

A LAYER OF DONGSONIAN VOCABULARY IN VIETNAMESE

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0 Abstract

The present paper aims at demonstrating by means of linguistic evidence that the pestle used to husk rice was invented by the Dongsonian, the ancestors of the Vietnamese. That innovation spread in Southeast Asia as far as India, through the Austroasiatic continuum.¹

1 Background

The position of the Vietnamese language (or Viet in its shortened form) in Asian phylogeny has varied considerably since the first research on the topic was carried out. After being classified among the Chinese or the Tai-Kadai languages, it was finally integrated to the Mon-Khmer family [for a review, see Alves 2006] and more widely to the Austroasiatic family. The discovery (scientifically speaking) of conservative languages related to Vietnamese made it possible to elaborate a Viet-Muong group (henceforth VM), or Vietic, and to reconstruct a Proto Viet-Muong (henceforth PVM).

Some authors shed light on the close lexical relationship between the VM and the Katuic groups. Historically, it is highly probable that the VM group is the result of an ancient expansion of a form of Katuic coming from Northeast Thailand, which would have covered an Austroasiatic substratum localized in the North Vietnam (corresponding to the ancient *Giao Chỉ* 交趾, and *Cửu Chân* 九真).

Vietnamese and Mường include vocabulary and phonetic features which differentiate them from other languages of the same group. The subject covered here relates precisely to Vietnamese vocabulary with the initial *x*- supposed to belong to that particular substratum.

2 Languages and dialects of the Viet-Muong (Vietic) group

A simple and practical classification of the VM group is presented below.

- 1- *Maleng* : Maleng proper, Pakatan, Măliêng, Maleng Brô, Kha Phong (or Maleng Kari).
- 2- *Arem* : Arem (or Cmrau/Cmbrau).
- 3- *Chít* : Sách (or Chít, or Salang), Rục.
- 4- *Aheu* : Thavung, Phôn Soung, Sô (or Sô Thavung).
- 5- *Pong* : Pong (or Phong), Toum, Liha, Đan-lai.
- 6- *Thổ* : Làng Lỡ, Cuối Chặm, Mọn.
- 7- *Mường* : Mường (or Mọl/Mọn); comprises many dialects, including Mường Đăm, Mường Khói and Mường Tân Phong and Nguồn.
- 8- *Viet* : written standard Vietnamese and its dialects.

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3 PVM initial consonants : an outline

(The current *quốc ngữ* spelling for the proto phonemes is written in italic)

PVM comprised monosyllables CV(C) and sesquisyllables C-CV(C).

p^h <i>ph</i>	t^h <i>th</i>	s <i>t~r</i>		k^h <i>kh</i>	h <i>h</i>
p b <i>b~v</i>	t d <i>đ~d</i>	c ʃ <i>ch~gi</i>	tʃ <i>x~gi</i>	k g <i>c/k~g/gh</i>	ʔ <i>#</i>
ɓ <i>m</i>	ɗ <i>n</i>	f <i>nh</i>			
m <i>m</i>	n <i>n</i>	ɲ <i>nh</i>		ŋ <i>ng/ngh</i>	
v <i>v</i>		j <i>d</i>			
	r <i>r</i>	l <i>l</i>			

The aspirated plosives **p^h t^h k^h** are not frequent and must have evolved from clusters of the type /*plos.* + **h**/.

Obstruents **p-b**, **t-d**, **c-ʃ**, **s**, **tʃ** and **k-g** underwent two types of phonetic changes, (i) normal changes of initials in monosyllables, (ii) spirantization of medials in sesquisyllables [Ferlus 1982]. For example, the pair of initials **p-b** is on the whole represented now by *b~v* (*b* in monosyllables and *v* in ancient sesquisyllables). It must be noticed that, in the 17th century, *v* was rendered by *ɸ/ɸě* in Alexandre de Rhodes' dictionary [1651].

