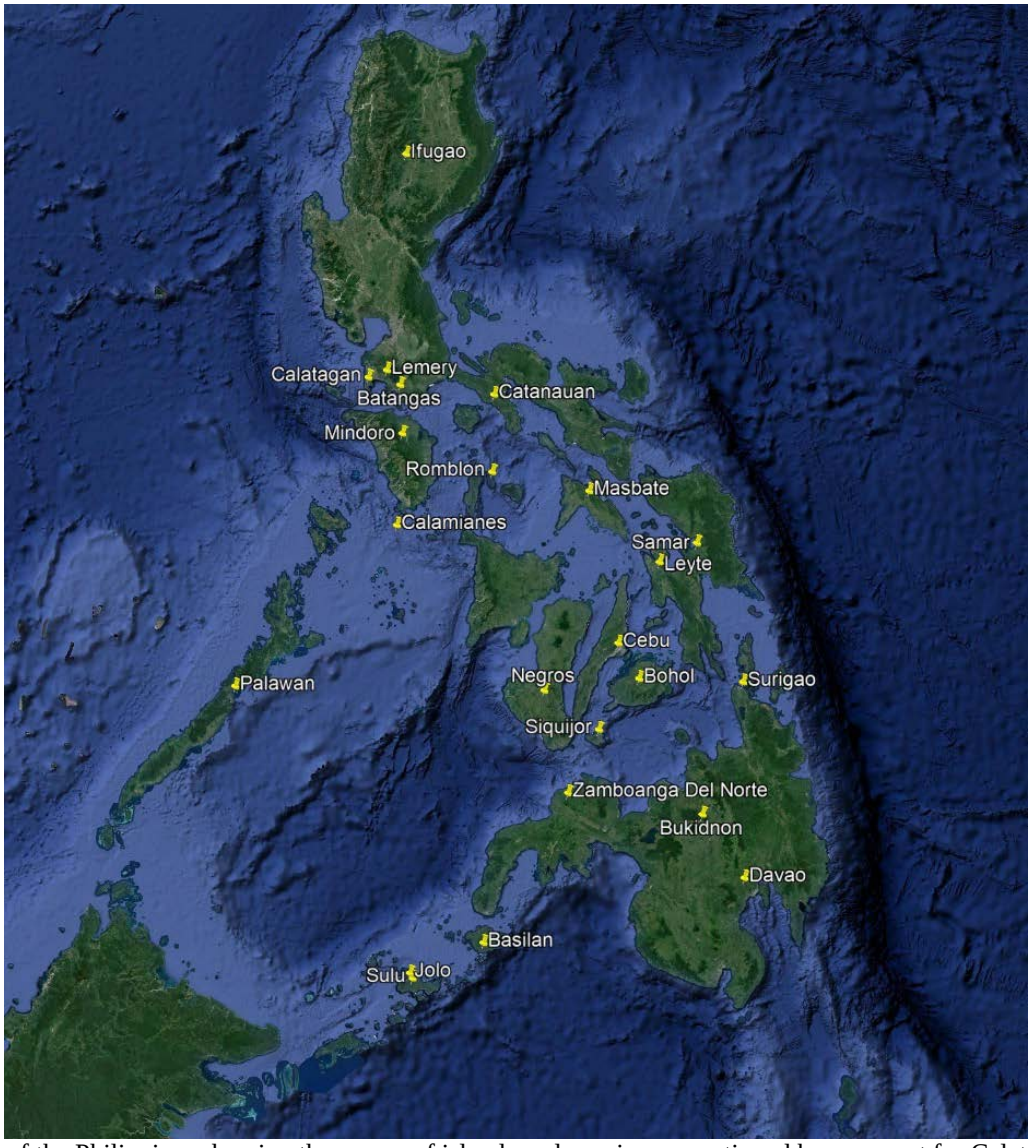

Fig. 3 Map of the Philippines showing the names of islands and provinces mentioned here, except for Calatagan and Lemery which are towns under the province of Batangas. Artefacts from the Guthe Collection were mostly recovered from central and southern Philippines. Map Source: Google Earth.

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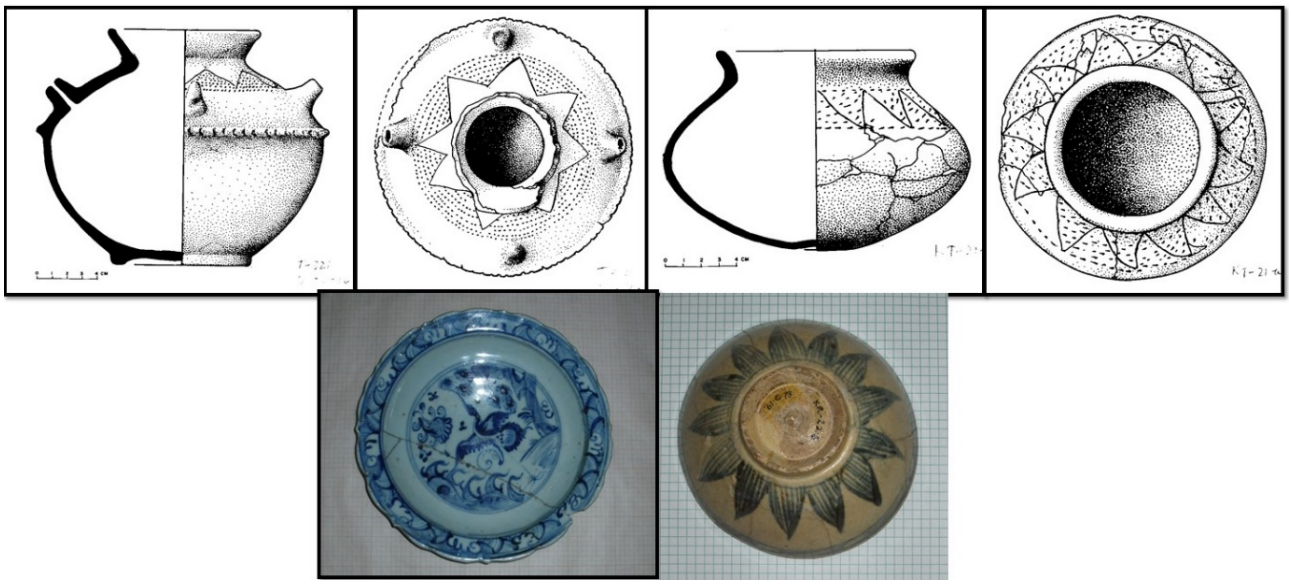

Fig. 4 Top row: Illustrations of two of the earthenware vessels with sun motifs from Calatagan, Batangas showing profile and top. Bottom row: Samples of foreign ceramics from Calatagan with a bird motif (on the left) and a sun motif (on the right). Source: Barretto-Tesoro 2008.

The earliest solar motif in the Philippines is found in Dewil Valley, northern Palawan. Melo shells with naturally occurring spires on the apical portions that are evocative of solar whorls were found in burials dating to before 4000 years ago (Paz 2012; Vitales 2013). Presence of melo shells in burials was documented to have continued until 100 years ago at Dewil Valley.

