

Money doesn't make the world go round: Angkor's non-monetisation

Abstract

It has been observed that, in contrast to other Asian and Southeast Asian polities, there are no records of monetary transactions in Angkor's 6th–14th century inscriptions, and no reference to a unit of account after the late 8th century. Explanations for this have been offered, but none of them have much support. In fact, a considerable range of monetary concepts are expressed throughout the study period, and it is unlikely that there was no unit of account. Differences between records of temple inventories and exchange transactions suggest that perhaps display was more important in temples, and that quantitative values such as weights were important in the exchanges. An explanation for the lack of monetary transactions may lie in the fact that the epigraphy is written by and for an elite seemingly concerned more with merit, hierarchy and display of wealth than bureaucratic detail.

1 The issues

At its peak, the Angkorian Empire (9th-15th century), covered much of present day Thailand, Laos and Cambodia. A degree of sophistication in management, including accounting, would be expected in an empire that extended across seven centuries. Yet researchers have suggested that markets and trade seem not to have been important to it. Further, it has been said, and this has not been challenged, that at the beginning of the Angkorian period (9th century), the Khmer may have abandoned a practical, universally accepted basis of accounting used by other organisationally complex societies, that is, a unit of account. Angkor's administrative complexity, territorial expansion and building achievements have been acknowledged: its society appears to have been more integrated and hierarchical than that of the Pre-Angkorian (6th-8th century), with more comprehensive communication networks across a larger area. Yet instead of reflecting a transaction system adapted to a more complex society, the Angkorian period inscriptions show less concern with monetary values than before.

The inscriptions commemorate the consecration of new religious foundations, record gifts to the gods on these occasions, and specify requirements for maintaining the foundations, as well as privileges granted. The merit gained by the founders and donors is frequently recognised. The texts also seem to have served as legal records, setting out land transfers, privileges granted and court rulings. They sometimes record details of

exchange prices for land, servants or services, but never payments for goods and services outside the elite world of the rulers, religious foundations and titled officials. Indeed, the Khmer epigraphy is never explicit about issues of money and markets.

This study looks at a number of explanations for the absence of indicators of monetisation. It examines Angkor's record of external trade and contact and compares the evidence for its low level of monetisation with that for other societies. It discusses the epigraphic records of purchases and gifts to foundations, and analyses the goods used for barter. It argues that a unit of account is inevitable in a complex society such as Angkor's, and suggests that its absence in the inscriptions may derive both from simple expediency and the importance to the elite of status, display and merit.

2 Monetisation

2.1 Monetary systems

Monetary systems enable efficiency in accounting and transactions. Pryor (1977: 182) observes a direct relationship between the presence of money and the level of economic development of society, which may be seen in its administrative complexity. However, Angkor, notably from the 9th century, appears to some to be almost consciously prohibiting a monetary system (Wicks 1992: 313), in fact would appear not to have made use of a unit of account.

Yet a complex economy could not function without a unit of account, being restricted if goods and services could not be consistently and regularly exchanged for one another (Melitz 1970: 1028). It is needed in order to deal with the so-called "non-coincidence of wants" in bartering (Mill 1868: 293, Jevons 1883: 5). An alternative is to use intermediate items for indirect trade (Melitz 1974: 53) and many societies have settled on metals, commonly gold, silver or copper (Mill: 295-296, Jevons: 30-52). Others have used non-metal objects, such as cowrie shells, rice or lengths of cloth (Wicks 1992).

Provided there are fixed exchange equivalences between objects bartered there may be no real need for a common unit of account. However, with diversification of products, services and requirements, this becomes essential (e.g. Einzig 1966: 257, Melitz 1970: 1028).

The decision to produce a coinage will be based on its benefits and costs. The benefits are most obvious where there is a large range of goods in circulation. For money to be beneficial, there must be significant trade and a need for comparing prices across a large range of goods. Money can reduce the cost of this comparison more economically than other methods (Melitz, 1974: 57-67). Among the costs are: metal production or import;

minting and standardisation; upkeep and replacement; and augmentation if the economy expands. In other situations, barter transactions in a central marketplace may be the most efficient means of exchanging wares.

Another view maintains that the use of money arose, not as a medium of exchange, but as a social relationship in non-market economies (Henry 2004, Hudson 2004, Innes [1913]2004). In ancient Egypt, this may have occurred in the transition from egalitarian to class society, when some previously reciprocal social obligations shifted from operating within the clan to non-reciprocal requirements, or taxes, levied by ruling classes in the name of a semi-divine king. The *deben*, an arbitrary standard, referring successively to grain, copper or silver, was introduced to account for tax obligations and annulment. Although such a unit of account could become a medium of exchange, in Egypt it did not, and payments were made in goods (Henry 2004: 92-95).

Smith (2004: 91) has noted the dearth of research on units of account and archaeological data on early money. This study aims to begin remedying this situation for Angkor by examining some aspects of its domestic and foreign commerce and addressing the question of why Angkor, in an age of at least partial monetisation, chose not to use money.

2.2 Monetisation in Southeast Asia

Monetisation in pre-modern Southeast Asia was neither uniform nor continuous, and early coinages were mostly localised. No Southeast Asian economies were fully monetised before the 15th century (Wicks 1992). Some early Indianised states (Funan, Dvāravatī, northern Arakan, the Mon of Pegu, the Pyu of Burma, etc.) seem to have adopted coinages to various degrees, but after their demise, coins were replaced by barter, cowrie shells, metal bars or lumps (Gutman 1978: 9, Wicks 1992: 3). The 1st to 5th century Funan site of Oc Eo on Cambodia's coast, then on the east-west maritime trade route, has produced some Southeast Asian silver coins and a Roman gold coin (Malleret 1959-62), but there is no evidence that Funan minted its own coinage (Sahai 1971: 94, Wicks 1992: 186). The Chinese reported that taxes in Funan were paid in gold, silver, pearls and perfumes (Pelliot 1903: 252).

Indigenous gold and silver coinage was in use in central and east Java from the 8th century. From the 9th century, multiple denominations were minted, though their use may have been restricted to high value transactions for administrative and religious purposes and perhaps international trade (Wissemann Christie 1998: 359). At this time, the epigraphy starts to refer to markets, but it is not known to what extent these were monetised. Where coinage was adopted, such as in central and east Java and Bali, rice

or other commodities may still have been used for local purchases. Base metal coins (Chinese copper cash) were only successfully adopted as measures of value and means of payment in the 13th century and apparently related to Java's increased role in international trade (Wicks: 297). In Bali, in a 9th century record, a range of goods (metals, kitchen ware, slaves, buffalo and cattle) to a certain value of gold were to be reserved for funeral expenses (Wicks 1992: 273).

Markets are first mentioned in the epigraphy of Pagan in the 11th-12th centuries, and the earliest monetised transactions, religious transfers, appear there in the late 12th century. In the 13th century, a weight of silver, the *klyap*, was used for payments and valuations, though paddy was often used in local markets. Copper, cloth, lead, and paddy, etc, were used for paying taxes (Wicks 1992: 130-150).

3 The exchanges

The evidence for Khmer transactions to be without money from the Pre-Angkorian period to the 14th century is outlined below. The inscriptions describe some quite complex payments, and refer to practices which are not always understood. A single donation may entail multiple transactions. The examples below illustrate this complexity.

And Poñ Chāñ delivered the ricefield of the Poñ which Poñ Matisakti, former servant of lañas (?) to Kanirap Amac (at) Purandarapura, delivered in reimbursement to the people of the Young God (Vraḥ Kanmeri), who asked in addition for 4 yau of double garments, as payment of the tax (of these people).

(K. 493/ 657 CE; Coedès 1951: 151)

Land of the establishment of Vrai – which Kamsteñ Vnur Kh^aval gave in compensation for the rice which he owed to the royal service, and for the 6 vaudi and spittoons together weighing 7 jyañ, borrowed with interest from V.K.A. of Vrac to pay the fees (to the Brahmans) at the inauguration of the holy basin. Servants: 1 supervisor, 3 men, 6 women, 1 gvāl.

(K. 420/ 11th c; Coedès 1952: 164)

An analysis of the inscriptions shows that in the Pre-Angkorian period, the 7th century has the largest number of inscriptions referring to exchanges, while the greatest number of Angkorian period inscriptions with transactions occurs between the mid 10th and mid 11th centuries (Figure 1), a period in which many officials were producing texts containing what appear to be embellished details of genealogies, land histories and legal disputes, aiming to establish the rights to land (Vickery 1985).