4 The PVM initial tʃ and its place in Mon-Khmer

PVM **tʃ** (viet *x*) is not frequent; however, it is attested in some important words. That proto phoneme is only attested in the northern branch (Viet + Mường). Comparison reveals correspondences between Viet *x*- and Khmu **c-** [Ferlus 1994]:

Vietnamese	Khmu
<i>xum</i> 'to get together'	cu:m 'classifier for groups'
<i>xuong</i> 'bone'	cʔa:ŋ 'bone'
<i>xoi</i> 'to dig, to sow, to pierce'	cmɔ:l 'to dig, to sow in holes'
<i>xẻ</i> 'to split'	ceh 'to square off'

To support the correspondences put forward above, it should be added that Khmu underwent the following chain of phonetic changes:

* s > h	* sa:l > ha:l	'to peel' (Phong Kenieng sa:l)
-- * c > s	* cɔʔ > sɔʔ	'dog' (Viet <i>chó</i>)
-- -- * tʃ > c	* tʃu:m > cu:m	'classifier for groups' (Viet <i>xum</i>)

Apart from those correspondences, Khmu also attests many other examples of words with the initial **c-**: **cit** 'grass', **cat** 'sour', **caŋ** 'bitter', **cuʔ** 'to want, be sick', **ca:m** 'to weave a piece of thatch', **crna:m** 'a piece of thatch', ...

In Sino-Vietnamese, *x-* rendered the Middle Chinese **tɕ^h* [Ferlus 1992].

The place of **tʃ* in Viet and Khmu raises some problems. That proto phoneme is poorly represented if compared to the major units in the system, but, nevertheless, it exists in basic vocabulary. Our current view is that **tʃ* is a residual phoneme originating in a North-Austroasiatic substratum partially preserved in Khmu and Vietnamese.

5 Morphological pairs of words (verb in *x-*, derivative in *ch-*)

5.1 One of the most remarkable characteristics of the Vietnamese lexicon is to possess a short list of five morphological pairs made up of a verbal base in *x-* associated with a derivative in *ch-* with an instrumental meaning.

Verbal base	Nominal derivative
- <i>xáy</i> ‘dig, hollow, excavate’ / <i>xay</i> ‘grind, husk (rice)’	<i>chày</i> ‘pestle’
- <i>xeo</i> ‘lift up with a crowbar’ ‘to propel (a boat) with a long pole’	<i>chèo</i> ‘oar’
- <i>xum</i> ‘gather, form groups’ / <i>xúm</i> ‘gather, form groups’	<i>chùm</i> ‘bunch, cluster’ <i>chụm</i> ‘assemble, gather’
- <i>xía</i> ‘pick, jab, to put on a stip’	<i>chĩa</i> ‘pitchfork, trident’
- <i>xỏ</i> ‘sting, pierce’	<i>chõ</i> ‘pan to cook sticky rice’

How could a nominal derivative in *ch-* (PVM **ʃ**), with a low serie tone, derive from a verbal base in *x-* (PVM **tʃ**), with a high serie tone? Correspondences between the attestation of ‘pestle’ among the VM languages suggest an old *-r-* infix:

Mường	k^haj²
Cuối Chặm	re:¹
Sách	ri:¹
Arem	ⁿri:

Another example can be found in Nguồn (a Mường dialect whose speakers were resettled in Quảng Bình): to the Viet *chõ* ‘pan to cook sticky rice’ corresponds the Nguồn **ro:⁶**.

The change /**tʃ**+**r**/>**ʃ** is necessary to understand the relation between *x-* and *ch-* in the morphological pairs. That change is an isolate specific to Vietnamese; in the other VM languages it evolved like the other /*plos.* + **r** / clusters, some examples of which are given below:

PVM	Proto Pong	Rục	Mường	Viet	
p-ri:	p^hri:¹	pri:¹	k^haj¹	<i>say</i>	‘be drunk’
k-ro:ŋ²	k^hro:ŋ³	kro:ŋ³	k^ho:ŋ³	<i>sống</i>	‘ridge, back’
k-ra:p	k^hra:p⁷	k^hra:p⁷	k^ha:p⁷	<i>sáp</i>	‘wax’
ʃ-ru:	k^hru:²	cəru:¹	k^hu:¹	<i>sâu</i>	‘deep’

5.2 The phonetic history of Lao attests a similar change which supports the change /**tʃ**+**r**/>**ʃ** in Viet. Proto Tai possessed the two voiced palatal initials **ʃ* and **z* which respectively evolved into **c^h-** (ᨧ) and **s-** (ᨧ or ᨧᨑ) in Thai, but merged in **s-** (ᨧ) in Lao [Fang Kuei Li 1977]. A small number of Lao words with the initial **s** (<**z*) underwent the change /*plos.* + **r**/>**z**, the initial of the cluster being a coronal.

