

PROGRESS IN VIETNAMESE LINGUISTICS*

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INTRODUCTION

The papers published in this special issue are developed versions of presentations given at an online workshop hosted by Nigel Duffield at Konan University (Kobe, Japan) in March 2022. The presenters at this workshop are a diverse collection of international scholars united by their interest in Vietnamese linguistics: hence, the acronym ‘ISVL’. The “2” in the title indicates that this is the second in a series having its origin in a workshop – also online – organized from Harvard-Yenching Institute in April 2021, titled “Vietnamese Linguistics, Typology and Language Universals.” (ISVL-3 will take place as a hybrid online/in-person workshop in March 2023; it is our hope that the series will continue in future years).

Whilst this is a “proceedings issue” – like its predecessor volume (which was published in 2022 in *Journal of the Southeast Asian*

* Corresponding editor: Trang Phan [thihuyentrang.phan@unive.it]. We wish to express our gratitude to all of the reviewers for their valuable feedback and helpful constructive criticism, and to the authors themselves, for working so well with us through the process. This research, as well as the workshop ISVL-2 was funded by a *KAKEN* grant (*Progress in Vietnamese Linguistics*) from the Japan Society for the Promotion of Science (JSPS) [to the first editor, Nigel Duffield]. For academic purposes, Nigel Duffield is responsible for the first half of the introduction and Trang Phan is responsible for the second half.

Linguistics Society) – it should be noted that all of the papers in this issue are extensively revised versions of the original presentations:* each article was subject to double-blind peer review by external reviewers, and subsequent revision, and was treated in every other respect as an open submission in terms of the standards of the journal.

The papers span a wide range of approaches and subject areas: diachronic and synchronic; phonological, lexical, syntactic, (sentential) semantic; and – this year, for the first time – theoretical and applied perspectives.

Alves investigates the transformation of bisyllabic Proto-Vietic words into monosyllabic words and the development of voiced fricative onsets in Vietnamese. Previous studies hypothesized that stops *p/t/c/k and *b/d/ɟ/g spirantized in intervocalic positions and presyllables were lost, resulting in Vietnamese onsets ‘v’ [v], ‘d’ [z], ‘gi’ [ʒ], and ‘g/gh’ [ɣ] in monosyllabic words. The study compared relevant Proto-Vietic and Old Chinese lexical reconstructions and found that the changes involve classes of sounds, rather than specific consonants, with some notable exceptions. Evidence suggests that these features in modern Vietnamese developed many centuries later than in Sinitic.

Shimizu's paper analyzes the grammaticalization of the progressive marker *đang* in Vietnamese. Originating from the Chinese word 當 *dāng*, meaning 'be at', the term is usually followed by a modified time phrase. In 15th-century Sino-Vietnamese Nôm texts, *dāng* was translated into *đang/đương* five times, *hầu* once, and *hợp* four times. 17th-century Romanized texts often featured *đang* in subordinate clauses such as *đang* NP (Time phrase), *đang khi* NP+VP, and *khi* (NP) *đang* VP. It is proposed that the progression from (Chinese) 當 +NP+VP+(SUB)+NP_{temp} to (Chinese) NP+ 當 +VP+(SUB)+NP_{temp} to (Vietnamese) *NP+*đang*+VP+*khi* to (Vietnamese) *khi*+NP+*đang*+VP led to the reanalysis of the *đang*+VP unit and the creation of the progressive marker *đang*.

Trinh, Phan & Vu discuss polar questions in Vietnamese, which typically involve an affirmative sentence followed by a negation particle. While modern Vietnamese has three negation particles, only two of them

* Not all of the ISVL presenters chose to submit papers to the volume, for a variety of reasons.

can be used in the polar question context. To explain this gap, the authors suggest an analysis of questions as sets of alternatives, and draw on evidence of diachronic change from historical texts.