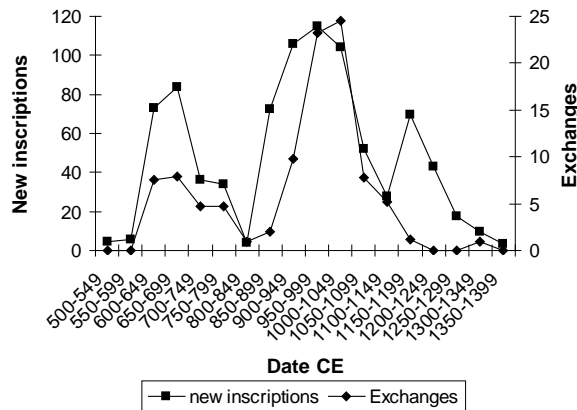


Figure 1 Distribution of Pre-Angkorian and Angkorian inscriptions and exchanges

Twenty four percent of the 376 transactions recorded are Pre-Angkorian and 76% Angkorian. Overall, 75% are for land (27% of these are Pre-Angkorian and 73% Angkorian) and 18% for servants (9% of these are Pre-Angkorian and 91% Angkorian). Many of the remaining 7% are Angkorian period payments for boundary marking and witnessing. One late Pre-Angkorian text, K. 124/ 803, refers to purchases of temple supplies (Cœdès 1951: 173).

3.1 Pre-Angkorian exchanges

There is no evidence that the Pre-Angkor economy was “monetised”, nor do the recorded exchanges of goods refer to market transactions (Vickery 1998: 257; 314). Overall, there are few references to Khmer commerce and taxation, when compared with what was recorded in the 7th-9th century inscriptions in a similar inland agrarian state in Java (e.g. Wisseman Christie 1993),.

Pre-Angkor transactions were often complex, with some inscriptions, notably K. 726/ 8th c. and K. 493/ 657, containing several different kinds of transactions. These include donations of ricefields, sale of land to the foundation paid for with “goods of the god”, payment to one god for something which was given to another god, payment of indemnity and redemption of one thing by another, pledging and redeeming of workers, and land given in partial payment of a debt. In K. 124/ 803, temple provisions were purchased in exchange for produce (honey to buy oil, cloth to buy syrup, etc) (Vickery 1998: 281-292).

The range of items used in Pre-Angkorian exchanges is not extensive. Most common are paddy, fabric and silver (for example, K. 493/ 657, Ka13/ 8th c, K. 726/ 8th c. and K. 1214/ 726 in Table 1), but there is an instance (K. 910/ 652) where a conch was given in

exchange for ricefields and another (K. 493/ 657) where a ricefield was exchanged for two female *kñum* (slaves, servants) and a quantity of *yugala*. Vickery (1998: 284) suggests that some of the goods produced and exchanged by the Pre-Angkorian foundations may have been prestige goods because the totals of listed goods are sometimes not consistent or because the units of measurement of the textiles *aṃval* and *yugala* are Austronesian borrowings, suggesting these were imported, perhaps at an earlier stage (1998: 292-293). Inconsistent accounting is however, ubiquitous throughout the corpus, though it is probable that textiles and other items, as in more recent times (Chandler 1996: 21; 90), would have been prized for their prestige value.

Inscription	Object	size	price (<i>jnhāv</i>)
K. 493 / 657 CE Tuol Kok Prah	<i>sre</i> (ricefield)	0.5 <i>sare</i>	2 <i>kñum kantai</i> (female servants), 1 <i>caṃdak</i> (?), 3 <i>yau canlek yugala</i> (double garments).
Inscription	Object	Size	equivalent price (<i>niṣkraya</i>)
Ka13 / 8th century CE Kong Pisei	<i>sre</i> (ricefield)	3 <i>mās</i>	1 <i>liñ</i> white silver, 6 <i>canlek yugala</i> (double garments), 63 <i>kaṃvala</i> (covers)
Inscription	Object	Size	price (<i>jnhāv</i>); value (<i>mūlya</i>)
K. 726 / 8th century CE Tan Kran	<i>sre</i> (ricefield)		Acquired for price of a quantity of paddy having a value of 4 <i>tamliñ</i> of silver, and 1 <i>yau</i> of <i>yugala</i> (double garments)
Inscription	Object		price (<i>tlai</i>); value ? (<i>argha</i>)
K. 1214 / 726 CE Duol Trabamn Samron	<i>ku</i> (servant)		Price of the <i>ku</i> a value (?) of 15 <i>liñ</i> of silver

Table 1 Pre-Angkorian exchanges showing equivalent values

The inscriptions provide details on the size of the land exchanged. The boundaries were delimited according to landmarks such as reservoirs. The size may be indicated in units of fields or other plots, or by the amount of seed required to sow the field. In one inscription, K. 79/ 643, two plots of the same size are valued at different amounts, suggesting that the quality of the lands may have been relevant.

Interestingly, the Pre-Angkorian texts contain two terms, *argha* and *mūlya*, which are thought to denote 'value', while none are discerned in the later Angkorian corpus. In K. 493/ 657 *sre ktirñ argha kñum* is glossed as "the ricefield...surrendered in payment (of a debt [*ktirñ*]) for a slave" (Coedès 1942: 150) - that is, the slave was the value of the debt. K. 1214/ 726 contains the expression *tlai ku argha prak liñ 10 IIIII* (price of the *ku*. a

value of 15 *liri* of silver) and the translator comments on the use of the two different words, one Khmer (*tla*), the other Sanskrit (*argha*), each denoting “price” (Griffiths 2005: 27). A possible explanation is that *argha* again has the connotation of “value” and that goods other than silver were used for the payment, i.e. the price of the *ku* was goods which were worth 15 *liri* of silver. In the 8th century K. 726¹, both ricefields and labour were valued (*mūlya*) using the extrinsic standard of *tamliri*, a weight, of silver and possibly² also *yau*, a length, of *yugala* (double cloth), although payment (the medium of exchange) was in weight of paddy (Table 1). These items may have had relative values which were commonly understood and been used as valuational standards in other sectors of the economy (Jacob 1979: 415, Wicks 1992: 191). There is no other direct evidence of a common unit of account until the late 13th century and the reports of the Chinese envoy Zhou Daguan ([1297]1993).

3.2 Angkorian exchanges

In the Angkorian records, there are no references to a common currency or valuational system. The lists of exchange items, often much longer than in the Pre-Angkorian period, contain a variety of barter items, most commonly cloth, *vaudi* (pitchers), livestock, silver, paddy and spittoons. However, trays and other utensils, elephants, *khñum*, copper and spices were also exchanged.

As with the Pre-Angkorian texts, it is difficult to compare prices of land (e.g. Table 2). This is either because the relative sizes of the plots and their productivities are not stated or because the aggregated value of the often numerous exchange items is difficult to assess Table 3, listing transactions for purchases for servants, illustrates why it is said there is little evidence of price equivalence. The servants, with or without children, would have been of different ages and abilities, and there is no way of knowing how the different exchange items were valued against each other. Yet, as shown both tables, the records often indicate the precise weights of the metal objects given in exchange.

¹ Michael Vickery points out that K.726 is unusual. It is the only inscription with *mūlya*. The inscription is thought to be late Pre-Angkor (8th century), a time when other texts were showing changes from the 7th century. Thus it “may not be representative of economic institutions throughout” and it may not be justified to use this inscription to establish a standard of valuation for the whole pre-Angkorian period (Michael Vickery, pers. comm. 2006). Nevertheless, the concepts were expressed at this time.

² In Cœdès’ (1953: 79) translation of K. 726B, the comma between silver and *yugala* suggests the rice was worth 4 *tamliri* of silver, while Wicks’ (1992: 191) interpretation is that the payment was valued at 4 *tamliri* of silver plus one *yau* of *yugala*.