se:^{A2} (<*ze:) ទេ ‘river’ < Old Khmer *sre: ‘ricefield’ (through the semantic change ‘ricefield’ > ‘ricefield + canal’ > ‘canal’ > ‘river’). Not represented in Thai.

sa:j^{A2} (<*za:j) ឧទាម ‘sand’ < Old Chinese *sCraj [C-raj], *shā* 沙 [Baxter 1992: 785]. Thai ทราบาย.

sa:j^{A2} (<*za:j) ឧទាម ‘hog deer (*Cervus porcinus*)’ < Old Mon *drāy*, Modern Mon *drāy* **kràj**. Thai ทราบาย.

so:^{A2} (<*zo:) ខ្នុំ ‘two-stringed violin’ < cf. Modern Mon *draw* **krò**. Thai ซอ.

saj^{A2} (<*zaj) ខ្នុំ ‘banyan tree’ < Old Khmer *jrai*, Modern Khmer *jrai* **crej** / Old Mon *jrey*, *jreai*. Thai ไทร.

5.3 The instrumental infix **-r-** can only be reconstructed after the PVM initial **tʃ**. That infix has only been detected in the North-Austroasiatic substratum of Vietnamese. In the Mon-Khmer languages of Southeast Asia, the most commonly attested infix is **-rn-** (in its full form) or **-n-** (in its reduced form). The origin of the infix **-r-** and its place in Austroasiatic morphological system are a new subject of research which will not be dealt here.

6 The morphological pair ‘to husk (rice) - pestle’ in PVM

<i>xáy</i> ‘dig, hollow, excavate’ / <i>xay</i> ‘grind, husk (rice)’ > <i>chày</i> ‘pestle’
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6.1 PVM presents two basic verbs from which *chày* ‘pestle’ can have derived: (i) PVM **tʃe?** (*xáy*) ‘dig, hollow, excavate’ and (ii) PVM **tʃe:** (*xay*) ‘grind, husk (rice)’. The root **tʃe:**, which has a specialized meaning, probably derives from **tʃe?**, which has a general meaning. Let’s now try to explain the phonetic change which led **tʃe?** (*xáy*) ‘dig, hollow, excavate’ to **tʃe:** (*xay*) ‘grind, husk (rice)’.

It is a well known fact in general linguistics that a repetitive action is generally expressed by a reduplication of the basic verb indicating the simple motion. We can consequently supposed the following change **tʃe?** > **tʃe?-tʃe?**. Thereafter, the reduplicate form was reduced to **tʃ-tʃe?**, which is nothing else than a structural adaptation to a sesquisyllabic constraint.

6.2 Before going further in the explanation of phonetic changes from PVM to Vietnamese, it is necessary to point out some phonetic changes that affected Chinese and which occurred between the stage of Old Chinese and Middle Chinese. The formation of the Vietnamese language since its origin has been strongly influenced by some phonetic changes that affected the Chinese language. One could even say that the phonetic changes in Vietnamese are aftereffects of the phonetic changes that affected the Chinese language.

Between the final stage of Old Chinese (2nd-1st BC) and that of Middle Chinese (7th AD), a phonetic feature of tenseness developed in sesquisyllables as a consequence of the coalescence of both initials articulations in each syllable. By contrast, the feature of laxness developed in monosyllables. Consequently to monosyllabization, the *tense~lax* contrast (henceforth T~L) became distinctive, creating two types of syllables which most sinologists name A and B.

C-CV(C)	>	CV(C)/T	(<i>tenseness</i>)	A
CV(C)	>	CV(C)/L	(<i>laxness</i>)	B

Thereafter, the T and L features modified the apertures of the vocalic onsets, lowering in A, raising and associated with breathiness in B. That theory was developed in our two communications at the *31st and 39th International Conference on Sino-Tibetan Languages and Linguistics* [Ferlus 1998, 2006]. It should be mentioned, however, that our theory is far from being accepted in the sinologists' world.

6.3 By the Han time, the T~L contrast in the Chinese syllables was transferred to PVM in the same context: sesquisyllables developed a *tenseness* feature, while monosyllables developed a *laxness* feature. T~L contrast on PVM, however, acted differently than on Chinese. Those rather complex changes brought us to view two stages for PVM: an Early PVM and a Late PVM (the traditional PVM). That theory was presented at the *11th Annual Meeting of the Southeast Asian Linguistic Society*, Mahidol University at Salaya, 2001 [Ferlus 2004].