The oldest dated sunburst designs on pots associated with burials come from Lemery, Batangas dating to 1810 to 1760 BP (Barretto-Tesoro 2016; Locsin et al. 2008). Favereau et al. (2016) examined earthenware vessels from the Guthe Collection particularly the Kalanay[1]-related potteries. She identified three technological processes she attributed to three different groups. Notwithstanding the geographical distribution of these pots in central Philippines, they shared "one diagnostic theme" of "rows of incised spirals alternating with triangles" (Favereau et al. 2016:126). In addition, these "decorations persisted over a long period of time, from the first millennium BCE to the first millennium CE or even later" (Favereau et al. 2016:126). According to Favereau this shared design was a result of interaction between and among the three groups. Based on the description of the designs Favereau documented, I propose these to be sun motifs. A jar burial cover from Kulaman Plateau dating to 585 AD $\pm$ 85 shows concentric circles reminiscent of a solar motif (Kurjack et al. 1971; Maceda 1967). Thus, the sun motif is present on Philippine pottery at least a thousand years before arrival of Southeast Asian and Chinese ceramics. Incised lines on rims forming triangles imitating sunrays were also found in contemporary Samal pottery in the Sulu archipelago in the early 1970s (Spoehr 1973).

Bird motifs were present in a jar burial site in Magsuhot, Negros Oriental in Central Philippines dating to 400 BC to 200 AD (Tenazas 1982). One jar cover was decorated with an appliquéd resembling the profile of a rooster and its comb (Tenazas 1974). In 2016, a carved bone with a human form attached to a distinct chicken profile was found associated with a jar burial in Catanauan, Quezon, in southern Luzon (Paz et al. 2016: Plate 9). It was interpreted to be part of a

[1] Kalanay is a site in Masbate Island in central Philippines, where potteries exhibit designs like those found in South Vietnam.

metal dagger handle. A strikingly similar artefact was recovered in Taiwan (IPPA 2002: Front cover). Isotope dates from human teeth date the Catanauan Burial Site to 1900 to 1800 years ago. Dizon (2011) noted bird and snake motifs on covers of funerary vessels from Chamber A, Manunggul Cave in Palawan with dates of 890 BC and 710 BC. He also observed a similar snake motif on a jar burial lid from Maitum Cave in Sarangani Province, Mindanao (Dizon 2011) with a maximum date of 1920 $\pm$ 50 BP (Dizon and Santiago 1996). These dates demonstrate the presence of bird and snake motifs long before porcelain reached the Philippines. Reptilian motifs persist as carvings on wooden coffins from Banton Island, Central Philippines, dating to 1400 to 1500 AD. Reyes (2010) discussed the motifs relation to reptiles' roles in creation myths, as snake twins, and the use of reptilian skeletal parts as talismans. Reyes concluded that those buried in these secondary coffins were high status individuals.

In early 20th century accounts, chicken feathers and hornbill skulls were observed to be part of headgears of successful highland raiders of Luzon (de Monbrison and Alvina 2013; Worcester 1911 and 1912). A whole chicken hangs from the waist of an Ifugao man as part of his overall adornment in his transition to a higher rank (de Monbrison and Alvina 2013). A photograph of a mumbaki (shaman) performing a ritual in the early 20th century displays a wooden container with a sun motif (de Monbrison and Alvina 2013). Until today, the use of sun and bird motifs continues among the Ifugao (Barretto-Tesoro 2007). In 2007, Barretto-Tesoro witnessed a thanksgiving ritual in Ifugao where the mumbaki used a wooden container with a sun motif, filled with rice wine as part of his paraphernalia. A wild boar and native chickens were sacrificed but only the wild boar was shared with the guests while the native chickens were reserved for the mumbaki, thus, linking the chickens with ritual leaders and power.

An examination of tattoos on Visayan males in Central Philippines during the 1500s (Donoso 2016) show sun and reptile motifs. Igorots in Luzon during the early part of the 20th century also displayed tattoos of reptilian motifs (Jenks 1905; Scott 1994). Tattoos on a man marked successful raids and head-hunting expeditions, thus, associated with achievement and high status. Raiders from Bontoc wore a boaya (crocodile) necklace made from crocodile and boar teeth (de Monbrison and Alvina 2013).

These motifs are also included on weapons and textiles as artistic or stylized representations of the bird, sun, and reptiles (Lasco 2011; Salazar 2004). Other anthropological and ethnohistorical studies in the Philippines mentioned sun, bird, and reptile symbolisms (Conquest of the Island of Luzon 1572; Barnes 1992; Barretto-Tesoro 2004; Chirino 1969 [1604]; Cole 1913, 1956; Colin 1906 [1660]; Morga 1971 [1609]; Ortiz 1903 [1731]; Reyes 2010; Roces 1977; Rutter 1985; Sawyer 1900; Scott 1974, 1994; Thomas 1995; Velarde 1903 [1749]).

Southeast Asian ethnographic materials

Kettledrums from Sumatra to West of New Guinea exhibited sunbursts, birds, fish, and frogs that "imply the conception of a universe composed of an underworld or air and sunlight and a lower watery world brought together to represent the essential requirements for agricultural fertility" (Richter and Carpenter 2011: 20). Belief in life after death and the transport of souls from the world of the living to the upper spirit world and the use of the boat, bird, and feather motifs on the kettledrums are common in the Austronesian world (Richter and Carpenter 2011). They can also be seen on other objects such as on Indonesian gold jewellery with bird motifs on plaques, pendants, combs, belt buckles, and panel belts in European, American, Indonesian regional museums, and

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private collections (Richter and Carpenter 2011). Solar motifs are depicted as radiating circles/flowers or sunbursts on pectoral disks in West Timor. Gold chains with snake finials were symbols of royalty. Some jewelry such as a Naga dragon arm band would use an image of a snake (Richter and Carpenter 2011: 229). This arm band is spiral in form and have been replicated in brass as regular spirals. Among Timorese men, cocks served as alter-egos, indicating one of the bird's roles outside the burial context. Birds are generally linked to supernatural powers across Southeast Asia (Capistrano-Baker 2011b).

Archaeological evidence from Island Southeast Asia

Archaeological investigations in Island Southeast Asia and Oceania provided further evidence for these motifs thousands of years ago. Clay figures of birds attached to the mouth rim of a pottery in Teouma Lapita site on the south coast of Efate, Central Vanuatu dates to c. 3200-3000 BP, said to be the earliest cemetery in the Pacific (Bedford and Spriggs 2007). Similar finds were documented in Southeast Solomons and western New Guinea. According to Bedford and Spriggs (2007), the bird figures had a symbolic role considering that they were attached to a pot containing human bones. No elaboration was provided on the bird symbolism. Bedford and Spriggs mentioned that a similar artefact was recovered in northern Halmahera but had turtle heads which were also attached to a rim of an earthenware vessel.