measure of land	land price: <i>duñ</i> (bought for)
100 <i>vroḥ</i>	2 gold rings (1 <i>pāda</i>), 4 <i>padigaḥ</i> [spittoons] (1 <i>tula</i> 2 <i>jyañ</i>), 4 <i>dlaḥ</i> [metal cooking pots] (1 <i>tula</i>), 4 <i>kuntika</i> [pitchers] (2 <i>tula</i> 12 <i>jyañ</i>), 3 <i>go</i> [oxen], 5 <i>yau ca thmi</i> [new fabric] of <i>tap hat</i> (10 cubits), 1 <i>thlvañ</i> paddy
40 <i>vroḥ</i>	2 bronze <i>tanlāp</i> [boxes], 4 <i>liñ</i> silver, 4 <i>dlaḥ</i> (19 <i>jyañ</i>), 2 <i>kuntika</i> (10 <i>jyañ</i>), 2 oxen, 2 <i>yau</i> new fabric (10 cubits)
10 <i>thlvañ</i>	2 gold <i>aṅguliyaka</i> [rings] (1 <i>pāda</i>), 1 silver <i>khāl</i> [bowl] (3 <i>liñ</i>), <i>prak</i> [silver]... (6 <i>liñ</i>), silver <i>gum</i> [?] (1 <i>jyañ</i> 1 <i>liñ</i>), 1 <i>dlaḥ</i> (7 <i>jyañ</i>), 5 <i>kuntikā</i> (1 <i>tula</i> , 1 <i>jyañ</i> 10 <i>liñ</i>), 1 <i>vardhanī</i> [vessel], 2 water vases, 5 <i>śarāva</i> [plates] (total of last 3, 1 <i>jyañ</i>), 3 tin <i>bhājana</i> [utensils] (10 <i>jyañ</i> 8 <i>liñ</i>), 1 <i>valvya</i> [candle holder ?] (5 <i>jyaG</i>), 1... (3 <i>jyaG</i>), 1 fine fabric <i>amzuka</i> (20 cubits long), 1... (10 cubits long), 2 fast oxen, 2 <i>yau</i> new fabric (10 cubits), 3 goats.
100 <i>vroḥ</i>	3 gold rings (1 <i>pāda</i> , 2 <i>liñ</i>), 5 silver bowls (1 <i>jyañ</i> 10 <i>dlaḥ</i> (2 <i>tula</i> 15 <i>jyañ</i>), 10 <i>kuntī</i> (2 <i>tula</i> , 2 <i>jyañ</i> , 10 <i>liñ</i>) 3 tin utensils (10 <i>jyañ</i> 10 <i>liñ</i>), 2 <i>go paraṭ</i> [fast oxen], 15 <i>yo</i> new fabric (10 cubits), 2 <i>vave</i> [goats].
10 <i>thlvañ</i>	2 silver bowls (5 <i>liñ</i>), 4 <i>chnañ</i> [cooking pots] (10 <i>jyañ</i> 10 <i>liñ</i>), 4 <i>yo</i> new fabric (10 cubits), 2 <i>avar marica</i> [pepper].

Table 2 Angkorian period prices of land of varying capacity:

K. 258/ (?) early 12th c. CE. Measures are given in brackets.

<i>khñuṃ</i>	bought (<i>duñ</i>) for
1 <i>teñ</i> + 4 children	60 garments
1 <i>teñ</i> + 3 children	1 buffalo, 1 <i>vaudi</i> (6 <i>jyañ</i>), 1 ring (2 <i>pāda</i>) [or 2 foot rings ?]
1 <i>tai</i>	1 buffalo.
2 <i>tai</i> + 1 child	50 (measures) paddy, 1 silver bowl (5 <i>liñ</i>), X pairs <i>thnap</i> , ..garments, 2 <i>vaudi</i> (10 <i>jyañ</i>).
1 <i>tai</i>	20 (measures) paddy.
1 <i>tai</i>	1 buffalo, 1 <i>vaudi</i> (6 <i>jyañ</i>), ... 5 garments.
1 <i>tai</i>	1 <i>kadāha</i> (6 <i>jyañ</i>).
1 <i>tai</i>1 <i>vaudi</i> (x <i>jyañ</i>).
1 <i>si</i>	1 pair <i>dop</i> , 2 pairs <i>thap</i> (sic).
1 ?	10 <i>yo</i> garments, 20 (measures) paddy.

Table 3 Angkorian period price of personnel (*khñuṃ*): K. 933/ 1014 CE

With exchanges comprising such a variety of goods, the question arises whether this negates the need for a unit of account. Indeed, it is conceivable that the elite of Angkor could have afforded to provide the variety of goods to satisfy the range of a vendor's wants, such as we see in the epigraphic exchanges. On the other hand, Wicks (1992: 195) questions if "at least some of the items, such as *vaudi* (pitchers) and spittoons, commonly seen in temple inventories as well, were dictated by custom or ceremonial requirements", rather than the "mere piling up of goods in order to equal the purchase price" as in Ancient Egypt, because the goods appear to him to occur in the same proportions in land and "slave" purchases. While this seems to be the case at certain sites, overall there is considerable diversity and it may be that the availability of goods was also important.

3.3 Late twelfth-thirteenth century markets

Markets and marketing in Angkor are first mentioned at the end of the 12th century in the Ta Prohm inscription of Jayavarman VII, where clothing and produce were to be taken "from the weaver's shop, from the villages, from the market, etc." (Coedès 1992[1904-1943]: 25). The Chinese envoy Zhou Daguan, living at Angkor in 1296-8 CE, refers to local markets, which closely resembled markets seen today in Southeast Asia.

By the late 12th century, large quantities of Chinese coins were in circulation in different parts of Southeast Asia. However, there is no indication that the Khmer imported Chinese cash (Wicks: 206). The only evidence for use of metal as a medium of exchange before Zhou Daguan, is the 1225 CE mention by Chau Ju-Kua ([c. 15th C]1966: 53) that rice in *Kamboja* could be purchased with lead. Zhou Daguan ([1297]1993: 43) recorded that rice, grain and Chinese coins were used for small transactions, then fabrics, and for the largest transactions, gold and silver. Apparently, strong "slaves" could be worth up to 100 pieces of cloth ([1297]1993: 21). Gold and silver, which he said were not found locally, were brought to Cambodia by Chinese merchants to trade for "agricultural products" and were much in demand ([1297]1993: 45).

4 Suggested explanations for non-monetisation

Some earlier explanations for the absence of money are outlined below: lack of precious metal reserves; Angkor's status as an inland agrarian state; and the desire on the part of rulers to maintain centralised control. On the evidence available, none appear plausible.

4.1 Lack of precious metal reserves

The lack of precious metal reserves (Wicks 1992: 218, Zhou [1297]1993: 45) and China's bans on the export of its metal supplies in times of shortage (Hall and Whitmore 1976: 324, Wicks 1992: 24) are not strong explanations for Angkor's failure to monetise. According to Bronson (1992: 87), Cambodia's only recorded metal production between 1500 and 1800 was iron, mainly from Preah Vihear Province. However, in the pre-modern world, metals, even base metals, were often sufficiently valuable for small ore deposits to have been mined (1992 64-72). Today, the general knowledge of metalliferous deposits in the region has improved, and recent mineralogical maps (ESCAP 1990, 1993, 1996) indicate copper (in the Vat Ph'u area of Laos), gold (Banteay Meanchey) and tin (Kompong Spu) among others. There is evidence of iron ore smelting at Preah Khan of Kompong Svay in Kompong Thom (Jacques and Lafond 2007: 177). Further, large-scale iron and salt production in the Khorat area of northeast Thailand are said to have been carried out during the period of Khmer dominance in the region from 1000 CE (Welch 1998: 229).

While the degree of monetisation could, in some cases, be linked to the availability of precious metals, some Southeast Asian societies chose base metals or non-metals, such as imported cowrie shells as measures of value and currency (Egami 1974, Wicks 1992: 166, Yang 2004: 74-77). Precious metal currency was also imported. From the 10th century, the Song minted large quantities of copper cash. Although its export was restricted in periods of shortage in the Song and Yuan dynasties, it generally it flowed out of China, albeit not to Angkor, as exchange for trade goods, and in response to the increased monetisation in other parts of Asia and Southeast Asia. Monetised Java imported most of its precious metals. In fact, shortages in metals and stone may have been a motivation for Java's early overseas trade (Wisseman Christie 1998: 345). Neighbouring Champa, with records of some gold and silver in exchanges (Wicks 1992: 210; 15, Wade 2006: 28), apparently introduced copper cash during the 10th-12th century during the boom in maritime trade (Wade 2006: 28).

4.2 Inland Agrarian state, not a trading state

A point frequently raised is that the Khmer, in particular after the 9th century, were not primarily traders, and that Angkor was an inland agrarian state, concentrating on land and labour (Hall 1985: 171, 177, Jacques 1986: 330, Vickery 1998, Lieberman 2003: 223). Agrarian states typically have lower population densities and grow food, while trading states engaging in maritime trade, can buy it. From this it might follow that for the former, the costs may outweigh the benefits of setting up and maintaining a monetary

system. Yet, as already noted, a contemporary agrarian state in Java, was monetised. It is argued that the Khmer too maintained an interest in foreign trade, which would have exposed them to the resources, technologies and economies of prominent trading societies.

In a recent study Wade (2006: 1-2) has presented evidence that the period from about 900 CE to 1300 CE represent an “early age of commerce” in which flourishing maritime trade between the South and Southeast Asia brought about political, social and economic changes throughout Southeast Asia. A vital influence was Song China (960-1275 CE), which was experiencing a period of great commercial, agricultural and industrial growth (e.g. Elvin 1973: 113-199).