In Early PVM, the tenseness on sesquisyllables caused the final -ʔ loss, thus creating open syllables. Let us point out some examples illustrating those changes:

Early PVM	(Khmu)	Late PVM	Rục	Viet	
*k-maʔ	(kmaʔ)	*k-ma:	kəməa ²	mưa	'rain'
*c-ruʔ	(ʃruʔ)	*c-ru:	cəru: ¹	sâu	'deep'

Concerning the vocabulary which interests us here:

*tʃeʔ > tʃ-tʃeʔ	---	*tʃ-tʃe:	---	xáy	'to husk (rice)'
*tʃ-reʔ	(cn ^d reʔ)	*tʃ-re:	nri: ²	chày	'pestle'

In monosyllables, on the other hand, the final glottal stop was preserved (the presyllabic vowel was not taken into account as a presyllable):

*əcʔ	(sʔ)	*cʔ	ac: ³	chó	'dog'
*əkʔ	(kaʔ)	*kaʔ	aka: ³	cá	'fish'
*tʃeʔ	---	*tʃeʔ	---	xáy	'dig, excavate'

6.4 To summarize:

*tʃeʔ (xáy) 'dig, hollow, excavate'.

*tʃeʔ > (reduplication) tʃeʔ-tʃeʔ > (sesquisyllabization) tʃ-tʃeʔ > (tenseness and loss of final -ʔ) tʃ-tʃe: > (monosyllabization) tʃe: (xáy) 'to husk (rice)'.

*tʃeʔ + infix -r- > tʃ-reʔ > (tenseness and loss of final -ʔ) tʃ-re: > tʃre: > (reduction) ʃe: (chày) 'pestle'.

To sum up, xáy 'to husk (rice)' is the result of an old process of reduplication of xáy 'dig, hollow, excavate', while chày derive from xáy by the infixation of -r-. All changes involved in the demonstrations are in keeping with regular phonetic laws.

7 The morphological pair ‘to husk (rice) - pestle’ in Austroasiatic

The vocabulary analyzed here comes from personal collected materials [Ferlus, Marie Martin] and from linguists’ publications [Sidwell, Zide, Diffloth, ...] as well as of non linguists’ ones [Baradat, Skeat & Blagden]. For the sake of convenience, the various linguistic reconstructions proposed in the literature are not reviewed here.

It was quite difficult to collect the two words for ‘to husk (rice)’ and ‘pestle’, particularly when they were scattered in general studies or lexicons in which target language is placed in input. There are often ambiguities between ‘to husk’ and ‘to pound’ ; the Western authors being sometimes not accurate on those technical actions, while are so fundamental in the concerned societies.

Group / Language	‘to husk’	‘to pound’	‘pestle’
<i>VIETIC</i> [Ferlus]			
PROTO VIET-MUONG	(tʃeʔ >) tʃe:		(tʃreʔ >) ʃe:
Viet	(xáy >) xay		chày
Mường [Nguyễn VK 2002]	saj ¹ (xay)		k ^h aj ² (khày)
Cuối Chạm	saj ¹		re: ¹
Làng Lỡ	saj ¹		ʃe: ¹
PROTO PONG		təp ⁸	re: ¹
Thavung	mu:l ¹		ahə: ¹
Sách	cuk ⁷	tu:ɲ ²	əri: ¹
Arem	tluh	tù:ɲ	ⁿ ri:
Maleng Kari	kəlu: ⁵⁶		səre: ¹
<i>KATUIC</i> [Ferlus]			
Suei		ntap	n ^d rè:
Ong	kloh		ndraj
Kantou	kloh		ntre:
Sô	cikloh		ntʃi:
<i>KATUIC</i> [Sidwell]			
PROTO KATUIC [2005]	kloh	tap	ʔn ^d ree
Souei		ntap	ntrẽe
Sô/Bru	kləh		ntrĩi
<i>BAHNARIC</i> [Sidwell]			
PROTO BAH. [1998]	pəh		ʔənrəj/r(ən)aj
<i>NORTH BAHNARIC</i> [Sidwell]			
PROTO NORTH BAH. [2002]	pəh		ʔəraj
Jeh	pəh ^T		ʔədraj ^T
Halang	pəh ^T		hədraj
Rengao	pih ^T		hədrii ^L
Sedang	pej		draj ^T
Bahnar	pəh		hdrəj
<i>SOUTH BAHNARIC</i> [Sidwell]			
PROTO SOUTH BAH. [2000]	pəh		r-n-aj
Mnong	pəh		nɛ
Stieng	pəh		rənaj
Chrau	pəh		rənaj

