

A NOTE ON THE ORIGIN OF THE CHINESE DUODENARY CYCLE

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Paul Benedict's work on Austro-Thai has challenged the widely held view that Chinese culture and language were from the most ancient times immune to any but the most trivial outside influences. While not everyone agrees entirely with Benedict's formulation of the Austro-Thai theory, many believe that he has done a great service to East Asian linguistics by opening up the whole question of early Southeast Asian influence on Chinese.

In 1967 Benedict proposed that the names of the Chinese duodenary cycle referred to as the earth's branches (ti-chih) were of Austro-Thai origin. Specifically he attempted to establish Austro-Thai etymologies for numbers seven (午 -- 'horse'), eleven (戌 -- 'dog'), and twelve (亥 -- 'pig').¹ This was a bold and exciting idea, but Benedict's equations were not entirely convincing. In fact the only actual form found by him which really resembled the Chinese name in any way was the Li word ngà for 'horse'. This led me to consider another hypothesis -- viz., that of an Austroasiatic origin of the cycle.

The cycle of twelve earth's branches and ten heaven's stems have been used from the very beginning of Chinese history; in fact, they are among the most frequently encountered graphs in the oracle bones. If they are indeed borrowed, then there is evidence for close cultural contacts between the Sino-Tibetan speaking Chinese and an Austroasiatic-speaking group prior to the first millennium B.C. One objection to this hypothesis is that the connection between animal names and the cyclical characters is not found until the Han dynasty. But this does not mean that such a connection did not exist, and in fact there is graphic evidence in favor of such a supposition: the graph for the last cyclical character is generally recognized to be the pictograph of a pig.²

Georges Coedès in 1935 published a paper in which he demonstrated that the ordinary names of the Siamese and Cambodian duodenary cycles are derived from what he thought to be Old Muong.³ A mere glance at the list he gives (facing

¹ Paul K. Benedict, "Austro-Thai Studies, 3. Thai and Chinese", Behavioral Science Notes, 1967, II, no. 4, 288-291. The present note was originally part of a longer paper, "The Austroasiatics in Ancient South China: Some Lexical Evidence" [now published in Monumenta Serica XXXII (1976), 274-301], presented to the Third Sino-Tibetan Conference at Cornell. Later my co-author, Mei Tsu-lin, and I deleted this section from the final version because we thought it too speculative. Since subsequently the ideas presented here were quoted or referred to in print by others, I have decided to publish a somewhat revised version of the deleted section here.

² Namely for 亥 which is the drawing of a pig. See Shuo-wen chieh-tzu Tuan chu pien 14, 44a: 豕部與亥右文無二字 Also, Chu Fang-p'u 朱芳圃, Chia-ku-wen hsueh 甲骨文學 (Taipei, 1965), 14, 24a.

page 328 of his article) leaves no room to doubt that he was essentially correct. A close examination of the same list reveals that at least six of the Chinese designations may have an Austroasiatic origin. Following is a rather

	1	2	3	4	5	6	7	8	9	10	11	12
	rat	ox	tiger	hare	dragon	snake	horse	goat	ape	cock	dog	pig
MC	ᶑtsi	ᶑt'jəu	ᶑjěn	ᶑmau	ᶑziěn	ᶑzi	ᶑnguo	mjwěi ³	ᶑsiěn	ᶑjəu	ᶑsiuēt	ᶑt'ŋi
Sino-Viet	tí	su u	dán	mèo	thln	tì	ngq	mùi	thún	đầu	tuật	hơ i
Muong	tí	khéu	rân	mêo	sin	tê	ng>	mùi	thân	râu	tật	hơ i
Ahom	cheu	plāo	ngi	māo	shi	sheu	shi-ngā	mut	shān	rāo	mit	keu
Ll	tʰai ³	pau ³	ji ²	mau ³	si ¹	sai ³	sa-ŋa ⁴	met ⁶	san ¹	hrau ⁴	set ⁵	kai ⁴
Dioi	chaeu ³	piaou ³	ngien ²	maou ³	chi ²	seu ³	sa ³	fat ¹	san ⁴	thou ³	seut ¹	kaeu ³
Pu-yi	ʰaw ³	piu ³	pan ²	mau ³	pi ²	si ³	sa ⁴	fat ⁸	san ¹	zu ⁴	sat ⁷	ka ⁴
Camb. (1)	jīt	chlū	khāl	thoh	roñ	msāñ	mami	mame	vōk	rakā	ca	kur
Camb. (2)	čut	čhlor	khāl	thoh	rōñ	msāñ	momí	momē	vōk	rokā	ča	kōr
Siam. (1)	jvat	chlū	khāl	thoh	māron	māhsēñ	māḡmia	māḡmē	vōk	rahkā	cō	kuñ
Siam. (2)	c'uet	ch'liu	khán	thoh	mārong	māsēng	māmia	māmē	vōk	rāka	čō	kun
Siam. (3)	chūad	chalūu	khāan	tho?	marooŋ	maseŋ	mamia	mameε	wōog	rakaa	coo	kun
VN	chuôt	trəu	khái	tho?	rōng	răn	ngưa			gà	chō	(gôi) ³
Muong (1)		t'ʂu			hông	săñ			vok	k'a	čyo	kuñ
(2)		klu	k'al			t'ăñ				ka	čyo	
(3)		tlu	k'ăn	tho		t'ăñ					čo	kuy
(4)		klu	k'lal			sĩñ		bê	vok	ka		kul
(5) chuôt		tlu-klu	k'al-k'an	tho	rōñ	ran-zan	ngưa	dê-bê	vok	ka	čō	kwi-kul-kun