The acquisition of numeral classifiers and their associated syntactic structures in East and Southeast Asian languages by typically-developing (TD) children has been extensively studied. However, little research has focused on how classifiers are acquired by children with developmental language disorder (DLD). To address this gap, **Pham & Simpson** examine and compare the development of numeral classifier patterns in a group of Vietnamese speakers, including TD and DLD children, over a three-year period from kindergarten to second grade. The study reveals differences in the performance of TD and DLD children and identifies areas of classifier use that are most challenging. Specifically, DLD children exhibited more errors of classifier omission in kindergarten, showed random alternations in representational forms, and experienced delays in the development of three-element classifier structures.

Liao & Lin provide an alternative syntactic explanation for VP-*không* questions in Vietnamese, addressing issues with Duffield's (2013) predicate-raising analysis. The authors outline three problems with Duffield's analysis: (1) it fails to explain how raising the predicate to the left of the negator turns a declarative sentence into a question; (2) it fails to account for the appearance of TP-level adverbs between the subject and the predicate; (3) it claims incorrectly that the topic marker *thì* cannot be used with VP-*không* questions. To address these issues, the authors propose an alternative explanation, involving Neg-to-C movement and the raising of a remnant TP.

Phan & Tsai investigate Vietnamese flip-flop sentences and their connection to verb raising and cross-linguistic patterns of covert modality. The study suggests that verb movement in flip-flop constructions is present in both matrix and embedded environments when modality is present. The research also provides evidence to support the idea that sentences with the 'flip alternative' have a bi-clausal structure and that adjunction in V-to-M movement occurs to the right. Comparative data from Thai is used to support the arguments presented in the study.

Finally, in his study, **Phan** provides a rough chronology of the development of the dynamic modal marker *được* and discusses the

syntactic-semantic changes that have led to the formation of the two instances of *được*. The study proposes that the post-verbal *được* is derived from a resultative marker, while pre-verbal *được* with a pure opportunity reading existed in the past, and was later reanalyzed as having a benefactive interpretation.

Though they may only give a snapshot of current research on Vietnamese linguistics, these papers – and the references contained therein – nevertheless provide clear evidence of how much interest has been stimulated in Vietnamese linguistics outside Vietnam in recent years, as researchers begin to probe subtle yet crucial contrasts among different East Asian and Mainland Southeast Asian varieties; conversely, to apply theoretical analyses based on other languages to Vietnamese data. With every iteration of this workshop, we hope to make progress, across the board.

SHORT BIO OF THE EDITORS

Nigel Duffield received his PhD in Linguistics from the University of Southern California in 1991. Since then, he has held university positions in Germany, Canada (McGill University), the Netherlands, England (University of Sheffield), and Japan, where he has been a Professor in the Department of English at Konan University (Kobe), since 2012. Duffield's research ranges across topics in theoretical generative syntax as well as in psycholinguistics (first and second language acquisition, and adult language processing). He is the author of two monographs – *Particles and Projections in Irish Syntax* (Kluwer 1995), *Raiding the Inarticulate: Reflections on Psycholinguistic Theories* (CUP 2018), as well as numerous journal articles and book chapters. Duffield's theoretical work on Vietnamese spans more than 20 years, much of which – since 2009 – has been written in close collaboration with Trang Phan.

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the structure and acquisition of Vietnamese verbal aspect, under Professor Nigel Duffield's supervision. From 2014 to 2016, she was a postdoc researcher of the Cartographic Syntax project at Ghent University (Belgium), working on various aspects of Vietnamese clausal structure in a cross-linguistic perspective. Subsequently, she worked as a lecturer of Vietnamese language and linguistics at Vietnamese National University Hanoi and she also served as the principal investigator of the government-funded project on the Nanosyntax of Vietnamese tense and aspect, sponsored by Vietnam National Foundation for Science and Technology Development (NAFOSTED). From 2020 to 2021, Phan was a visiting scholar at Harvard Yenching Institute (USA), working on how Vietnamese nominals update our current understanding of classifier languages. Phan is the author of the monograph *The Syntax of Vietnamese Tense, Aspect, and Negation*, published by Routledge (2023).