WEST BAHNARIC [Ferlus]

Laven	tpeh		ʔrej
Nhaheun		jaʔ	ʔre:
Brao	tveh		raj
Sapouan		jaʔ	araj
Lave	tveh		araj
Cheng	tveh		raj

WEST BAHNARIC [Sidwell, Jacques]

PROTO WEST BAH. [2000]	təpeh	jaʔ	ʔraj
PROTO WEST BAH. [2003]	tʔpeh	jaʔ	ʔraj
Laven/Jru'	təpeh		ʔraj
Nyaheun		jaʔ	ʔree
Sapuan		jaʔ	ʔraj

BOLYU [Edmondson 1995]tən⁵³ xwək³¹*MANG*

tə: tuŋ

KHMUIC [Ferlus]

Khmu	hic		cn ^d reʔ
Phay	k^hə:t		ŋgleʔ
Thin	k^hə:t		ŋgreʔ
Pray	k^hə:t		ŋgiaʔ
Lamet	peh		ntro:
Keneng	kal		kanre:
Hat	suʔ		ndra:
Khang	təpe:		he ^ʔ
Kesing Mul	bək		hagè:

PALAUNGIC [Ferlus]

ɗaʔa:k	aduh		ŋkrej
taʔa:ŋ	dɔh		gre:
raʔa:ŋ	dɪh		glɔŋ achom

WAIC [Ferlus]

pəzaək	tah		grìʔ
vaʔ	kujh		ŋiʔ
Sem	taoh		gliʔ
Phalək	dəh		ŋiʔ
Samtao	tih		nreʔ
lavia ^ʔ	blouh		k ^h ou ^ʔ
La-ooop	toh		grei ^ʔ
Lawa	pəuh		k ^h o: toh
PROTO WA [Diffloth 1980]	toh		ŋriʔ

RIANG [Luce 1965]

rèʔ

DANAW [Luce 1965]

réʔ

MONIC

Môn [Shorto 1962]	yàik [jàc]		rì ^ʔ
	yāk		ri
Nyah Kur [Theraphan 1984]	jà:k		ŋrì:ʔ

<i>KHMER</i>			
Khmer	bok <i>puk</i>	kɤn <i>kin</i>	ʔəŋrɛ: <i>ʔaŋræ</i>
<i>PEARIC</i> [Baradat 1941]			
Pear, Kpg Speu	<i>chhâk</i>	<i>ken</i>	<i>rôhi-i</i>
Pear, Kpg Thom	<i>bok</i>	<i>ken</i>	<i>ré</i>
Pear, west	<i>chhûk</i>		<i>rôhi-i</i>
Pear, east	<i>chhâk</i>		<i>rôhik</i>
<i>PEARIC</i> [Martin]			
Samray	chuuk	ken	(<i>rôhi-i</i>)
Səmree	chɔɔk	kun	(<i>rôhik</i>)
<i>PEARIC</i> (various)			
Pear [Headley 1978]	čha:k		rəhi:
Saoch	t^ha:k		ri
Chong [Siriphen 2001]	c^hə:k^{R1}	bət	kəhi:^{R1} [kə^hhi:]
<i>KHASI</i> [Singh 1920]			
			<i>synrei</i>
<i>ASLIAN</i>			
Jahai [Burenhult 2001]	sntip/ti[?]/sih/patim/til		gul
Tembi [Skeat & B. 1906]			<i>rentik</i>
Serau [Skeat & B. 1906]			<i>kěnh, kěnu[?] (?)</i>
<i>NICOBAR</i>			
	-		-
<i>NORTH MUNDA</i> [Zide 1976]			
Korku	rum-		toko / tuki
Ho	ruuŋ-		-
Santali	ruŋuŋ-		-
Santali [Macphail 1954]	<i>huŋuŋ</i>	<i>sok[?]</i>	<i>tok</i>
<i>SOUTH MUNDA</i> [Zide 1976]			
Kharia	-		ě(n)ri / enđi
Remo	-		tiŋe[?]
Gta [?]	-		toŋkæ
Gorum	-	taŋlad	in(d)ri
Sora	-	taŋlad	əŋrij
<i>PROTO MON-KHMER</i>			
[Shorto 2006]	pis/pøs	[k]bok	nrəy[?] / nrəəy