Re-investigating materials from previous excavations in Niah Cave Complex in northern Borneo, Szabó et al. (2008) noted stylized animal heads, including crocodiles, carved on dug-out wooden coffins in Kain Hitam Cave, similar to those in Banton Island, Philippines. Numerous bird bone artefacts such as points, beads, and other finished artefact fragments, were associated with the death ships, a term that the earlier excavator Tom Harrisson used to refer to the coffins. The death ships dated to 2300 BP until 10th century CE. In this cave, rock art produced in red pigment include figures of crocodiles, turtles, combined features of birds and humans which relates to the death ships as Harrisson pointed out. Szabó, Piper, and Barker noted that mortuary practices associated with crocodiles, hornbills, sea serpents, turtles, and curvilinear red art style motifs are common in Southeast Asia and Oceania and not just in rock art.

In 2010, O'Connor *et al.* investigated a carved sun-ray face motif from East Timor dating to 12,5000 to 10,200 years ago and argued that this motif is indigenous in ISEA. Further work in Timor Leste lead to the documentation of rock art with sun motifs, birds, fish, and reptiles such as crocodiles and lizards (O'Connor 2015; O'Connor et al 2018). The "Austronesian Painting Tradition" (APT) proposed by Ballard in 1992 (as cited in O'Connor 2015) included boat motifs, concentric circles, sun motifs, and scrolls. Rock art from Vanuatu dating to 3000 cal. BP and Timor-Leste follow this tradition. O'Connor et al. (2018) attributed the similarities of the execution of the rock art to a shared symbolic system that linked the rock art to an emergent elite controlling prestige goods around ca 2500 years ago.

Due to stylistic diversity, Hoerman's (2016) study on rock art places the origin of the Austronesian Painting Tradition in Malaysian Borneo, further west of the Banda Sea Region, which then was carried to other parts of Southeast Asia and the Pacific, where the motifs were eventually localized. Hoerman's (2016) analysis demonstrated that the rayed circle and concentric circle motifs were already present from 11,500-5000/4000 BP. Generally associated with the Neolithic in Island Southeast Asia (ISEA) around 6000 to 2000 years ago, APT motifs include "drawings and paintings of infilled, non-figurative geometric and linear motifs" such as "rayed, concentric circles, curvilinear, geometric and scrolling motifs" sometimes linked with mortuary sites (Hoerman 2016:20). The rayed-circle is akin to the sun motif. Painted and engraved stylised zoomorphs such

as bird, buffalo, crocodile, and turtle made their appearance at 2000 to 500 BP in Malaysian Borneo associated with jar and log coffin burials (Hoerman 2016).

Further support for the antiquity of the solar motif in Island Southeast Asia was discovered in 2018. Across Makassar Strait, east of Hoerman's study area of the APT in Borneo, two plaquettes, one displayed an endemic species of a water buffalo, and the other one show a rayed-circle, were excavated in Sulawesi, Indonesia dating to 26,000 to 14,000 years ago and argued to be portable art (Langley et al. 2020). Although the authors did not put forth an explicit interpretation for the rayed-circle, they argued that indigenous communities from Australia and Africa would have interpreted the rayed-circle as a sun/star or starfish. This rayed-circle plaquette dating to the Pleistocene reinforces a pre-Austronesian existence of the sun motif in Island Southeast Asia. O'Connor et al. (2010), Hoerman (2016), and Langley et al. (2020) established a non-Austronesian origin for the sun motif, while for Salazar, all the motifs had their ultimate origins in Hemudu closely linked with the Austronesian migration.

The Guthe Collection

To add to the discourse, evidence gathered from the Guthe Collection will be presented. It is composed of archaeological and ethnological materials collected across 542 sites in central Philippines from 1922 to 1925 (Guthe 1927). These include 15,000 artefacts, Guthe's field notes, diary, and photographs (Sinopoli 2013). They are generally in good condition, properly curated, and accessioned using the original field number and the corresponding new UMMAA codes that made cross-referencing easy. Artefacts were catalogued and well preserved that provided excellent potential for material analyses. The Guthe Collection's value to Philippine archaeology is immense; the substantial number of artefacts and the information they hold are significant to the study of Philippine archaeology. They come from mortuary contexts (134 burial grounds and 231 graves) (Sinopoli et al. 2006) and 75 per cent of the total collection is ceramics (Guthe 1927). Although many objects were acquired from agents, information on provenance was included. Guthe (1927) also excavated burial sites and recorded provenance of mortuary goods.

Past publications on Guthe materials include characterisation of the stoneware "dragon jars" (Sinopoli et al. 2006), types of porcelains (Aga-Oglu 1946, 1948, 1951, 1963), and gold dental ornamentation (Guthe 1935). Analyses of various objects such as beads, oriental ceramics, human crania, metal implements, and shell bracelets remain unpublished (see Sinopoli et al. 2006). The Guthe materials remain as source of data for anthropology students at the University of Michigan (Birch 1939; Bridges 2000, 2005; Chilakapati 1996; Clark et al. 2007; Hughes n.d.; Kuo n.d.; Pratt 1955; Shepherd 1942).

Solheim produced the most comprehensive work on the earthenware vessels in 1964, which he revised in 2002. Similarities on pottery manufacturing and decoration techniques across the region were ascribed to migrations. In 1995, Gunn and Graves applied the seriation method to the earthenware vessels Solheim analysed. Based on shared ceramic styles, they argued that cultural groups spread from a central location rather than a series of migrations. Importantly, Gunn and Graves (1995: 276) emphasised that artefacts "collected in the past under poor conditions may still be suitable for re-examination". Bacus (2004) analysed the decorated sherds as part of her study on interchiefly alliances in central Philippines. To date, the most recent publications on the Guthe

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materials came out in a special volume of Asian Perspectives in 2013 on ceramics and artificial cranial modifications (Clark 2013; Dueppen 2013; Li 2013; Sinopoli 2013; Yao 2013).

Earthenware vessels from the Guthe Collection

For this paper, 685 vessels and sherds from 56 Guthe sites were physically analysed. Unlabelled and un-provenanced sherds were excluded from the study. Lime encrustations on broken edges suggest that the pots had been broken prior to collection. Vessels had evidence of slipping. Forms include cooking pots, dishes, bowls, pedestalled vessels, goblets, lids, pitcher, spouted, lugged, and atypical ones. Some forms were imitations of Southeast Asian and Spanish ceramics. Designs include incised wavy and horizontal lines, carved-out scrolls, incised triangles and diamonds, carved lens, and lime-filled designs. Cooking pots had soot stains on both interior and exterior surfaces. Some non-cooking pots also had light soot stains. Ring stands or pedestals were moulded separately. Perforations on pedestals were produced after they were decorated.

Solheim (2002) categorised earthenware vessels from 49 Guthe sites according to pottery complexes based on designs and forms (Appendix 1). These pottery complexes are the Kalanay, Bau, Novaliches, and Loboc (Solheim 2002).

Designs on some earthenware vessels were variations of sun motifs. Barretto-Tesoro (2016) proposed that the mouth of the pot served as the central disk and the incised lines perpendicular to the mouth rim were rays (see Figure 4). Solar whorls are found on shoulders or upper part of the body in some pots. In sites without porcelain that Solheim studied, some earthenware vessels had sun and snake motifs (Figure 5). Solheim (2002) argued that the absence of porcelain in these sites indicate a pre-porcelain date, meaning prior to 10th century CE.