3 Georges Coedès, "L'Origine du cycle des douzes animaux au Cambodge", Young Pao XXXI (1935), 315-329.

extensive list of forms on the basis of which I will argue that Austroasiatic origin of the duodenary cycle. In the list the Middle Chinese (MC) forms of the cycle are given first. These are followed by the Sino-Vietnamese and modern Muong forms. Next are various forms from Tai dialects; these are for the most part taken from Li Fang-kuei's 1945 article on the Tai names for the cyclical signs. The Siamese and Cambodian forms (both written and modern spoken) which were discussed by Coedès come next. These are followed by the actual animals names in Vietnamese and a number of Muong dialects.⁴

Before proceeding to an actual discussion of the separate names, let me first state the general hypothesis: the duodenary cycle has been in use in Chinese since the earliest written records; at a later date these names are found connected with the names of animals, but the cyclical names themselves bear no resemblance to the ordinary Chinese animal names. A significant number (six out of twelve) of these resemble Austroasiatic words for the animals which they represent. From this, one may hypothesize that the cyclical names, at least in part, derive from the ordinary Austroasiatic names for the animals in question. This of course means that the Chinese were in contact with Austroasiatic-speaking peoples before the first millennium B.C. and that they borrowed certain cultural concepts from them. Since the Chinese forms most closely resemble words now found in Vietnamese and Muong, the source language for these loans was most likely spoken along the southeast coast of China, perhaps in the ancient states of Wu or Yüeh.

2. 丑 'ox, buffalo' F. K. Li in his article on the cycle in Tai alluded to the rather surprising initial found for this form in the Tai dialects which he examined. His conclusion was that the original Tai form must have had a cluster initial *pl-. This provides us with a very useful clue: the Middle Chinese palatals (both stops and affricates) may in part have come from clusters of a stop plus a liquid. This was in fact noted long ago by Maspero who found that certain old Chinese loans in Vietnamese which had Middle Chinese palatal initials had initial clusters of a stop plus a liquid in Middle Vietnamese; the two examples given by him are Middle Vietnamese blang 'page' from Chinese 張 tiang, and blong 'to plant' from Chinese 種 tšiwong.⁵ With this it is not too difficult to see the connection between the Tai forms, the Chinese form, the Siamese and Cambodian names on the one hand and the Austroasiatic word for 'buffalo' on the other. To the forms on the chart should be added the following Austroasiatic forms: Old Mon glau, dlau, Spoken Mon klɛa.⁶ It often seems all but impossible to determine the exact shape of consonant clusters in Austroasiatic. The word for 'ox, buffalo' is a case in point. The Tai forms imply something like *plau; the Siamese and Cambodian forms both point to a *chlū. Written Mon has both glau and dlau. For the present it seems best just to postulate a form *Cl- where *C represents some

⁴ Middle Chinese is cited according to Karlgren. Vietnamese is from Nguyen Dinh-hoa, Vietnamese-English Student Dictionary (Saigon, 1967). Muong forms are from J. Cuisinier, Les Rites Agraires (Ecole Française d'Extrême Orient, Hanoi, 1951) and Georges Coedès, op. cit. Ahom, Lü and Diol are taken from Fang-kuei Li, "Some Old Chinese Loan Words in the Tai Languages", HJAS VIII (1945), 333-342. Pu-yi is from Pu-yi-yü tiao-ch'a pao-kao (Peking, 1959). Cambodian (1) and (2), and Siamese (1) and (2) are all from Coedès, op. cit. Siamese (3) is from Mary Haas, Thai-English Student's Dictionary (Stanford, 1964).

⁵ Henri Maspero, "Etudes sur la Phonétique Historique de la Langue Annamite, les Initiales", BEFEO XII (1912), p. 78.

⁶ H. L. Shorto, A Dictionary of Modern Spoken Mon (London, 1962).

undetermined consonant.