General remarks : (see *Summarized chart* and map at the end of article)

A remarkable fact arises from the reading of the table: the verbal base ‘to husk (rice)’ and the nominal derivative ‘pestle’ form a morphological pair only in the subgroups of Vietnamese, Mường and Thổ (Cuối Chặm, Làng Lữ), i.e. in the most septentrional languages of the VM group. On the other hand, the same derivative ‘pestle’, recognizable by the presence of *r* in its various forms, is attested in the other VM languages and in most groups of the Austroasiatic family.

The languages or groups of languages which attest other roots for ‘pestle’ are Bolyu (Guangxi - Zhuang Autonomous Region), Mãng (Lai Châu, Vietnam), the Aslian group (Peninsular Malaysia) and North Munda (India). As far as Nicobarese is concerned, it does

not seem to have proper vocabulary for rice and its culture ; the word for ‘rice’ (Nancowry *arōsh*, Teresa *aros*) is genuinely Portuguese [de Röpstorff 1875].

It is obvious that the derivation which produced the word ‘pestle’ took place in a northern VM language, direct ancestor of Vietnamese. From there, the object and its name spread through most Austroasiatic languages, as far as in India.

In current classifications, Munda forms a clearly characterized branch within the Austroasiatic family. However, it seems surprising that the word for ‘pestle’ reached South Munda and missed North Munda. The Munda branch might be the result of a symbiosis of several waves of Austroasiatic languages coming from the Austroasiatic *Urheimat*, somewhere in the heart of China.

8

<p><i>xeo</i> ‘lift up with a crowbar, to propel (a boat) with a long pole’ > (<i>cái</i>) <i>chèò</i> ‘paddle, oar’</p>

PVM **tʃɛ:w** (*xeo*) and **tʃ-r-ɛ:w** > **ʃɛ:w** (*chèò*) must be reconstructed.

Chèo must have originally named the long pole used to propel boats ; today, it means ‘to paddle, to row’, while *cái chèo* means ‘paddle, oar’.

The word *chèo*, verb or noun, is quite common among the VM languages and many languages of Vietnam and neighbouring countries. It is represented in Khmer by **caew cæv** ‘to paddle, to row, paddle’, while ‘oar’ is **crəva: cravā**. In Lao we find **se:w^{A2}** (<***ʃɛ:w**) ສຶວ ‘to row’.

To the same word family we must add *neo* ‘anchor’, formed by the insertion of an old **-rn-** infix with an instrumental meaning:

tʃɛ:w > (infixation) **tʃ-rn-ɛ:w** > (monosyllabization) **nɛ:w** *neo* ‘anchor’.

Notes: (i) The infix **-rn-** has been preserved in some Maleng dialects of the VM group. For example, in Maleng Brô [Ferlus 1997]:

sək - srnək ‘to comb - a comb’
taj² - trnaj² ‘to light with a steel lighter - a lighter’
kp² - krnp² ‘to dwell, to stay at - a house’

(ii) The Vietnamese vocabulary attests many examples of the type *xeo-neo* which reinforce the reconstruction of an infix **-rn-**:

đan - nan ‘to plait - bamboo split’
đút - nut ‘to cork (a bottle) - a cork’
chọc - nọc ‘to shake down (with a long pole) - a long pole’
xếp - nếp ‘to fold - a fold’

9

<p><i>xum</i> ‘gather, form group’ > <i>chùm</i> ‘bunch, cluster’ <i>xúm</i> ‘gather, form groups’ > <i>chụm</i> ‘assemble, gather’</p>
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The place of *xum* in dictionaries needs some further remarks. *Xum* is not attested in the modern Vietnamese dictionaries, while in others, *xum* and *xúm* are presented as synonyms.

Father E. Gouin [1957] was the only one to establish a clear distinction between (in French) *xum* ‘se réunir, rassembler’ and *xúm* ‘se réunir, réunir, rassembler, convoquer, grouper’. This distinction can be interpreted as *xum* ‘to meet, to get together’, with an intransitive meaning, and *xúm* ‘to gather, to collect, to call together’ with a causative aspect.