Fig. 5 Variations of solar motifs on earthenware vessels Guthe collected: A-K. Incised vertical lines or diagonal lines just below the rim, combination of incised diagonal and vertical lines, incised diagonal lines on top of the lip; L. protrusions; M. lobes around the body; N-O. floral patterns; P. scroll patterns are considered reptile motifs. Source: Courtesy of the University of Michigan Museum of Anthropological Archaeology.

Variations of sun motifs include incised vertical lines or diagonal lines just below the rim, combination of incised diagonal and vertical lines, and incised diagonal lines on top of the lip. The base of the pot in Figure 5-L is decorated with incised lines forming triangles and quadrangular patterns. It has eight protrusions around the body, that if viewed from the top resembles the sun. One pot has a "band of incised diagonal lines around neck forming open triangle bordered by horizontal lines; thin coiled strip of clay moulded around base of neck with punctuations, body with deep grooves" that can be considered as a sun motif if viewed from the top (Figure 5-M). Lobes or grooves around the body and incised lines that formed triangles are similar to some pots from Calatagan (Figure 4). Floral patterns are likewise interpreted as sun motifs (Figures 5-N and 5-O).

Early representations of reptiles could be scroll patterns and more evident on the scroll-like renditions of dragons on Chinese dragon jars. Vessels described here come from these sites: C13, C14, C34, C36, C40, C66, C67, C68, C74, and G214 (Appendix 2). Vessels with these motifs from central Philippines and Lemery date to more than 1000 years ago (Barretto-Tesoro 2016).

Foreign ceramics from the Guthe Collection

Foreign ceramics from the Guthe Collection date from 13th to the 17th centuries CE and come from Mainland Southeast Asia including China. Some ceramics were manufactured during specific periods of the Ming Dynasty designated as early, mid, and late (Figure 6). Sites with mixed dates are listed in Appendix 3. Sites with ceramics from multiple periods of the Ming Dynasty indicate the long use of these sites as burial grounds and consequently the preference for the same motifs on burial goods. Some examples include porcelains with sun motifs in Barrio Camandagan, Cebu (B47) but manufactured in different periods: Figure 6-A was produced in the 14th century and Figure 6-B in the 15th to 16th centuries. In Barrio Pasong, Sierra Bullones, Bohol (B104) Figure 6-C was produced in the 14th century and a blue-and-white vase with a solar motif in the 15th to 16th centuries. In Laguinit Island in Samar (C1), porcelain with sun motifs were produced in the 14th century and Figure 6-D in 17th century CE. In Maidamanoc, on Suluan Island, south of Samar (C23), porcelains with sun motifs were manufactured during the mid-Ming (Figure 6-E) and late-Ming Dynasty (Figure 6-F). Near Banuangdan, northeast coast of Penon De Coron, Calamianes (C64), porcelain with bird motifs were from the Late Ming Dynasty (Figure 6-G, Figure 6-H). In Poncanil Point, Southeastern Mindoro (C83), a porcelain with a solar motif (Figure H-I) was produced during the Qing Dynasty in 1644-1911.

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Fig. 6 These ceramics produced in different periods during and after the Ming Dynasty reveal the preference for the same motifs through centuries: A. 14th century CE and B. 15th to 16th centuries CE from B47; C.14th century CE from B104; D. 17th century CE from C1; E. mid-Ming and F. late Ming from C23; G. late Ming Dynasty; H. Late Ming from C64; and I. Qing Dynasty from C83. Source: Courtesy of the University of Michigan Museum of Anthropological Archaeology.

Stylised patterns of the sun, bird, and reptile motifs were documented on a variety of forms. These include figurines and stylised dragons on porcelain, stoneware (Figure 7), metal rings, and ornaments (Figure 13). One pot had lime-filled incised turtle design that contrasted with the dark background (Figure 7-D). Birds were commonly painted on blue-and-white plates (Figure 8). Different types of birds were recorded such as storks, cranes, ducks, including the Qilin, a winged mythical figure, which could be suggestive of a bird. Sun motifs commonly represented by lotus designs are located around the mouth or foot rim, in which the mouth and base functioned as the central disk and the petals the rays (Figures 9 and 10). Lotus designs were either painted or part of the vessel's form. Sun design can be interpreted from lobes on the exterior of ceramics. Sun motifs were also present on gold earrings (Figures 13-F and 13-G). Fish, a symbol of the Underworld are found on Thai dishes (Figure 11).

Fig. 7 Reptile motifs on ceramics from the Guthe Collection. Note the stylised turtle design on the earthenware vessel (D). Source: Courtesy of the University of Michigan Museum of Anthropological Archaeology.

Fig. 8 Bird motifs on ceramics in the Guthe collection. Source: Courtesy of the University of Michigan Museum of Anthropological Archaeology.

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Fig. 9 Lotus on ceramics in the Guthe Collection. They could had been perceived as solar motifs in the Philippines. Source: Courtesy of the University of Michigan Museum of Anthropological Archaeology.

Fig. 10 Other designs on ceramics from the Guthe Collection that can be observed as sun motifs by early inhabitants of the Philippines. Source: Courtesy of the University of Michigan Museum of Anthropological Archaeology.

Fig. 11 Fish designs on ceramics in the Guthe Collection. These designs are associated with the Underworld in the indigenous cosmology of the Philippines. Source: Courtesy of the University of Michigan Museum of Anthropological Archaeology.

Appendix 4 shows the motifs present in each site. Appendix 5 summarises the motifs found in each province or island. Cebu, Bohol, and Samar sites contained all four motifs: sun, fish, reptile, and bird. Except for Romblon and Masbate, the rest have artefacts with sun motifs. Romblon and Masbate only have the bird motif. In the Guthe collection, only Sulu shows all motifs on one artefact: solar, bird, and reptile (Figure 12).

Fig. 12 This is the only artefact observed in the Guthe Collection that displays all motifs. On the left is a cover showing the solar motif; and on the middle and right show different sections of the same ceramic, with bird and reptile motifs. Source: Courtesy of the University of Michigan Museum of Anthropological Archaeology.

Other objects from the Guthe Collection

Sun, bird, and reptile motifs are also present in non-ceramic materials (Figure 13). Examples include glass beads; shell diskd; shell; a coin; gold ornaments; metal bracelets; and metal rings.

These objects bear similar patterns on earthenware vessels. Shells, particularly melo shells (Figure 13-D), by virtue of their morphology, exhibit sun patterns on the apical section (Paz 2012; Vitales 2009). The ten-centavo coin, minted during the American colonial period dated 1903 has an eagle on it (Figure 13-E).

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Fig. 13 Solar motifs on A. glass beads from B4, B. shell bracelets from B4, C. shells from C23, D. shells from C65; E. Bird motif on a coin from C11; F. Reptilian and solar motifs on a gold ornament from C47; G. Solar motif on a gold ornament from C11; H. Reptilian motif on metal bracelets from C64, I. metal bracelets from C11, and J. metal rings from C85. Source: Courtesy of the University of Michigan Museum of Anthropological Archaeology.