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FROM VIETIC PRESYLLABLES TO VIETNAMESE SIMPLEX ONSETS¹

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ABSTRACT

This study reviews the reduction of disyllabic Proto-Vietic words to monosyllabic Vietnamese words and the development of Vietnamese voiced fricative onsets. Thompson (1976:1131-1133) in reconstructing Proto-Viet-Muong, and later Ferlus (1982 & 1992) based on his Proto-Vietic reconstructions,² hypothesized the spirantization of stops *p/t/c/k and *b/d/j/g in previous intervocalic positions and the loss of presyllables, resulting in Vietnamese onsets ‘v’ [v], ‘d’ [z] (from hypothesized Middle Vietnamese *ð), ‘gi’ [z] (from hypothesized Middle Vietnamese *ʒ), and ‘g/gh’ [ɣ] in monosyllabic words.³ For this study, relevant Proto-Vietic and Old Chinese lexical reconstructions were compared, and the

¹ I wish to thank the two readers for their comments and suggestions. I am, of course, responsible for any remaining problems in this article.

² The use of the terms “Vietic” and “Viet-Muong” require clarification. Vietic is considered a branch of Austroasiatic, while Viet-Muong is a sub-branch of Vietic (see Sidwell & Alves 2021 for a summary). Thompson (1976), for his Proto-Viet-Muong constructions, used only Vietnamese and Muong data, so his reconstructions are indeed valid only to a stage of Proto-Viet-Muong. On the other hand, Ferlus (e.g., 2007 & 2014) used data from a dozen languages of the Vietic branch. While he used the term “Viet-Muong” in his publications, his reconstructions apply to the stage of Proto-Vietic. Similarly, Nguyễn T. C. (1995), writing in Vietnamese, used the term *Việt-Chứt*. Chứt is the ethnic group including the conservative lects Rục, Mày, and Sách, but he considered Vietic languages outside that group, so his reconstructions must also be considered to encompass Proto-Vietic.

³ The Romanized Vietnamese *Quốc Ngữ* orthography is used in this article as it represents generalized phonetic ideals of the sounds without the complications of Vietnamese dialectal variety. Dialectal variation is described where needed in the study, but otherwise, northern Vietnamese pronunciations of the orthography are shown.

phonological data partially supports this claim while revealing a more complex picture. First, the changes involve classes of sounds rather than specific consonants (e.g., Vietic labial material (excluding nasals or implosives) in intervocalic position becomes Vietnamese ‘v’ [v] in onset position). Also, while this tendency is dominant in available data, some exceptions exist: (a) reconstructed disyllabic words for which modern Vietnamese items lack lenited onsets and (b) reconstructed monosyllabic words for which Vietnamese items have voiced fricative onsets, but without apparent conditioning factors. Evidence shows these features in modern Vietnamese developed many centuries later than in Sinitic.

Keywords: Vietnamese, Vietic, Old Chinese, historical phonology

1. KEY ISSUES AND PREVIOUS STUDIES

“Telescoping” from disyllabic to monosyllabic word forms (i.e., compression and loss of presyllables and complex onset material) is a widespread phenomenon in the Sinosphere. In Sinitic (Baxter and Sagart 2014); Vietic (Ferlus 2007); Kradai (Kam-Sui) (Thurgood 1988); Kra (Ostapirat 2000); Hlai (Norquest 2007); Tai (Pittayaporn 2009); and Hmong-Mien (Ratliff 2010), the prosodic word has been reconstructed to include disyllabic forms with unstressed presyllables and stressed main syllables, that is, sesquisyllabic templates.