We can then reconstruct PVM **tʃu:m** (*xum*) as the basic root with the meaning ‘to meet, to get together’ and suppose a causative derivation, **p-tʃu:m** with the following chain of changes:

tʃu:m > (prefixation) **p-tʃu:m** > (tenseness and glottalization) **p-tʃu:m²** > (monosyllabization) **tʃu:m²** (*xúm*). On the circumstances of the occurrences of glottalization in sesquisyllables, see Ferlus [2004].

Formation of derivatives with the infix **-r-**: **tʃ-r-u:m** > **ʃu:m** (*chùm* ‘bunch, cluster’) and **(p-)tʃ-r-u:m²** > **ʃu:m²** (*chum* ‘assemble, gather’).

The prefixed form **p-tʃu:m** gave *giùm* ‘give help, help’ by spirantization of **tʃ** in medial position: **p-tʃu:m** > (spirantization) **p-ʃu:m** > (monosyllabization) **ʃu:m** (*giùm*). Old dictionaries also attest *gium* ‘help’, *giúm* ‘to help each other’ and *giùm* ‘to put together’.

The prefixed form passed in Khmer, **prəcum** *prajum*, then in Thai **prac^hum^{A2}** **ປຣະຈຸມ** and in Lao, **pasum^{A2}** **ປະຊຸມ**.

10 *xia* ‘pick, jab, to put on a stip’ > *chĩa* ‘pitchfork, trident’

PVM **tʃɛh** (*xia*) and **tʃ-r-ɛh** > **ʃɛh** (*chĩa*) must be reconstructed.

Derivative formed with **-rn-** infix: **tʃɛh** > (infixation) **tʃ-rn-ɛh** > (monosyllabization) **nɛh** *nĩa* ‘fork’.

These words remain confined in the Vietnamese area.

11 *xỏ* ‘sting, pierce’ > *chỗ* ‘pan to cook sticky rice’

PVM **tʃɔh** (*xỏ*) and **tʃ-r-ɔh** > **ʃɔh** (*chỗ*) must be reconstructed.

These words remain confined in the Vietnamese area.

12 Conclusions

The PVM proto phoneme **tʃ** is specific to the Vietnamese language and to some very close VM languages. Words opening with the initial ***tʃ** (*x-*) are very few but belong to the significant vocabulary of everyday life. Correspondences with Khmu have been noticed.

In Vietnamese, there are five morphological pairs of words associating a verb in *x-* with a nominal derivative in *ch-*. These five pairs are: (1) *xáy/xay* - *chày*, (2) *xeo* - *chèo*, (3) *xum/xúm* - *chùm/chum*, (4) *xia* - *chĩa* and (5) *xỏ* - *chỗ*. The verb expresses a basic action, while the derivative indicates an object or a concept related to the exercise of the action. Correspondences in VM make it possible to highlight an old nominalizing **-r-** infix with an instrumental meaning.

Among these morphological pairs, the most striking is *xáy/xay* - *chày*. It was explained how from PVM **tʃe?** (*xáy*) ‘to dig, excavate’ was formed the derivative **tʃe:** (*xay*) ‘to husk (rice)’ with a more specialized meaning, and also was formed **tʃre?** > **ʃe:** (*chày*) ‘pestle’.

It was also noted that, in the primordial PVM pair **tʃeʔ - tʃreʔ**, the reflexes of the basic verb (**tʃeʔ**>) **tʃe:** ‘to husk (rice)’ remained restricted to Vietnamese, while the reflexes of the derivative ***tʃreʔ** ‘pestle’ spread to most Austroasiatic languages. Bolyu, Mãng, Aslian, Nicobarese, North Munda and some languages of South Munda did not receive that derivative. We are facing a rather exceptional case, considering the antiquity of the phenomenon, where a word created in a limited area invaded the quasi-totality of a linguistic family.