Discussion

A quick survey of ancient pottery designs across different cultural groups such as those from Asia, North America, South America, Europe, and Middle East exhibited archetype motifs. Bird motif is common during the Shang Dynasty in China where they believed that they descended from a bird ancestor (Li 1996). These bird motifs continue to be painted on porcelains of subsequent Chinese dynasties. Although the motifs presented in this paper are similar to many others around the world can be considered universal symbols, it is the Philippine context that is emphasised here and the current local Filipino discourse on this topic is advanced. Using indirect historical analogy and contextual approach, the motifs were integral elements in the indigenous belief in the tripartite universe. This belief is widely shared across ISEA, particularly among populations in Borneo.

To date, the rayed-circle existed as early as 26,000 to 14,000 years ago in Sulawesi and 12,500 to 10,200 years ago in East Timor, the reptile motifs around 2000 years ago in the Niah Cave Complex and 2000 years ago in Timor Leste, and bird motifs in Vanuatu from 3200 to 3000 BP. In the Philippines, the solar motif on the apical portion of melo shells was present in burials dating to before 4000 years ago (Paz 2012; Vitales 2013), and the sun, reptile, and bird motifs on fired clay around 2000 years ago. These dates tell us to two things – first, that the rayed-circle or sun motif is older and already present in ISEA prior to the Holocene and Austronesians' arrival and second that the bird and reptiles appeared around 2000 years ago consistent with Hoerman's (2016) analysis of zoomorphs in Malaysian Borneo and O'Connor's and Oliveira's (2007) investigation of rock art in Timor Leste. At this stage, it appears that rayed-circle or sun motif is pre-Austronesian in the Philippines as supported by the melo shells from Dewil Valley, probably originating from the Borneo-Sulawesi area. To date, the bird and reptile motifs are strongly associated with sites dating to around 2000 years. Additional research is needed to determine if the bird and reptile motifs' origins are linked with the Austronesian migration or older.

The arrival of Chinese and Mainland Asian porcelains and stoneware around the 10th century CE had no direct influence on the advent and use of these motifs in the Philippines as demonstrated by the sun and bird motifs on pre-10th century earthenware vessels pots retrieved from Lemery and Magsuhot and the artefact with a chicken profile associated to a jar burial in Catanauan. These artefacts are older than the arrival of foreign ceramics and should not be attributed to the latter's introduction. Foreign ceramics granted the early inhabitants vivid visual representations of these motifs, particularly the birds and fish that were directly portrayed, because of the vibrant colours used in their production. What imported ceramics did was enriched the representations and media

of these motifs that can be attributed to the colourful, smoother, lustrous, and clearer depictions as seen in Figures 4-12.

A range of ceramic forms and designs were exported to the Philippines as observed from publications of the Oriental Ceramic Society of the Philippines (Brown 1989; Gotuaco et al. 1997; Oriental Ceramics Society of the Philippines 1993; Tan 2007, 2017; Valdes and Diem 1991; Valdes et al. 1992). A general survey of ceramic distribution in the Philippines prove that jarlets were common in the main island of Luzon while large vessels and dishes were found in northern Mindanao (Gotuaco 1997). This is echoed by Carswell (2000) that smaller forms were traded to the Philippines with simpler designs. However, Beamish (1995 as cited in Carswell 2000:62) noted that during the Yuan Dynasty "finer larger vessels" were traded to the Philippines. Large blue-and-white ceramics decorated with arabesque scrolls and cloud collars were collected in the Philippines but to date not from burials (Kintanar 2015). From these imports, past populations selected specific ceramics with sun, bird, and reptile motifs to be included in burials. However, this can be further investigated by comparing ceramic decorations recovered from burial and settlement sites.

Bird and reptile motifs were directly represented in artefacts such as ceramics, hence, easy to identify. Since its early depiction in East Timor, Sulawesi, and Borneo, the rayed-circle and scroll motifs became localised as it moved to other islands in SEA (Hoerman 2016). Through space and time, a localised understanding and representation of the rayed-circle developed as seen in its various depictions in Philippine mortuary sites. Two essential parts composed the rayed-circle: the central disk and lines that radiate from this disk (Hoerman 2016; O'Connor et al 2010). The mouth of a clay pot can be the central disk, and vertical/diagonal lines or triangles can radiate from it. These lines and triangles can be incised or impressed. Triangular protrusions from the sides of clay pots can serve the same function (Figure 5-L). If pots are viewed from the top, a rayed-circle would be observed (Figure 4). Similarly, lobes around pots can represent rays. Flowers can also represent rayed-circles, wherein its central part is the disk and the petals, the rays. It is common to see porcelains painted with chrysanthemums in burial sites (Figure 10, bottom left). Lotus petals painted around the mouth rims and bases, utilising the mouth and base as central disks, subscribe to the same notion. Rayed-circles can also be spirals and concentric circles, a whorl in short, such as the spires on a melo shell.

These motifs are on various media justifying their significance (Hegmon 1998). They are depicted on an array of everyday items (Figure 13). A good example is the inclusion of a ten-centavo coin with a bird (eagle) on its reverse side, minted in 1903 during the American occupation of the Philippines, in a burial on Bohol Island (Figure 13-E). It is not a ceramic but exhibits the same bird motif which was deemed appropriate for a burial good. A kudyapi, a fretted two-stringed boat-like lute, displayed in the current Bangsamoro Exhibit of the National Museum in Manila, is decorated with American Period coins showing the eagle image side up (pers. comm. Timothy James Vitales, 27 Sept 2020). I argue the same for the metal rings with reptilian motifs (Figure 13-J). Again, a conscious choice that followed an ancient practice. It is evident that it is not the object that is significant but the motif that makes the object significant. Regional trade from the 10th to the 16th century AD saturated the Philippines with ceramics and ceramics with said motifs found their way to the burials. Evidence exists to support that the bird and reptile motifs are not restricted to ceramics such as the use of actual live chickens in rituals, chicken feathers to decorate raiders, crocodile teeth as part of a raider's necklace, tattoos showing reptilian motifs, and carved reptiles on

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coffins above. A survey of early 20th century cultural groups in the Philippines emphasises the close association of these motifs to status based on wealth, ritual role and bravery.