Much of the motivation for Angkor’s expansion and the shifts of its power base may have been for access to this international trade and control of ports or overland routes (Hall 1985: Ch. 7-8, Vickery 2005: 4-7, Schweyer 2007). The three rulers whose reigns were longest, Sūryavarman I, Sūryavarman II and Jayavarman VII, may have extended Khmer administration control for this reason (Hall 1985: Ch. 7-8, Vickery 2005: 4-7). There is some indication that Sūryavarman I sent a gift to the Chōla king Rājendra Chōla, possibly to facilitate trade (Hall 1975: 331-334, Hall 1980: 174, Hall 1985: 196, Kulke and Rothermund 1998: 116) ³ and that Sūryavarman II also did so in the reign of Kulottunga (Kulke and Rothermund 1998: 117)⁴.

According to Hall (1985: 171) it was not till the period of Sūryavarman I’s territorial expansion that commercial activities were encouraged by the Khmer. He cites increased mentions of merchant activity⁵ and administrative development north of the Dangrek Mountains, into Dvaravati in central Thailand and to the Isthmus of Kra, as well as the much greater number of place names ending in *-pura* (Sanskrit = city; fortress) or *-grāma*, which is more than double those under Sūryavarman’s two predecessors (Du Bourg H. de Mestier 1970: 308, Hall 1985: 170).

Despite Angkor not having direct access to the major E-W maritime routes, goods from China could reach Angkor via the Chao Praya system in Sūryavarman’s reign (Hall 1985:

³ This may also have been to solicit aid against Srivijaya during the period of their greatest threat to regional trade and/ or assistance against Sūryavarman’s rival Jayaviravarman (Hall, 1975: 332).

⁴ After 1050, possibly because of internal problems, the Khmer withdrew while the Burmese expanded into this region (Hall, 1985: 198). In the 12th century the Isthmus of Kra was the centre of interaction involving Sri Lanka, Burma and Angkor (Hall, 1985: 202-5).

⁵ There is no evidence, however, that the *khloñ jival* and *vāp*, were actually merchants Hall’s (1985: 172) claim that under Sūryavarman I merchants were involved in the state’s revenue collection, is unsubstantiated (Vickery 1987: 211-212).

177). China's Southern Silk Roads linked up with this system via Yunnan and Burma and with the Mekong River at today's Vientiane from as early as the 7th century CE (Yang 2004: Map 2). The communities of Khmer speakers who had been living in present day Thailand, in the Menam Chao Phraya valley, and possibly in the Kra peninsula region of Southern Thailand from the period of Funan or earlier (Wittayarat and Antelme 2004), might have facilitated Angkor's westward expansion and the establishment of trade links in that direction.

Sūryavarman II (1113-1150) and Jayavarman VII (1181-1220?) expanded toward the east and the coast of Champa, presumably in order to be able to take part in the growing maritime economy, or more precisely the central Champa ports. Sūryavarman II renewed relations with China (Hall 1985: 207, Vickery 2005: 5). According Maspero (2002[1928]: 75), Sūryavarman had his own fleet and although this might have been confined to the Mekong and other river systems, later Vietnam sources do report Khmer attacks in 1128 by "more than 700 ships, to loot the coasts of Thanh-hoa (Hall 1985: 207, n. 66). In 1147, honours were conferred on the Khmer (Chenla) king by the Chinese, after which some commercial issues which existed between them were settled (Cœdès 1968[1964]: 162, Briggs 1999[1951]: 189).

The few mentions of merchants in the inscriptions listed in Table 4 below give us some indication of their status in society, but they do not inform us whether they operated locally or were itinerant. An 8th century inscription, K. 259, refers to a merchant chief, who might have been the guru of a king of the time of Queen Jayadevī (Vickery 1998: 313-14), suggesting profitable trading activity and high rank. In the Angkorian period, merchants are not seen carrying out their profession, but as participants in the endowment of foundations, and therefore of some wealth and status. If so, it should follow that trading was an economically important activity.

Inscription	Province	CE date	Merchant (?)	Comment
K. 259S (IV) (Sk text)	Siem Reap	8 th c.	<i>vanijām adhipaḥ</i> (merchant chief)	Individual given title by King Nṛpāditya
K. 105	Kompong Cham	987	<i>yvan</i> (Vietnamese)	Vendor of <i>tai</i> (not specified merchant)
K. 221N	Battambang	1011	<i>vanik</i> (merchant)	Gift of 1 <i>tai</i>
K. 221S	Battambang	1011	<i>khloñ jnvāl vanik</i> (merchant chief)	Participant in sale of ricefield
K. 221S	Battambang	1011	<i>khloñ vanik</i> (merchant chief <i>jnvāl</i>)	Title of the <i>kaṃsterī</i> , principal donor
K. 220S	Battambang	1012	<i>khloñ jnvāl vanik</i> (merchant chief <i>jnvāl</i>)	Donor of 2 <i>tai</i> via <i>kaṃsterī</i>
K. 843B	Siem Reap	1025	<i>vanik</i> (merchant)	Legal: Objects claimed from a trader
K. 249	Siem Reap	1109	<i>mūla tamrvac vyavahāri</i> (merchant inspector)	Amongst those who prepared list of property

Table 4 Epigraphic mentions of merchants

Khmer merchants are recorded as being in the Chinese protectorate of Annam in the 9th century where they were attempting to purchase horses and weapons in exchange for salt (Taylor 1983: 238) and in Tongking early in the 11th century (Wolters 1958: 599). In Java, foreign merchants were active in tax farming in the 9th, 11th and 14th centuries (Barrett 1968: 129, Wisseman 1977: 207, Wisseman Christie 1998: 367; 369). There are no mentions in the Khmer inscriptions of organisations of merchants, as in India (Hall 1980: 141-61, Sinopoli 2003: 103-5) and Java (Wisseman Christie 1998: 361-65).

Trade with China, which consumed various Khmer forest products, appears to have been continual (Hall and Whitmore 1976: 316-317, Groslier 1981, Vickery 1998: 316, Vickery 2005: 5, Briggs [1951]1999: 189). Late 12th century *bas* relief images at Angkor of Chinese shopkeepers suggest commercial relations with China. As well as Zhou Dagan's ([1297]1993: 41-45; 59) references to various Chinese imports, Sung dynasty maritime reports give details of commodities traded between China and the Khmer (Wheatley 1959, Chau [c. 15th C]1966).

As well, Chinese ceramics have been excavated at Angkor, mostly from elite contexts (Groslier 1981, Brown 1988, Franiatte 2000, Groslier [1981]1998). Most recently, in early 2007, the earliest known (9th century ?) Chinese ceramics and some glass beads of unknown origin were found in the moat of Pre Monti at Roluos (Amat 2007). Groslier

([1981]1998) identified mass produced Chinese ceramics in dwellings in Angkor's royal palace, mainly dating to the 11th-12th century. Groslier considered the unglazed specimens to be discarded packing.

There are a few epigraphic mentions of imported items from China, Javā (?) and perhaps India between the 9th and the 13th centuries (Table 5). It is thought also that luxury textiles (Green 2000) and some pharmaceuticals listed for the hospitals of Jayavarman VII⁶, for example long pepper (*pippali*), were indigenous to India and Sri Lanka.

In summary, the evidence to date is that Angkor participated in international trade, possibly continuously. However much foreign exchange was conducted, lack of trade cannot be cited as a reason for Angkor's low level of monetisation.

⁶ K. 386/ 1186

CE Date	Source	Commodity		Origin
7 th century	K. 407 Vat Maheyang ⁷	<i>cīnadhv(aj)</i> (banner of Chinese fabric)		China
894 ?	K. 947 Lolei	<i>1 dramvañ</i> (tree, object in form of flower ?) <i>1 dramvañ</i> (tree, object in form of flower ?) <i>1 nū parivāra</i> (cover, accessory, container) <i>1 tanlap</i> (box, small box) <i>1 tanlap dramvañ</i> (box with dramvañ) <i>1 tanlap kralyak</i> (box for type of offering) <i>1 tanlvat</i> (unknown ritual object) <i>1 vodi</i> (pitcher, jug, vase)	hanira silver hanira hanira hanira silver silver	China China China China China China Javā ⁸
972	K. 669 (Prasat Komphus)	<i>1 ādarśaṇa cīna</i> (mirror) <i>1 tanlāp deśa</i> (box) <i>1 vān deśa</i> (cup with feet?)		China India/foreign ⁹ India/foreign
984	K. 662; K. 663 (Vat Prah Einkosei)	<i>3 nori cīna</i> (gourd-shaped utensils?) <i>3 nori cīna</i> (gourd-shaped utensils?)		China China
1026	K. 618 (Sek Ta Tuy)	<i>canlyak deśa</i> (garments) <i>phnāñ deśa</i> (hangings)	cotton cotton	India/foreign India/foreign
1186-91	K. 208 (Prah Khan)	<i>520 cīna samudga</i> (boxes) <i>323 maśakārtha cīnamśuka</i> (mosquito nets) <i>paṭa cīnāmśuka</i> (superior silk)	silk silk	China China China
1186	K. 273 (Ta Prohm)	<i>20 cīnaśayyā</i> (beds, couches) <i>20 amśuka cīnapaṭa</i> (cloth) <i>500 cīna samudga</i> (boxes)		China China China
1200	K. 485 (Phimanakas)	<i>100 dhvaj cīnapaṭṭa</i> (cloth for banner) <i>1 dhvaj cīnāmśuka</i> (banner)	silk	China China

Table 5 Epigraphic references to imports

4.3 Desire for centralised control

The disappearance of coinage after some early Indianised Southeast Asian mainland states lost their strategic importance has also been attributed to the desire for states to have tighter control over resources and populations. This view is linked to the work of Polanyi (1957a), who regarded the so-called archaic palace economies as primarily redistributive. Polanyi argued that markets were of minor importance and that external trade was usually conducted without money and controlled through fixed exchange ratios

⁷ Given its date and location on the Isthmus of Kra, this inscription, despite the language used, is unlikely to be “Pre-Angkorian” (Michael Vickery pers. comm. 2007). Nevertheless, it indicates trade with China trade in the region.