Vietnamese and the closely related Muong lects (as well as Cuoi lects; see Nguyễn, Bùì, and Hoàng (2022)) have also lost such presyllabic material. In contrast, other Vietic languages—like most modern Austroasiatic languages—are disyllabic with iambic stress patterns, and the presyllables have undergone various types of phonological reduction (e.g., neutral vowels such as [ə] or [a], presyllable onsets restricted to subsets of consonants, syllabified consonants with only nasals or stops, etc.).⁴ Like Vietnamese, the modern language groups in southern China noted above have maximally monosyllabic morphemes. However, they vary in onset material, whether including prenasalized stops (e.g., some Hmong-Mien languages), clusters with medial [l] or [r] (e.g., Thai or Ruc in Vietic), or mainly single onsets and minimal clusters having only medial glides such as [w] (e.g., Vietnamese and varieties of Chinese).

⁴ See Pittayaporn 2015 for a typological overview of types of sesquisyllabicity in the region.

Vietnamese is robustly monosyllabic in that Vietnamese syllables are both prosodic words and morphemes, making Vietnamese isolating and analytic.⁵ As for syllable structure, in 90 percent of attested Vietnamese syllables (7,383 tokens out of a total of 8,200 phonologically distinct Vietnamese syllables), the shape is CV(C) (e.g., *xa* ‘far’ [sa:³³], *vàng* ‘yellow/gold’ [va:ŋ²¹]) (Kirby and Alves 2022). The remaining syllables have the maximal form of CwV(C) with a [-w-] medial (e.g., *luyện* [lwin²¹⁷] ‘to train someone’ from Chinese 練 *liàn*). Both Vietnamese and Sinitic languages are monosyllabic in this way, and all lack onset clusters with medial [-l-] or [-r-], and instead have at most medial glides, typically [-w-] or other glides. They also have complex tone systems, and their syllables all have phonemically distinctive tones.⁶ The long-term language contact between Vietnamese and Sinitic is also shown by how tones of the thousands of Sino-Vietnamese loanmorphs match Chinese tone categories with great consistency, even matching some systematic phonological changes in other varieties of Chinese in the Middle Chinese period.⁷

Table 1: Shared typological phonological traits of Sinitic languages and Vietnamese

• Monosyllabic
• Minimal onset clusters (few, e.g., only with -w-, not -r- or -l-)
• Complex tone systems and tone distinctions on all syllables

⁵ While Vietnamese-style reduplication (i.e., what is called *tự láy* in Vietnamese) sometimes creates bound morphemes otherwise lacking semantic content, they are not phonologically bound in the way that unstressed presyllables are.

⁶ Even so-called “neutral tones” create semantic distinctions in opposition with tones of full phonetic strength.

⁷ Phan (2013:92-94) noted the historical phonological phenomenon in Middle Chinese of *quanzhuo shang bian qu* 全濁上變去. This involved a change in Middle Chinese tones in words with *quanzhuo* onsets from the *shangsheng*/rising to *qusheng*/departing tone category, which is seen in Vietnamese and, for example, Mandarin, but not neighboring Yue Chinese. This highlights the connection of the Chinese spoken in Vietnam to other varieties of Sinitic. More recently, Phan and de Sousa have noted four phonological features shared specifically by Vietnamese and southern Sinitic lects (Phan and de Sousa 2022:67-75).

This Chinese-like typology can give the impression that Vietnamese syllable structure has this high degree of similarity to Sinitic languages due to intense language contact and subsequent rapid transformation. However, evidence suggests a different picture from the image implied by the modern languages (e.g., Alves 2001). It has been pointed out how, at the time of initial language contact, both Vietic and Sinitic were polysyllabic/sesquisyllabic and nontonal (e.g., Alves 2020:53-54). Vietic had an Austroasiatic template, like modern conservative varieties of Vietic, and Baxter and Sagart's (2014) reconstructions of Sinitic suggest it was typologically similar in a number of ways (see Table 2).