Paz (2012) argued that the selection of burial objects, patterns in burials, and use of caves with similar features from 9000 years ago until 100 years ago persist today because they were conscious choices over thousands of years even if the original meanings have been lost. He believes that individuals were "unconscious players in the transmission of continuities of behavior and culture", however, the selection of objects were conscious choices (Paz 2012: 137). There might be an absence of a full comprehension of what the symbols meant but they were appropriate burial objects for the locals. Paz (2012) refers to them as part of the collective unconscious and "not fully articulated" but seen as "appropriate" (Paz 2012: 136). This is applicable to the persistence of the sun, bird, and reptile motifs from thousands of years ago to contemporary times in the Philippines. Their true significance had been lost yet people continue to choose and use them even if they cannot truly articulate why. A good example to illustrate this phenomenon happened during a field survey in Lobo, Batangas in 2008. A resident who thought the team was buying antiques narrated that when he was a young boy in the 1960s, a group of men came to their hometown looking for antiques (Barretto-Tesoro et al. 2008). His grandmother sold many of their plates except for two pieces. According to his grandmother, they were important but offered no explanation why they should not be sold. During the interview, he showed the pieces to the team and emphasised that they were not for sale. Upon seeing the pieces, the team noticed the spiral on the bottom of the bowl that can be considered a solar whorl, and the painted design on the spoon resembles a bird (Figure 14). 'MADE IN CHINA' was inscribed on the exterior bottom of the bowl. The bowl at least is mid-20th century because the Chinese adopted the Roman alphabet in 1958 (Olson 1999). These two items are perfect examples of people acquiring and keeping objects that they know are important but cannot articulate why. It was a conscious choice not to dispose these items but 'unconscious' of their true significance. The goal is to discover connections between objects and ideas that seemingly have no relationships at first.

Fig. 14 Porcelain spoon and bowl dating to the mid-20th century CE from Lobo, Batangas. Photo taken in 2008. Source: Grace Barretto-Tesoro.

Many scholars expressed similar views that the sun, bird, and reptile motifs have a wide distribution in Insular Southeast Asia and Oceania (O'Connor 2015; Salazar 2004, 2005; Szabó, Piper, and Barker (2008); Wilson [2002 as cited in O'Connor 2015]). These motifs can be combined with other motifs and vary in their expressions that eventually developed into local distinct styles such as those found in Malayo-Polynesian areas. They are linked with a mortuary cult, and expressions of an ideology connected with cosmology. In the case of the Philippines, cosmology could have motivated acquisition of goods and control of trade after 10th century CE based on the wide distribution of foreign objects particularly porcelain, displaying the said motifs, recorded in mortuary sites.

Extensive regional trade after the 10th century CE resulted in an influx of porcelains, stonewares, and other imported goods. Ceramics with sun, bird, and reptile motifs found their way in burials. The repeated action of including materials with said motifs in burials across the Philippines and across millennia created a pattern that expressed a collective belief. Hence, what seemingly was an acquisition of commodities via regional trade was in fact the pursuit of possessing objects with motifs connected with the indigenous belief. Later on, the local belief system became intertwined with political economy, prestige, and status advancement that influenced foreign trade in the 14th to 16th centuries CE. Importation of foreign objects can also be viewed outside a political economy framework. Early inhabitants of the Philippines were active participants in this trade because they were on purpose selecting ceramics that were closely associated with their world view that incorporated the ceramics in the local belief system. Symbols of cosmology could have influenced the acquisition of imported goods after the 10th century CE and eventually developed a different meaning corresponding to wealth and status (Junker 1993, 2000). This study can complement Junker's (2000) work in Tanjay. The motifs can serve as a criterion in analysing the "complex gradations" of foreign ceramics distributed in coastal and inland sites.

Studies revealed that the sun motif was present in ISEA prior to the Holocene. The bird and reptile motifs were present in Island Southeast Asia and Melanesia as early as 3200 to 3000 years ago (Bedford and Spriggs 2007; O'Connor 2015). Since these motifs persist until the present and mentioned in ethnohistorical and anthropological accounts, evidence points to a continuity of the use of the motifs particularly among Philippine ethnolinguistic groups. There is consistency in terms of the meanings of these motifs across Island Southeast Asia. The sun, bird, and reptile motifs are rooted in indigenous belief which were later adopted to validate achieved status related to leadership and bravery. They are found on various media and in both domestic and mortuary contexts (Salazar 2004, 2005). However, in Philippine archaeology, data mostly comes from burial sites since there is a dearth of evidence for settlement sites. Although ethnographic accounts emphasise that these motifs were also used outside mortuary contexts. Further archaeological studies are required to support the use of motifs in non-mortuary contexts.

This study demonstrated that sun, bird, and reptile motifs are more significant than the object on which they were depicted on as seen in the various objects bearing these symbols. Present in the Philippines before porcelain trade, it signifies the motifs' antiquity. Understanding the material manifestations of cosmology makes us aware of cultural elements that persist despite strong external influence on the local belief system such as Christianity during the Spanish occupation (1565-1898). What contributes to these elements' persistence should not be attributed to a prime decision maker but must be a collective expression of a group even though a complete grasp of meaning is lacking. Artefacts with these motifs were found across the Philippines. Patterning in

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motifs and contexts across the landscape through time create an unbroken link to symbols used by early Philippine populations. There are places in the Philippines that have been identified to have closer affinities with one symbol over the other (Appendix 5). For instance, in southern Luzon, archaeological and cultural materials have been documented to have solar motifs, while in the Cordilleras in Luzon, and in central Philippines, there is an affinity for reptiles. What factors contribute to the acceptance and ascendancy of one motif over another or the rejection of one motif over another? Further work is needed to understand why one motif dominates a geographical area.

It is important to note that one of the plaquettes from Sulawesi had a water buffalo design (Langley et al. 2020). It is fascinating that Torajas from South Sulawesi used carved coffins that resemble the water buffalo (https://www.bowers.org/index.php/collection/collection-blog/toraja-coffin). Paz (2004) initially explored the water buffalo horns as a design motif and found them to be associated with a human figure standing on the horns. He observed them in South Sumatra, Taiwan, and among the Torajas. Materials included in this study did not exhibit any carabao (domestic water buffalo) motifs. To date, in the Philippines, carabao motifs are found in the Cordilleras in Luzon, likewise in mortuary contexts (Canilao 2012). Real carabao horns are sometimes used. Tenazas (1974, 1982) recovered an animal figurine she interpreted as a calf or young carabao found in a jar burial complex in Magsuhot, the same jar burial assemblage where the appliqued chicken motifs on jar burial covers were found. Although water buffalo remains have been documented in the Philippines (Amano et al. 2020), as motifs, they have limited distribution. Research on water buffalo motifs will further enrich our understanding of past cosmologies considering that they represent the Middleworld (Löffler 2002 [1968]).

Bird/chicken motifs were infrequent compared to the sun motif prior to the 10th century AD. Similarly, chicken bones are rare in the archaeological record of the Philippines (Amano et al. 2020). The actual bird and its body parts such as the skull, beak, and feathers could had been used as observed in ethnohistorical accounts among highland groups in Luzon.

Future work in Sulawesi, Borneo, East Timor, Banda Sea Region, Palawan, and Mindanao may add dimensions and perspectives to the sun, bird, reptile, and water buffalo motifs. Research on meanings of contemporary designs on pottery in the Philippines and ISEA can track persistence and change to modern times. Lastly, this study echoes Gunn's and Graves' (1995) perspective that artefacts collected in the past can still be examined in the present as demonstrated here.