⁸ The location of Javā has not been determined (Dominique Soutif pers. comm. 2007).

⁹ *deśa*: the land of the Indians; Its products, especially textiles (Pou, 1992: 256); :country, place, province, kingdom (Monier-Williams, 2005).

or agreed price controls (Polanyi, Arensberg et al. 1957). While these generalized views have been disputed on a number of accounts, associated theories remain influential, in particular the view that rulers chose not to allow money, as part of a strategy to maintain central control in an administered economy, by reducing market trading to small-scale barter transactions and thereby the scale of interaction between people (Miksic 2006: 9).

Command economies are often imposed to achieve specific purposes, generally for resource mobilisation to achieve national objectives, e.g. in emergencies or for expansion (such as with the Inka). It requires relative centralisation by the state, with restrictions placed on the local management of resources and labour and on money. Prices tend to be controlled and to have little impact on the allocation of goods and services. However, full centralisation poses logistical problems, and it becomes expedient to allow an increasing degree of local flexibility. Market institutions are gradually allowed to function in some sectors, and as marketing becomes more active, it ultimately takes on an essential role in the economy. This allows the accumulation of power outside the control of the state, so that central control is inherently of limited duration (Ericson 2008).

Although the Inka may be considered to have employed a command economy to help implement their expansionist strategy, Angkor differed in several ways: the span of their empire was over a longer period and was not always in expansion mode; it traded with money-using societies; there is no evidence that Angkor's rulers established similar production enclaves to mobilise resources; and there is little support for the idea of communal facilities for the redistribution of resources.

The epigraphic evidence, including details of large numbers of officials acting in various capacities, and the greatly varying prices for land purchases taking place in many regions, suggests Angkor did not administer its empire uniformly from the centre. Moreover, given the maximum extent of the Angkorian Empire, at over 350 km from the centre, a single communication may have taken one to two weeks to reach the recipient, rendering an administered economy difficult to sustain for extended periods. It follows that the Angkorian Empire, which lasted for six centuries, could not have operated under a command economy.

Finally, command economies need not be moneyless. Nor are all moneyless societies command economies, since the mere existence of a unit of account can facilitate price setting for goods and services in a non-money economy (Melitz 1974: 42). It does not follow that because barter was used, the economy of Angkor was administered by the state. Removing money would not necessarily limit the scale of interaction and thereby allow populations to be controlled more easily, since, as discussed, barter may be more efficient than monetised trade. As it is, a limited scale of interaction was typical of many

pre-modern societies, with or without money. While Angkor's recorded exchanges were not in money, this can not be linked to a strong central administration.

A state's modes of control of its territories might encompass a range of different socio-political-economic strategies. The nature and strength of each mode could vary over time and with geographical location (Mabbett 1978, Wolters 1982, D'Altroy 1992, Heitzman 1995, Smith 2005). To associate the absence of money with a single political agenda, such as central control, would require substantially more justification. The earliest coinage in Cambodia was relatively late (in the 16th century), but it must be borne in mind that monetisation and coinages were introduced into different regions at different times, in different ways and for different purposes. Introduction entails a perception that the costs will be less than the benefits. Indeed in the case of Angkor, one of these costs might be the effort of overturning an existing, working system.

5 Valuation

On the basis of the low level of monetisation in the recorded transactions, the question arises how valuations were arrived at.

5.1 No Angkorian period expression for valuation?

Although precise meanings cannot always be known, it appears that several terms found in Angkorian exchanges may deal with the same concepts as those in Pre-Angkor exchanges. In some cases, only the spelling differs. In others, new terms have been introduced. As it is, there are terms for buying, bartering, trading, selling, price, debt, borrowing with interest, repayment, indemnity and redemption in both periods (Table 6).

Concept	Pre-Angkorian	Angkorian
value; equivalent price	<i>mūlyā; argha</i>	
buy	<i>duñ; daṃnuñ</i>	<i>duñ; daṃnuñ; dvañ</i>
pay; buy; barter; acquire by exchange; bartering price	<i>jaṃnau; johv; jāhv; jnahv; pañjāhv; pañjau; jauhv; jo; jau; jaṃnāhv; jaṃnohv</i>	<i>jo; jau; jauv; jov; jāv</i>
price; value	<i>tlai</i>	<i>thlay(y); thlai; thlaiy</i>
sell	<i>lak(k)</i>	<i>lak(k)</i>
trade; swap	<i>tnor; panlas(s)</i>	<i>tvar; thnvar; thnur</i>
debt	<i>ktiñ</i>	
borrowed with interest		<i>pul</i>
interest		<i>guṇa</i>
pledge	<i>ptā</i>	
repayment; redemption; reimbursement	<i>niṣkraya; soñ; loḥ</i>	<i>soñ; snoñ; lapp; loḥ</i>
indemnity; compensation; payment		<i>phlās; thlās</i>
claim; receive	<i>dār</i>	<i>dār</i>
offer in payment (to god?)		<i>thvāy</i>

Table 6 Transaction concepts expressed in Pre-Angkorian and Angkorian periods

While only 27% of the dated inscriptions are Pre-Angkorian, the proportion of inscriptions with exchange expressions is approximately the same for both the Pre-Angkorian and Angkorian periods (10-11%). Yet while two Pre-Angkorian texts contain expressions suggesting extrinsic value (Section 3), none have been found for the Angkorian period. This discrepancy therefore might reflect societal or economic differences. Did the Angkorians simply not bother with the detail of value? Or, is there an inferred expression of valuation? The significant range of monetary concepts present in both periods makes it improbable that a unit of account would not have existed in the Angkorian period as well. Although we cannot know if expressions such as those for redemption, debt, interest, and reimbursement carried the connotation of a specific extrinsic valuation, this seems likely.

Furthermore, the exchange terminology used in one text, K. 257N/ 994 (Cœdès 1952: 148), shows that the Angkorians understood the concept of equivalent price. In the inscription, a *vāp*, a member of the *varṇa* of Boxers borrowed (*pul*) silver, metal objects and garments from a *mratāñ khloñ*, to make a purchase. Following a court order, the price/value (*thlāy*) of this was repaid by the *varṇa* (a number of *vāp*) and the *mratāñ khloñ* was given a plot of land, Gamryāñ, representing the interest (*guṇa*) on the loan, and perhaps the capital as well. The *mratāñ khloñ* then gave each *vāp* various garments, salt and metal objects, as the price (*jāv*) of another piece of land for a sanctuary for the deity at Gamryāñ. The goods received were to be used for fulfilling their royal service obligation (*rājakāryya*) and the remainder for their subsistence. The limits of the land

given in payment (*thlāy*) for the goods are given. Thus, in this text, *thlāy* was used both for price value where *mūlya* or *argha* might have been used in the Pre-Angkorian, and for the actual amount paid. Further, the proposed uses of the transaction goods here do not suggest prestige exchange. Thus, at least here, market considerations, including extrinsic valuation, had a role.

5.2 Differences between Pre-Angkorian and Angkorian economy

A basic graph of the duration of lexical items¹⁰ might enable us to discern trends within the epigraphic record. Figure 2 shows the dates and durations of all 1571 object types in the database. A sizeable number of terms introduced in the Pre-Angkorian period endure well into the Angkorian period. Changes in lexicon occur in all languages in response to contact with new languages, and changes in political organisation or technology. Here the increased frequency of new words in the 10th century is largely due to of the long lists of temple items in the Angkorian period. These point to a period of increased political and economic unification and concentration of resources, allowing for larger foundations.

In Figure 3 the number of new words appears to correlate closely with the number of inscriptions. Thus, the apparent differences in frequency of the introduction of new words in Figure 2 do not appear to reflect changes in the language or the economy to any significant extent.