However, Sinitic developed its modern typology much earlier than Vietic did. Sinitic reached that stage in the early centuries of the 1st millennium CE, the Early Middle Chinese period. In contrast, for Vietnamese, textual evidence supports a scenario in which Vietnamese retained presyllabic material for several centuries longer into the early 2nd millennium CE (Shimizu 1996 and 2015; Xun 2019), and Vietnamese had clusters with medial [-l-] until the early 1800s (Vu 2019, 2020). These details require reconsideration of the language contact situation of Sinitic and Vietic, as discussed in the conclusion of this article.

Perhaps the earliest reconstruction of presyllables in Proto-Viet-Muong is in the work of Thompson (1976:1131-1133). Looking at Vietnamese (Northern Vietnamese, Southern Vietnamese, and Middle Vietnamese from de Rhodes' 1651 dictionary) and one variety of Muong, none of which have presyllables, he hypothesized that the voicing of certain onsets in Vietnamese had been developed in an intervocalic position. As support, Thompson (1976:1133) also cited previous notes of a few disyllabic cognates in related languages with presyllables, such as the conservative language Ruc. Based on this, he reconstructed what he posited to be abstract representations of presyllables (i.e., not precise phonological representations), all with schwa vowels and with *h or zero onsets in those presyllables.

Table 2: Phonological features in Proto-Vietic and Old Chinese reconstructions

Feature	Proto-Vietic	Old Chinese (Han Dynasty) ⁸
Sesquisyllabic	+	+
Onset clusters with medial *-r-	+	+
Onset clusters with medial *-l-	+	-
Coda clusters	-	+
Laryngeal codas *-h and *-ʔ	+	+
Tone systems	-	-

(Sources for Vietic: Ferlus 1992, 2007; Nguyen T. C. 1995; Sources for Old Chinese: Baxter & Sagart 2014 for Old Chinese; Schuessler 2009)

Thompson was specifically considering the pattern of contrasting voicing of onsets in Vietnamese versus Muong. The patterns of onsets in Muong and Vietnamese were first noted in the earliest major study of Vietnamese historical phonology. Maspero (1912:19-39) described how, in cognate sets, voiceless stop onsets [p, t, c, k] in Muong correspond to voiced fricative onsets in Vietnamese. Ferlus (1982:88) presented this as in Table 3.

⁸ While those Old Chinese reconstructions are not without controversy, the variety of data sources and the connection to Sino-Tibetan, a language family with many languages having complex syllable structure, altogether support claims of a polysyllabic stage of Sinitic. The timing of the loss of presyllabic material is here proposed to be in the later East Han period, during a period of substantial language contact, but the forms had to have lasted long enough to be borrowed into Vietic. What is less clear is the process of phonological changes from polysyllabicity to monosyllabicity, as this paper explores in Vietic.

Table 3: Vietnamese versus Muong onset correspondences in cognate sets⁹

Language	Labial	Alveolar	Palatal	Velar
Vietnamese	ɸ	dʔ	c	k
	v	z	ʑ	ɣ
Muong	p	t	c	k

Ferlus (Ibid.) also presented observations on data he had gathered on the conservative disyllabic Vietic language, Thavung. He noted that many instances of [p, t, c, k] onsets in monosyllabic words in Thavung correspond to voiced stops in Vietnamese, but [p, t, c, k] onsets in intervocalic position in disyllabic words in Thavung correspond to voiced fricative onsets in monosyllabic words in Vietnamese, as in Table 4.

Table 4: Vietnamese onsets versus Thavung onsets in intervocalic position in cognate sets¹⁰

Language	Labial	Alveolar	Palatal	Velar
Vietnamese	ɸ	dʔ	c	k
	v	z	ʑ	ɣ
Thavung intervocalic onsets	p	t	c	k

(Adapted from Ferlus 1982:88)

A key question is when the changes in the main syllable onsets and subsequent loss of presyllables occurred. The timing of the loss of presyllables is seen in textual evidence of sesquisyllabic words in Archaic Vietnamese, the stage of Vietnamese in the first half of the 2nd millennium CE. Table 5 shows sample disyllabic words in which the onsets of the second syllables were originally unvoiced. Some of the modern Sino-

⁹ The data in Table 3 highlights the seeming typologically uncommon system of Vietnamese onsets. Vietnamese is notable for lacking [p], [b], [d], and [g] onsets and instead has [ɸ] (not in Table 3), [ɸ], [dʔ], and [ɣ] respectively (see details in §3.3 for the latter sound). This contrasts with the typical onsets in Muong lects and highlights the restructuring of the Vietnamese onset inventory.