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Appendix 1: Sites containing earthenware vessels from the Guthe Collection Solheim analysed and categorised

Guthe Site Code*	Solheim's classification based on pottery	Dates
B1	Kalanay	14th century
B4	Bau	Late Ming Dynasty, CE 1590-1644
B7	Kalanay	14th to 15th century
B15	Bau	Ming Dynasty, CE 1368-1644
B23	Kalanay	with stoneware and glass beads
B37	Kalanay	Mid Ming Dynasty, CE 1425-1590
B107	Loboc	17th to 19th century CE
B124	Loboc	17th to 19th century CE

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C1	Kalanay	Ming Dynasty, CE 1368-1644
C5	Bau	Late Ming Dynasty, CE 1590-1644
C7	Kalanay	Ming Dynasty 1368-1644
C9	Kalanay?	14th century
C10	Bau?**	with porcelain
C11	Kalanay	with green dragon jar
C13	Kalanay	no porcelain
C14	Kalanay	no porcelain
C15	Kalanay	no porcelain
C16	Kalanay	Ming Dynasty, CE 1368-1644
C17	Bau?	Ming Dynasty 1368-1644
C22	Kalanay?	Ming Dynasty 1368-1644
C23	Kalanay?	Ming Dynasty 1368-1644
C25	Kalanay?	no porcelain
C33	Bau	with porcelain
C34	Kalanay	no porcelain
C35	Kalanay	no porcelain
C36	Kalanay	no porcelain
C37	Kalanay?	with porcelain
C40	Kalanay	no porcelain
C51	Kalanay	no porcelain
C55	Bau	15th to 17th century
C56	Bau	1425-1590
C57	Bau	Ming Dynasty
C61	Bau?	Ming Dynasty
C64	Bau	Ming Dynasty
C65	Novaliches	Ming Dynasty
C66	Novaliches	no porcelain
C67	Bau	no porcelain
C68	Kalanay	no porcelain
C69	Novaliches	CE 1590-1644
C70	Bau	14th century
C74	Kalanay	no porcelain
C76	Bau	with porcelain
C89	Loboc	1425-1590
G133	Loboc	Ming Dynasty
G163	Novaliches	no porcelain
G214	Bau?	no porcelain
G180	Loboc	with porcelain
M2	Kalanay?	Ming Dynasty, CE 1368-1590
X36	Loboc	with porcelain

*See Appendix 2 for site name

**Solheim interpreted these to be earthenware vessels probably belonging to that pottery complex but was not certain.

Appendix 2: List of Guthe sites included in this study

Site	Site name
B1	Tabon, Eastern Negros
B4	Koulan island, off the coast of Basilan, Zamboanga, Southwestern Mindanao
B5	Lagtan, 8 kilometres southwest of Cebu
B6	Bulacao, 7 kilometres southwest of Cebu
B7	Naga, Cebu
B9	Barrio Cabadiangan, Argao, near Grave 72
B12	Various graves, Barrio Pitogo, Minglanilla, Cebu
B13	Milandi, near Zamboanga
B14	An indefine district about Dapitan, Zamboanga, Mindanao
B15	Maria Oray Hill, mangrove swamp near Dapitan, Zamboanga
B20	On the land of Geronimo Cortes, Siquijor, Siquijor
B23	Barrio Su-langon, in coconut grove near San Juan, Siquijor
B24	on hill in back of house of Bation, Banban, Siquijor
B25	Barrio Salay, Ronda, Cebu
B26	Barrio Butung, Runda, Southern Cebu
B32	Barrio Bintangan, Larena, Siquijor
B35	Sitio Tipulo, Barrio Basak, Larena, Siquijor
B37	Barrio Talapus, Larena, Siquijor
B47	Barrio Camandagan, Cebu, Cebu
B53	Sitio Pile, Barrio Banban, Siquijor, Siquijor
B59	Barrio Lamancapan, Larena, Siquijor
B60	Barrio Tayong, Loay, Bohol
B67	Barrio Baquil, Moalboal, Cebu
B69	Barrio Kagay, Malabuyoc, Cebu
B70	Barrio Cangirung, Ginatilan, Cebu
B81	Barrio Panadtaran, Argao, Cebu
B82	Barrio Capiyoan, Argao, Cebu
B83	Barrio Cabadiangan, Al Cantara, Cebu
B94	Barrio Montpelier, Argao, Cebu
B97	Barrio Biquing, Dauis, Bohol
B98	Barrio Mamsasa, Tagbilaran, Bohol
B99	Barrio Ilihan, Loay, Bohol
B104	Barrio Pasong, Sierra Bullones, Bohol
B107	Barrio Bogho, Loboc, Bohol
B112	Barrio Cabacnitan, Bilar, Bohol
B113	Barrio Obajan, Calape, Bohol
B116	Barrio Nagsulay, Lila, Bohol
B119	Garcia Hernandez, Bohol
B120	Barrio Oac, Dimiao, Bohol
B124	Barrio Candasag, Loboc, Bohol

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B126	Barrio Euon, Sevilla, Bohol
B127	Barrio Botoc, Loay, Bohol
B128	Barrio Lagang, Carcar, Cebu
B132	Barrio Balidbid, Bogo, Cebu
B133	Barrio Gairan, Bogo, Cebu
C1	'Chapel Cave", Laguinit Island, Samar
C2	Gold tooth cave, Laguinit Island, Samar
C5	Dinago Island, north of Placer, Surigao, Mindanao
C7	Oacon Island, near Laguinit Island, Samar
C9	Silop, 12 kms from Surigao on Surigao-Placer Road
C10	Inland from Mabairan Coal Mine. On the highest mountain in that part of Cebu
C11	Sucgan Cave, near Loay, Southern Bohol
C13	Tatlong Island, Camotes, northwest of Cebu
C14	Near Calubian, Leyte
C15	Near Calubian, Leyte (west of C14)
C16	Majaras Cave, near Cabungaan, Samar
C17	Ilihan Cave, Daram, almost due west of Aocan Island, Samar
C18	Butbut Cave, Daram, in mangrove swamp near Lipundan, Samar
C19	Tigauan Cave, on west side, across the swamp from C-18, Samar
C22	Caves of minor importance near C21 (near Tinabanan, southern Samar)
C23	Maidamanoc, on Suluan Island, south of Samar
C25	Near Camp 7, Cebu-Toledo Road, Cebu
C35	Near Camp 8, Toledo -Cebu Road, Cebu
C33	Near Dalirig, Bukidnon, Mindanao
C34	Seacoast Cave, near Larena, Siquijor
C36	North coast of Siquijor, near Talingting
C37	"Quartz Crystal Cave" - Barrio Cangagong, near Banban, Siquijor
C40	Sitio Lubjac, Barrio Bauban, Siquijor
C42	Barrio of Tubud, Alcoy, Southern Cebu
C51	Barrio Samang, Siquijor, Siquijor
C55	Barrio Panikian, Ilihan, near Cantilan, Surigao
C56	Cabatuan, Lake Mainit, Surigao
C57	Buyungan, Timamana, Placer, Surigao
C61	Barrio Cangmaya, Clarin, Bohol
C64	Near Banuangdan, Northeast coast of Penon De Coron, Calamianes
C65	Northwest coast of Penon De Coron, Calamianes
C66	Three small caves on west coast of Penon De Coron, Calamianes
C67	East side of Langen Island, Bacuit Bay, Palawan
C68	Vaulted cave on the east side of Langon Island, Bacuit Bay, Palawan
C69	West coast of Bacuit Bay, Palawan
C70	Malpacao Island, Bacuit Bay, Palawan
C74	Barrio Maite, San Juan, Siquijor
C76	Barrio Manurigao, Caraga, Davao
C80	Barrio Sogod, Badajoz, Northeastern Tablas