¹⁰ The analysis includes all lexical items from the database. Because the study focuses on the economy, most of these terms are of objects from the Old Khmer texts. A large proportion of these terms (31%) are Sanskrit loan words. Data from non-eulogaic Sanskrit texts were included, though not in the case of the bilingual inscriptions (K. 235/ 1052 and K. 254/ 1129).

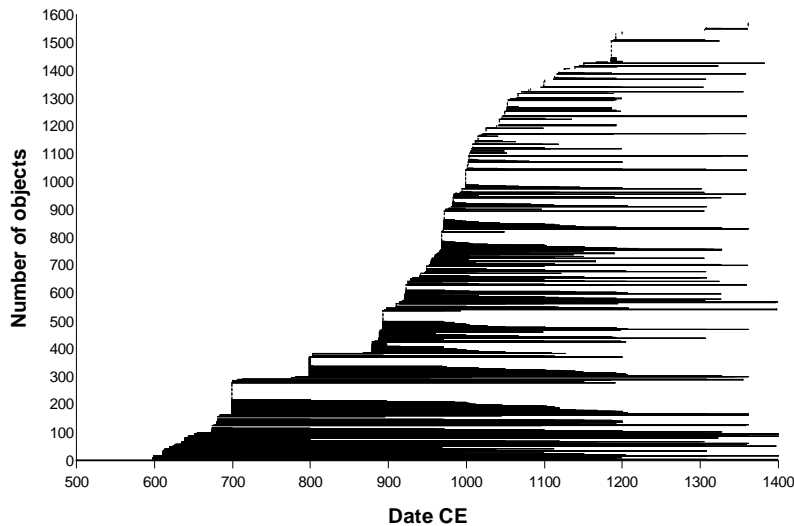


Figure 2 All Database Objects: dates and durations, based on the earliest and latest mentions. Single mention appears as a dot. Undated inscriptions allocated average of estimated date range.

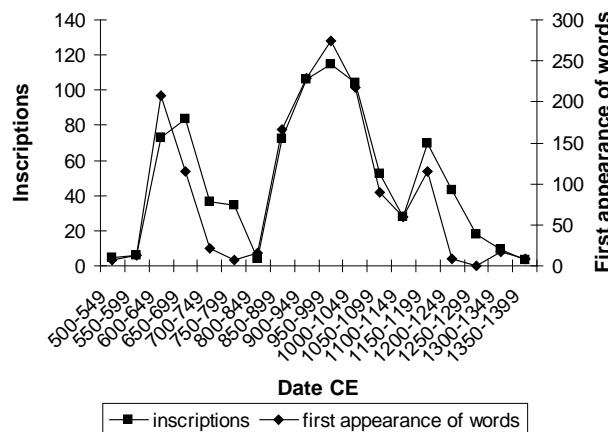


Figure 3 Number of inscriptions and number of new words in each period

Examination of the distribution of the lexical terms in Figure 2 reveals a marked continuity of some objects but localisation of others. A significant proportion of the terms are seen in one site only. However, this may be due to inscription loss over time. A few terms do not continue after the point of transition between pre-Angkorian and Angkorian periods and many new words appear subsequently. Many of these are associated with sites in the northern part of Cambodia and surrounding areas, where most Angkorian-period temples were located.

In Figures 4 and 5 below, we can see temporal change occurring within two categories of the material economy (jewellery/precious stones and animals). There is a contrast between the shapes of the two graphs, with the appearance in the first (jewellery/precious stones) of significant numbers of new manufactured items from the

10th century CE, contrasting with relatively greater continuity in the terminology in a portion of the agricultural sector (animals) between the Pre-Angkorian and Angkorian periods.

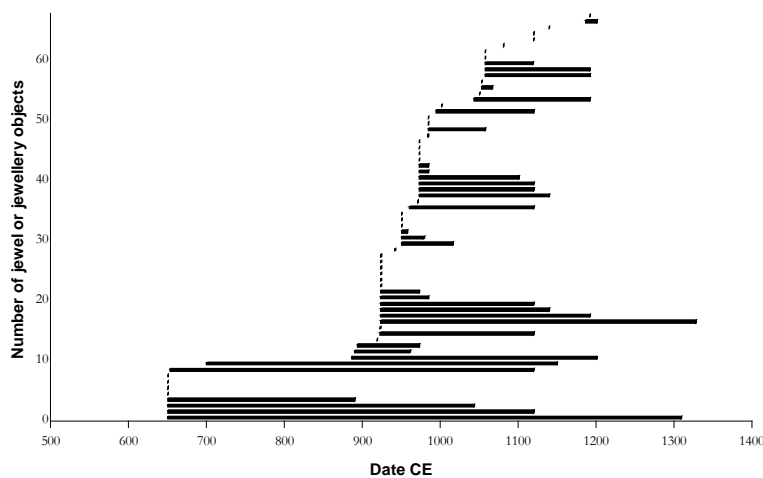


Figure 4 Duration of terms for jewellery and precious stones

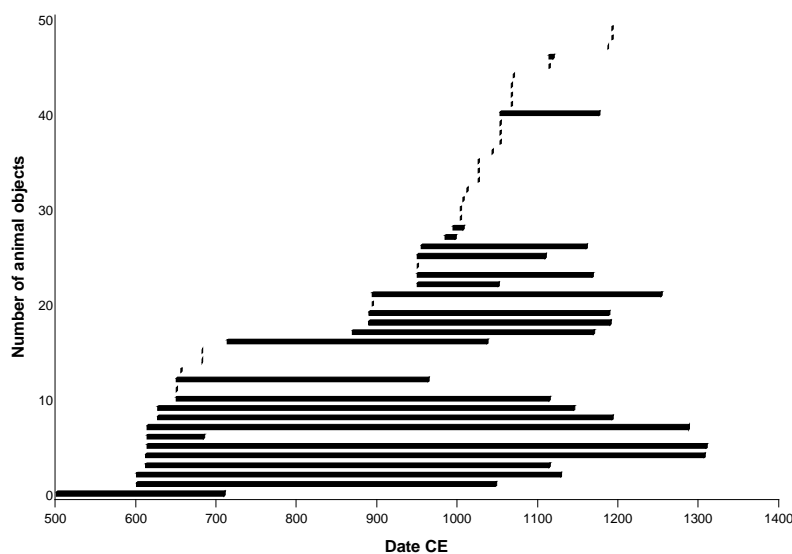


Figure 5 Duration of terms for animals

Analysis of items used in exchanges indicates gross changes in categories of the material economy between the Pre-Angkorian and Angkorian periods, although the transition period is poorly represented¹¹. However, from 928 CE, the changed economy can be observed. By this time, a greater diversity of goods was used for payments than previously, with less rice and textiles but more manufactured metal objects and animals¹²

¹¹ Of the thirteen 8th-9th century Pre-Angkorian inscriptions recording exchanges, only two, K. 1214/ 726 and K. 124/ 803 are dated. The latter records purchases only of temple provisions, and not land or servants.

¹² Private ownership of working livestock, even today in the countryside, still indicates relative wealth.

(Figure 6). This points to an increasingly wealthy elite having greater capacity to display status symbols than in the Pre-Angkorian period, as do the larger scale and quantity of non-royal temple construction, the valuable contents of some temple inventories and also the gifts and insignia given by rulers to their supporters. For example in K. 156/ 10th c, the king presented the founder with a gold palanquin with the head of a *naga*, a golden staff, a white parasol, a parasol of peacock feathers, a pearl and a spittoon.

These changes are seen at about the same time as those of the 10th century inscriptions in Java, where records of gifts given at *sīma* grant ceremonies list relatively fewer textiles and more money than earlier, and which are linked to the opening up of foreign trade (Wissemann Christie 1993: 185).

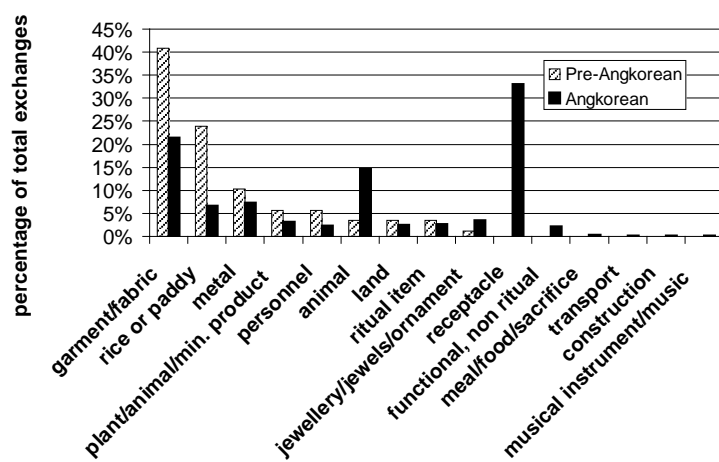


Figure 6 Percentage of exchanges by category: Pre-Angkorean and Angkorean periods

According to Hall (1985: 206), much of the precious metal the Khmer used to finance the activities of courts and temples and to reward officials may have been plundered¹³, particularly from expeditions waged against the Vietnamese and Cham, mentioned in some inscription eulogies from the late 11th century. Regardless, the wealth of the elite was sufficient to acquire the imported goods they wanted, including precious metal.