5. 辰 'dragon' This cyclical name surely does not resemble the Vietnamese or Muong words for dragon. We should, however, consider the possibility that this originally represented the name of a real animal. And indeed, Austroasiatic provides us with a good candidate, namely the word for 'python'. The pertinent forms are the following: Vietnamese trăn, Mon (Written) klan (Spoken) klɔn, Chrau klăn.⁷ These all clearly point to a velar plus liquid cluster; since the Chinese initial is voiced, we can assume that the word at the time of borrowing had an initial *gl-. This hypothesis is strengthened by an analysis of the Chinese graph. The Shuo-wen phonetic gloss is 从乙匕象芒達厂声; 厂 is read xân -- and there is ample evidence for other velar initials in the series. (See Kuang-yün sheng-hsi, pp. 975-978.) Further the homophonous graph 蜃 (or 蜃) seems to preserve the original meaning: in Tuan Yü-ts'ai's commentary to the Shuo-wen under the character 辰 is the quotation "律書曰辰者言萬物之蜃也" 'The Lü-shu says "ch'en is said to be the ch'en of the myriad things"'. The character 蜃 is defined by the K'ang-hsi tzu-tien as 蛟之屬, 其狀亦似蛇而大, 有角如龍 'a type of chiao; its shape is like that of a snake but larger and it has horns like a dragon.' This would seem to indicate a solid ancient connection between 辰 and a serpent.

7. 午 'horse' The only Austro-Thai form found by Benedict for this sign is the Li word ngä. But Vietnamese and Muong have ngv a; it seems likely that horses were introduced to Hainan from the adjacent mainland -- an Austroasiatic-speaking region even now.⁸ The Old Tai forms indicate a prefix sa-, but this need not be postulated for the source dialect; it is more probably a Tai innovation.

8. 未 'goat' Despite the discrepancy between the Chinese and the Austroasiatic forms as regards the presence or absence of a final consonant, there still remains an obvious similarity among the various forms. The Austroasiatic language from which Chinese borrowed this cyclical sign may have had a final dental of some sort. The Atayal word for 'goat' is mi:ts; this word seems isolated even among the Formosan languages. Could it be a loan from the same mainland Austroasiatic language from which Chinese borrowed the cyclical term for goat?⁹

10. 酉 'chicken' André Haudricourt in his 1965 study has shown that the voiced fricative initials of Vietnamese (v, d, g) with voiceless stop correspondences in Muong can be accounted for by the assumption of lost prefixes.¹⁰ His hypothesis is proved by forms of some newly reported Viet-Muong languages of North Vietnam:

⁷ David Thomas, Chrau Vocabulary (Saigon, 1966), p. 16.

⁸ F. M. Savina, "Lexique Day-Francais", BEFEO XXXI (1931), p. 107.

⁹ Almost all the scholars who have worked on Old Chinese would agree that mjwëi had some sort of final dental in Old Chinese. Karlgren, Li Fang-kuei, and Tung T'ung-ho reconstruct a final -d; Yakhontov and Pulleyblank presumably would have -ts. The Atayal form is from N. Ogawa and E. Asai, The Myths and Traditions of the Formosan Native Tribes (Taihoku, 1936), appendix, p. 21. The closely related Seedeq language also has similar words.

¹⁰ André Haudricourt, "Les Mutations Consonantiques des Occlusives Initiales en Mon-Khmer", BSLP 60 (1965), p. 171.

	'chicken'	'uncooked rice'	'cotton'
Vietnamese	gà	gạo	vải
Muong	ka	kao	pai
Ruc	raka	rəko	kupal
Arem	lak		
May		rəko	kəpai

From this it is clear that Vietnamese gà and Muong ka derive from an earlier *raka or perhaps *ruka. It is quite possible that the name of the cyclical sign comes from a truncated version of such a form (cf. the Arem form), perhaps something like *ra or *ru. (This process is to be seen in the Tai forms for the cyclical sign for 'horse' where Dioi preserves only the prefix while Ahom and Lù preserve the entire form.) The likelihood of this is greatly strengthened by the parallel development of the word for 'liquor' in Chinese, Vietnamese, and Tai.¹¹ The graph 酉 in the oracle script appears to be the drawing of a wine jug; it is not impossible that 酉 was originally the word for 'wine' or 'liquor'. The word for wine in Vietnamese is ru 酒, in Muong rào, and in Siamese lau⁴¹. F. K. Li in his article on the Tai forms of the cycle remarked also that in certain Han works 酉 was glossed paronomastically by 老 (lâu) or 留 (liâu).

12. 豕 'pig' The Chinese form can be explained as related to Muong forms and the obsolete Vietnamese gỏi. There is little doubt that the oracle form of this graph is the picture of a pig.

¹¹ This is assuming that all these words come from a common source.