C83	Poncanil Point, Southeastern Mindoro
C84	Barrio Buyoc, Valencia, Bohol
C85	Barrio Dao, Tagbilaran, Bohol
C89	A few kilometres north of the town of Clarin, Bohol
C95	On the other side of the river from the town of Loboc, Bohol
G19	Backsan, near the reservoir, Cebu
G28	Near Guadalupe, Cebu
G33	Near Guadalupe, Cebu
G36	Cebu
G40	Near Balambang, Cebu
G42	Barrio Talaga, half mile between Argao and Daligneta, on east coast of Cebu
G54	on a low hill northeast of town of Cebu
G73	Barrio Biasong, between Toledo and Cebu
G85	Miscellaneous graves near Bolos, Siquijor, location indefinite
G86	Grave found in building road in town of Larena, Siquijor
G89	Barrio Pogalo, Municipality of Alcoy, Southern Cebu
G90	Barrio Calansijan, Alegria, Cebu
G93	Barrio Sandugan, Larena, Siquijor
G95	Barrio Olave, Larena, Siquijor
G98	Siquijor
G107	Barrio Obajan, Inabanga, Bohol
G109	Barrio Caboy, Clarin, Bohol
G110	Barrio Cantoyok, Clarin, Bohol
G111	Barrio Talot, Carcar, Cebu
G118	Barrio Luyang, Siquijor, Siquijor
G122	Barrio Manatad, Sibonga, Cebu
G123	Barrio Bulac, Dumanjog, Cebu
G124	Barrio Cabayangan, Argao, Cebu
G133	Barrio Kagsing, Ginatilan, Cebu
G135	Barrio Cambugas, Samboan, Cebu
G136	Cebu
G140	Barrio Mamiot, Oslob, Cebu
G150	Barrio Bohetambak, Basilan
G159	Barrio Tapon, Dalaguete, Cebu
G161	Barrio Salog, Dalaguete, Cebu
G163	Barrio Lantangan, South Gigante Island, Panay
G167	Barrio Limokon, Valencia, Bohol
G169	Barrio Cangtipay, Carmen, Cebu
G171	Barrio Cangaga, Sibonga, Cebu
G175	Sitio Biasong, Barrio Biabas, Candijay, Bohol
G180	Barrio Bogsok (three graves), Sierra Bullones, Bohol
G182	Manungut Island, near northeast end of Jolo Island, Sulu

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G186	Barrio Candoan, Loay, Bohol
G188	Barrio Candsag, Loboc, Bohol
G189	Barrio Camaya-an, Loboc, Bohol
G191	Barrio Alijauan, Jagna, Bohol
G197	Barrio Tabalong, Dauis, Bohol
G202	Sitio Ilihan, Barrio Buenavista, Loboc, Bohol
G203	Barrio Laya, Baclayon, Bohol
G214	Barrio Sugob, Sevilla, Bohol
G215	Barrio Guiuanon, Maribuyoc, Bohol
G219	Barrio Bogsoc, Carmen, Bohol
G221	Panglao, Bohol
G223	Barrio Gabi, Toledo, Cebu
G225	Barrio Cambacol, Bogo, Cebu
G229	Barrio Kayang, Bogo, Cebu
G231	Barrio Cabatbatan, San Fernando, Cebu
M2	Schwab's Gold Mine -Rio Guinobatan, Northern Masbate
X36	Bohol Island

Appendix 3: Guthe sites containing foreign ceramics from different periods of the Ming Dynasty

Guthe Site Code	**Date**
B1	14th century to 17th century
B4, C11, C16, C17, C18, C19, C23, C64, G219, M28	1368 to 1644 AD
B59, B97	14th to mid-16th centuries
B104	1300 to 1590 CE
C1, C55	1425 to 1644 CE

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Appendix 4: Distribution of solar, bird, and/or reptile motifs across Guthe sites. Hyphenated motifs mean that different motifs occur on the same artefact.

Motif	Province	Sites
bird	Bohol	B124, C11, C84, G167
	Cebu	G161, G171
	Masbate	M2
	Palawan (including Calamianes)	C64, C70
	Romblon	C80
	Samar	C1, C16, C18, C19, C23
	Siquijor	G85, G95
	Sulu	M28
	Zamboanga Del Norte	B13, B15
Bird-reptile	Sulu	X19
fish	Bohol	B97, B116, C11, C95
	Cebu	B83, G42, G223
	Samar	C1, C7, C17
	Surigao	C55
	Zamboanga del Norte	B14
reptile	Palawan (including Calamianes)	C64
	Basilan	B4
	Bohol	C85, G180
	Cebu	B5, C13
	Samar	C1
	Sulu	M28
solar	Basilan	B4, G150
	Bohol	B60, B97, B98, B99, B104, B112, B113, B119, B120, B126, B127, C11, C84, C85, C89, C95, G107, G109, G110, G175, G186, G188, G189, G191, G197, G202, G203, G214, G215, G219, G221, X26
	Bukidnon	C33
	Cebu	B5, B6, B7, B9, B12, B25, B26, B47, B67, B69, B70, B81, B82, B94, B128, B132, B133, C13, C25, C42, G19, G28, G33, G36, G40, G54, G73, G89, G90, G106, G111, G122, G123, G124, G135, G136, G140, G159, G169, G225, G229, G231
	Davao	C76
	Leyte	C14

	Mindoro	C83
	Negros	B1
	Palawan (including Calamianes)	C56, C64, C65, C66, C67, C68, C69
	Samar	C1, C2, C7, C16, C17, C18, C19, C22, C23
	Siquijor	B20, B24, B32, B35, B53, B59, C34, C36, C37, C40, C74, G86, G93, G98, G118
	Sulu	G182, M28
	Surigao	C5, C55, C56
	Zamboanga del Norte	B13, B14, B15
Solar-bird	Bohol	C11
Solar-bird-reptile	Jolo Island	X15
Solar-fish	Negros	B1
Solar-fish	Siquijor	B20

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Appendix 5: Summary of motifs found in each province. Hyphenated motifs mean that different motifs occur on the same artefact.

Province	Bird	Solar	Fish	Reptile	Solar-Bird	Bird-Reptile	Solar-Bird-Reptile	Solar-Fish
Basilan		■		■				
Bohol	■	■	■	■	■			
Bukidnon		■						
Davao		■						
Cebu	■	■	■	■	■			
Leyte		■						
Masbate	■							
Mindoro		■						
Negros		■						■
Palawan (including Calamianes)	■	■		■				
Romblon	■							
Samar	■	■	■	■				
Siquijor	■	■						■
Sulu	■	■		■		■	■	
Surigao		■	■					
Zamboanga del Norte	■	■	■					