Metal items have replaced some of the rice seen in the Pre-Angkorean exchanges. Given that it was widely available and couldn't be kept indefinitely, rice may not have been as desirable a store of value as metal. The relative reduction in textiles in exchanges is perhaps not significant in itself, given the introduction of the many new items.

¹³ Plunder has been described as an integrative activity of empires, compensating for lack of absolute royal power in the decentralised peripheries of empires by mobilising the military capacities of regional chiefs to participate in raids and share in the gains (Spencer 1976).

Some of the exchange items appear to have served more for display of wealth or as a store of value than for use. Even so, these were not prestige exchanges, since they had been bartered, with detailed weights and measures of many items recorded.

5.3 Valuations in temples and exchanges

Comparison of the objects recorded for both temples and exchanges in the Angkorian period reveals some differences between the economies of these two sectors¹⁴. Not only do certain objects occur uniquely in one category or the other (pointing to their ritual or non-ritual function), but the metals used in manufactured temple objects occur in different proportions to those in exchanges (Figure 7). While overall there are more silver than gold objects, gold objects were more likely to be found in temples and silver objects were more likely to be in exchanges.

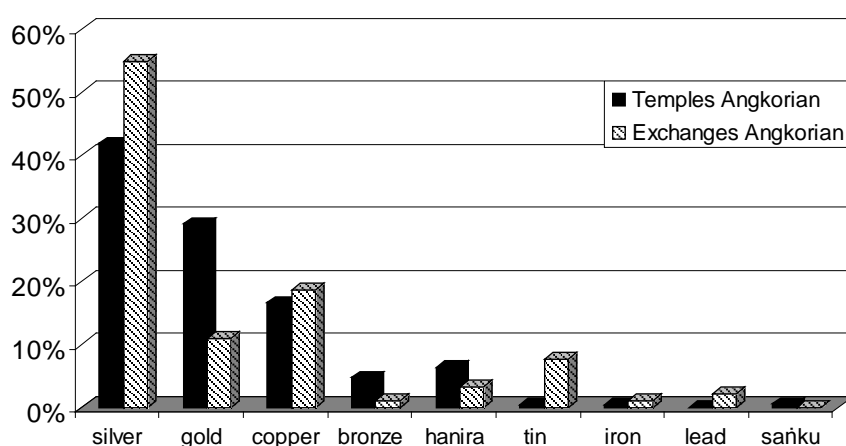


Figure 7 Metal objects in Angkorian temples and exchanges

About 1350 Angkorian period references to manufactured metal objects (ritual items, receptacles and jewellery or accessories) were analysed (Figure 8). Of these references, 35% state only the material, 12% state only a weight but not a material, and only 9% list both material and weight.

Temples have a much higher proportion of objects with stated materials (51%) than stated weights (10%), but it is the converse for exchanges, where 57% of all objects have a stated weight and 24% have a stated material (Figure 8). In 45% of temple objects and 36% of the objects in the exchanges, the materials are not mentioned, and these may sometimes have been of low value materials. However, they were probably metal, since

¹⁴ The 'temple sector' has been taken as donations to religious foundations, offerings or provisions for deities and temple personnel. The 'exchange sector' in this analysis includes transactions for goods (mostly land) or services (payment for official duties, such as boundary marking). Because the number of metal objects in Pre-Angkorian exchanges is small, only Angkorian artefacts have been analysed.

the same items appear in similar contexts and are frequently of metal. Garments and fabrics are also more likely to have a measurement recorded in the exchanges than in the temples, but the difference is not so marked as with metal objects.

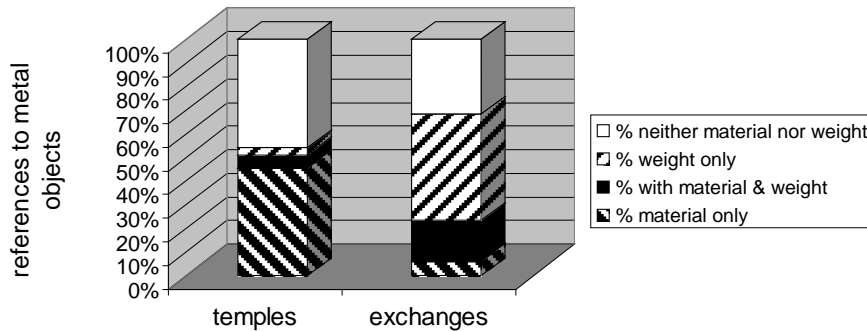


Figure 8 Angkorian metal objects: differences between temples and exchanges

It would seem that the sometimes seemingly random assortments of exchange goods were in fact carefully calculated. This is highlighted in K. 258A/ 1094 (Cœdès 1952: 195), where the totals for different metals are stated separately. The much higher proportion of weights found in exchanges than in temples suggests that the weights were important when bartering for exchanges, whereas accurate valuations were not so important for the more prestigious temple items. The exchanges may have been recorded when the dimensions of transferred land were officially registered (e.g. in K. 205/ 1089; K. 207/ 1042). Such “legal documents” could have served as important evidence in matters of litigation and taxation assessments. Conversely, it may have been more important to record the material of a gift to a temple than the material of an exchange item, since the material of the gift could be important for proclaiming the status or merit of the donor, and these objects were presumably not going to be used for subsequent transactions.

5.4 Values of hierarchy, status, merit

Besides what has been outlined above, other differences between the Pre-Angkorian and Angkorian periods have been observed. These include increased central control of populations and foundations, changes in the names of commoners and in the classes of officials, notably the disappearance of the *pori*, and spelling and vocabulary changes, the latter mainly in administrative and technical language, together suggesting institutional changes (Vickery 1998: 87).

The organisation of the foundations also changed. Pre-Angkorian foundations tended to be organised through transfers of land by individuals who obtained ricefields and other

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basic needs from others. The foundations often appear to have been run as economic units. Although deities were frequently referred to in the inscriptions, they may not have all been religious institutions (Vickery, 1998, 278). The Angkor-period foundations, on the other hand, were mostly established by rulers or wealthy individuals. These establishments sometimes maintained large numbers of people to provide for the deities and produce surpluses, much of which would have been consumed by the founders and their associates.

The Angkorian period inscriptions highlight an elite society seemingly more focused than earlier on ritual and gaining merit. As well, there is more emphasis on hierarchies and status (Sahai 1978: 18, Wolters 1982: 19), reflecting a more complex society.

As elsewhere in Southeast Asia and up to relatively recent times, status, hierarchy and merit were important. Political activity had a strongly hierarchical basis adapted from India. The centre regulated status by specifying the privileges of different ranks of people, bestowing marks of legitimacy: titles, posts, regalia and other symbols of honour and favour. Social distinctions were reinforced by ideology and merit acquisition (Errington 1983: 199, Ebihara 1984: 284). In Java from the 11th century (Wisseman Christie 1986: 83) and Angkor in the late 13th century (Zhou [1297]1993: 7) social differences were enforced through laws restricting the wearing of particular fabrics.

Since Angkor's bureaucracy was not institutionalised as in China, administrative roles such as tax collection, levies of corvée labour, mobilisation of troops, adjudication of legal cases, etc. were given to officials appointed by the king. Rulers exercised patronage in appointing people to these positions, or to others with ceremonial functions (Mabbett 1977, Wolters 1982). The complexity of the system of offices and titles may have served "to prevent the consolidation of power at any point by dispersing functions, creating overlapping roles, and fostering crosscutting loyalties" (Mabbett 1977: 40). A flow chart below representing the chain of authority from the king down to village elders for a legal dispute over land (Coëdès 1952: 115), gives an idea of the protocols that would have been needed in accordance with titles, ranks, positions and other marks of status (Figure 9).