This phenomenon is not only of linguistic nature, it is also necessary to take into account the technological component and more generally the level of civilization in the area of origin. It is obvious that the word for ‘pestle’ spread with the object itself. Such an expansion does not have any equivalent in the old times. It is the object itself more than the carrying languages, that spread through the Austroasiatic family. That means that the pestle was an innovating invention, which was technically superior to all earlier methods for husking rice. The complex ‘pestle - mortar’ (in French ‘pilon - mortier’) made possible a better husking of the grain than the complex ‘saddle quern - rubber stone’ (in French ‘meule dormante - molette mobile’) which was presumably used before. The other advantage is that utensils made of wood are easier to make than those made of stone.

The continuity of the morphological pairs in a layer of the Vietnamese vocabulary (the layer of PVM **tʃ**) can only be explained if one population went on speaking the same language in the same place. Moreover, the verbs of the morphological pairs imply common actions, the nominal derivatives of which are utensils or concepts useful in everyday life: ‘pestle’, ‘oar’, ‘group’, ‘trident’ and ‘pan to cook sticky rice’. The speakers of that language belonged to a culture which encouraged them to innovate.

As the Đông Sơn culture (c. 7th BC to 1st AD), famous for its bronze drums [Parmentier 1918: *Pl. IV, fig. 1*], was precisely located in the North of Vietnam, at the same place as the area of origin of our morphological pairs, one can conclude from it that this layer comes from the Dongsonians’ language.

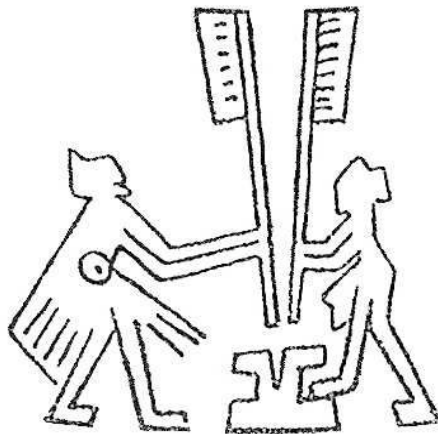
In conclusion: the Vietnamese language preserved a part of the Dongsonians’ language. In that sense, the Vietnamese are the most direct heirs of the Dongsonian culture.

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A rice-husking scene engraved on a Dongsonian bronze drum [Parmentier 1918: *Pl. IV, fig. 1*]. Museum of History in Hanoi.

Summarized chart: 'to husk (rice) - pestle' in Austroasiatic

<i>Groups/Languages</i>	<i>to husk (rice)</i>	<i>to pound</i>	<i>pestle</i>
PROTO VIET-MUONG Viet Mường Bì	(tʃeʔ >) tʃe: (xáy >) xay saj ¹ (xay)		(tʃreʔ >) ʃe: chày k ^h aj ² (khày)
Sách Arem	cuk ⁷ tluh	tu:ɲ ² tù:ɲ	əri: ¹ ⁿ ri:
PROTO KATUIC	kloh	tap	ʔn ^d ree
PROTO BAHNARIC PROTO NORTH BAH. Rengao Bahnar PROTO SOUTH BAH. Stieng PROTO WEST BAH. Laven/Jru'	pəh pəh pih ^T pəh pəh pəh tʔpəh təpəh	jaʔ	ʔənɾəj/r(ə)naj ʔəraj hədrii ^L hɾəj r-n-aj rənaj ʔraj ʔraj
BOLYU		tən ⁵³	xwək ³¹
MANG	tə:		tuɲ
KHMUIC Khmu Thin Keneng	hic k ^h ə:t kal		cn ^d reʔ ŋgreʔ kanre:
PALAUNGIC taʔa:ŋ PROTO WAIC	ɗəh toh		gre: ŋriʔ
RIANG	-	-	rèʔ
MÔN	yàik [jàc]		ri ^ʔ
KHMER	bok	kɤn	ʔəŋre:
PEARIC Saoch Chong	t ^h a:k c ^h ə:k ^{R1}	bət	ri kəhi: ^{R1} [kə'hi:]
KHASI			synrei
ASLIAN Jahai Tembi	sntip/tiʔ/sih/...		gul rentik
NICOBAR	-		-
NORTH MUNDA Korku Santali	rum- hurɯŋ	sək'	toko / tuki tok
SOUTH MUNDA Kharia Sora	- -	taŋlad	ě(n)ri/əndi əŋriɟ
PROTO MON-KHMER	pis/pəs	[k]ɓok	nrəyʔ/nrəy

Map showing the expansion of Proto Viet-Muong $*tʃre?$ 'pestle'