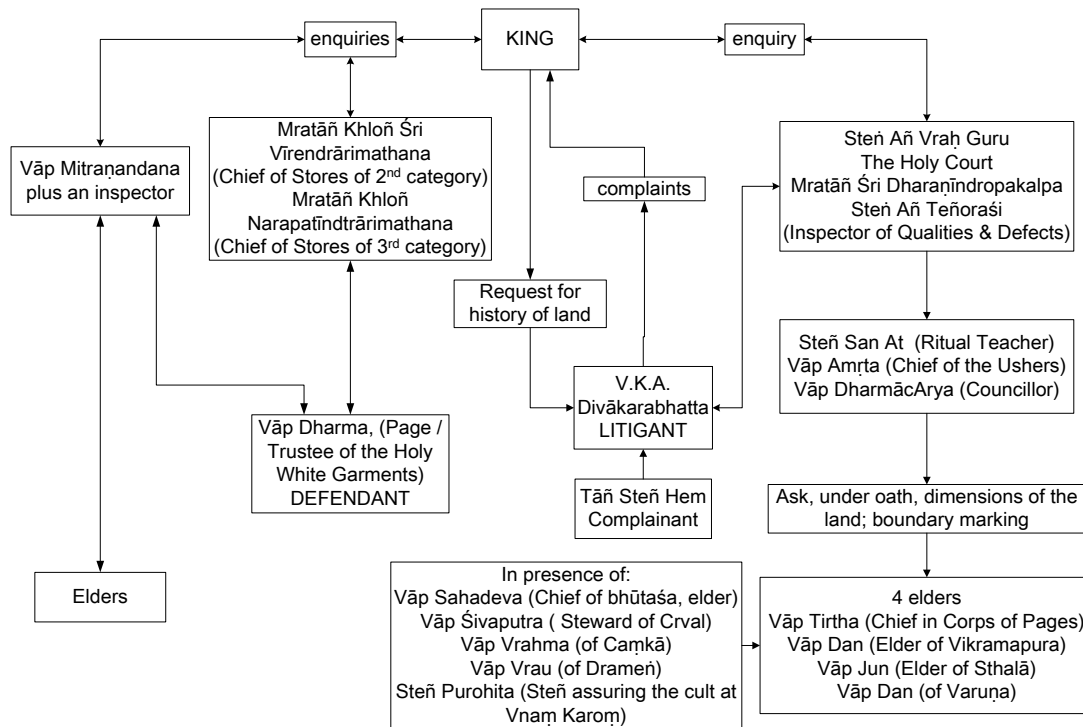


Figure 9 Chain of authority inferred from K. 262/ 982 CE

Donations to a foundation are frequently recorded in the inscriptions as “works of merit”, presumably enhancing the donor’s status in the eyes of the gods and helping ensure a comfortable and prosperous afterlife. Offering a share or all of the merit of a private foundation to the ruler would have been a judicious move on the part of the founders. The practice was based on the Indian idea that the king shared the spiritual merit of his subjects (Sahai 1970: 122). A 10th century inscription from Banteay Srei explains how the share of the merit of the foundations of the Vraḥ Guru (Yajñavarāha) and his brother are allocated to the king and others. The merit was apportioned in line with status.

“Of all the merit of these foundations, the king should receive either one quarter or one sixth; the king, who will protect them, should receive half the merit; the favourite of the king, who will protect them, should receive one quarter of the merit. If ill fortune comes to the temple, the Śivaite master who is the Superior, the Chief Minister of the royal family and the good people who will inform the king seven times, should still receive half the merit” (K. 842/ 968).

It was not uncommon for people to be rewarded on the basis of their status. In K. 206/ 1042 (Coedès 1951: 16), payments to members of the court for boundary marking services appear to be in accordance with status (Table 7).

Payment/fees (<i>thlās</i>)	to Members of the Court (<i>vraḥ sabhā</i>)
2 <i>thnap</i> , 10 <i>yo canlyāk</i>	V.K.A. Pūrvāśramādhipati
1 <i>thnap</i> , 5 <i>yo canlyāk</i>	V.K.A. Vidyāśrama
1 <i>thnap</i> , 10 <i>yo ullāra</i>	V.K.--
1 <i>thnap</i> , 1 <i>yo ullāra</i>	Kamsteñ Yanap, <i>vraḥ sabhā</i>
1 <i>thnap</i>	Mratañ Khloñ Mat Chlañ, <i>khloñ vala</i> of Urvāśrama

Table 7 Payment with *canlyāk* (garments), *thnap* (covers) and *ullāra* (a textile) for boundary marking: K. 206/ 1042 CE

It is likely that artisans were paid according to recognised status which may have been in proportion to the demand for their work and/or hereditary factors. Weavers, temple builders and sculptors were often held in high esteem and paid accordingly in societies such as Vijayanagara (Sinopoli 2003: Ch. 6) and Pagan (Aung Thwin 1976: 210-11). While there is some evidence that commodity prices in Pagan were not centrally administered (Wicks 1992: 154 [cf Aung Thwin 1985: 111]), the Khmer inscriptions are not informative on this subject.

Yet, even if hierarchy or merit influenced the terms of these transactions, it is unlikely that such a system could have functioned in the rest of the economy, since all prices would then vary according to the relative status of buyer and vendor, and this would be unworkable. Nevertheless, whatever the situation in the rest of the economy, in these elite transactions, the participants would have had more than wealth in mind.

6 Discussion and conclusion

This study has highlighted material differences between the Pre-Angkorian and the Angkorian economies, which are consistent with other findings of linguistic and organisational differences between the periods. The Pre-Angkorian elite may have had sufficient wealth to circulate silver with a commonly accepted value. The shift to a variety of exchange items in the inscription exchanges in the Angkorian period and the apparent disappearance of a unit of account in the Angkorian period is unlikely to be due to a shortage of metal, since there was a significant increase in mentions of manufactured metal objects for ritual display for the rulers and the temples and in exchange items. The greater numbers and wealth of the elite would have enhanced the market for precious metal objects and other items of prestige. Symbols of wealth and status would have become increasingly important in Angkor's more hierarchical society. Angkor may have been similar to Java where an increase in the records of metal in inscriptions has been ascribed to increased wealth due to trade.

The diversity of expressions in both Pre-Angkorian and Angkorian periods for different types of transactions suggests a sophisticated understanding of monetary concepts. The absence of expression for value in the Angkorian period may have more to do with the society having changed priorities, than regressive economics.

Barter existed in many parts of Southeast Asia, at times alongside monetised economies, but post 9th century Angkor epigraphy seems unique to many, not for lacking a coinage, but for its lack of mention of any common unit of account and for the range of exchange items for large transactions. We cannot unequivocally interpret the meaning and significance of the few occurrences of the terms signifying value, *mūlya* and *argha*, in the late Pre-Angkorian texts, nor indeed of many other terms of transaction in both periods. Nevertheless, it is likely that, in a complex society such as Angkor's, the diverse items recorded in the epigraphy were valued against a common unit in the Angkorian period.

In small-scale transactions, such as for food, people may have bartered without the use of a unit of account. It would have been impractical for a range of different items to be used in small transactions. The elite would have participated in or at least known of these local markets. For larger value transactions, such as for precious metal objects, a common unit of account becomes essential, especially to deal with the problem of the non-coincidence of wants. Without doubt, the elite were familiar with transactions at this level.

Even if the availability of precious metals had been limited, there is no reason to think that this or Angkor's being an inland agrarian state would have hindered development of the market principles in evidence around Southeast Asia. While trade items and traders are rarely mentioned in the epigraphy, there is increasing archaeological and historical evidence of commercial contact with other states. This was probably true of the Pre-Angkorian, as well as the Angkorian period. Contact with other economies would certainly have exposed the Khmer to monetisation. That they did not adopt such a system may have been because the rulers perceived no advantage to themselves and because the existing system worked for them.

As it is, it is neither necessary nor sufficient for a command economy to be without money. Command economies have used money, and moneyless societies have been marketised. Extensive, highly controlled economies are unlikely to be sustainable in the long term. An economy like Angkor's, with its long lines of communication, could only have endured by being decentralised, and could not have relied on centrally administered prices.

If the weights of metal objects signified value in transactions, this might explain why they were recorded more frequently for exchanges than for temples in the Angkor period.

However, if someone wished to display wealth or generosity, publicising high-value materials in temple donations could be more conspicuous, which might account for the more frequent mentions of the type of metal in the temple lists. The question then arises why the Khmer, in order to simplify the accounting, didn't record the prices paid in terms of a unit of value that must have existed. Perhaps the lists of transaction items may have been a further means of highlighting the wealth of the donors.

Regardless of the material differences between the temple and the exchange sectors, the transactions outlined in the temple inscriptions should be viewed as intrinsically bound to the elite milieu of the rulers, officials, religious institutions and gods, where merit, hierarchy and status, and displays of wealth played a significant role.

The Angkorian temple economy should not be seen as separate from nor wholly representative of the greater economy, because the temple sector, run by and for the elite, impacted on, and was in turn influenced by, the greater economy. The temple-related exchanges, with some market characteristics, reflect this interaction. It is suggested that a secular economy of barter and "market prices" existed for local markets and probably for other transactions outside the temple setting. However, in the purchases for goods and services seen in the inscriptions, status, hierarchy, merit and public display of wealth appear to override market concerns.

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