¹⁰ Trần (2011:324-343), in a Vietnamese-language publication, refers to Ferlus's work and also provides additional comparative evidence for both the question of monosyllabification of Viet-Muong and of the resulting affricates.

Vietnamese pronunciations have voiced onsets, such as 盍 with a ‘b’ onset [i.e., 6], but the Middle Chinese onsets of those consonants were likely unvoiced and were thus potentially unvoiced at the time of those writings. Moreover, a few of these words are Proto-Vietic etyma which are disyllabic with voiced onsets in the second syllables.

Table 5: Early textual evidence of disyllabic characters

Modern Vietnamese	Sino-Nôm Characters	Sino-Vietnamese	Middle Chinese	Vietic
rắn ‘snake’	破散	phá - tán	phaH sanX	*p.sapʔ
vua ‘king’	司布	tư - bố	si puH	*t.puə
vui ‘happy’	司盍	tư - bôi	si pwoj	*C.puːj
gõ ‘knock, strike’	阿枯	a - khô	‘a khu	*C.kəːh
vội ‘in a hurry’	阿盍	a - bôi	‘a pwoj	NA
ghê ‘horrible’	多几	đa - kỷ	ta kijX	NA
ran ‘spread widely’	波散	ba - tan	pa sanX	NA

(Character data from Vũ 2020:48-51; Middle Chinese reconstructions of Baxter and Sagart 2014)

Additional evidence comes from Shimizu (2011), who reviewed Ferlus’s 1982 hypothesis, especially the question of timing. Ferlus (1982) asserted that the spirantization of those sounds preceded the voicing, and Shimizu (2011:6-8) presented evidence from Nôm data supporting this hypothesis. The textual evidence showed the previous intervocalic onsets went through a stage of spirantization of main syllable voiceless onsets first and then voicing of them before the stage of the loss of presyllables. For example, in the 14th century two-character word 阿普 ‘to comfort’ (Middle Chinese p^{huo}^B (Schuessler 2009:60), Sino-Vietnamese *phổ*) for which Shimizu reconstructs an original voiceless onset of ϕ . This is the source of the modern word *vỗ*, reconstructed with the voiced labiodental fricative onset β , thus providing potential evidence for this chronology of spirantization and then voicing.

Ferlus (1992:113) further developed his 1982 model of spirantization, expanding it to include pairs of voiced and voiceless proto-segments, and positing earlier stages of the segments from Proto-Vietic. This is shown in Table 6. In that study, Ferlus also included the rhotic ‘r’, which has various modern realizations among Vietnamese dialects, but it is also often realized as a voiced fricative, as discussed in §3.5. The voiced and voiceless pairs in the proto-language stage were retained in the stage of spirantization, but later, the voiceless sounds merged into voiced sounds. Ferlus supports this with comparative data from sesquisyllabic words in both Thavung and Ruc. He did not hypothesize a time of this change, but based on textual data from Shimizu’s study and of de Rhodes’ 1651 Romanized dictionary of Vietnamese, we can hypothesize that it occurred in the centuries approaching the mid-2nd millennium CE.

Table 6: Proto-Vietic onsets and later forms

Proto-Vietic	Spirantized	Quốc Ngữ
*p, *b	ɸ, β	v
*t, *d	θ, ð	d
*c, *ʃ (monosyllabic)	ç, j	gi
*tʃ, *dʒ		
*k, *g	χ, γ	g/gh
*s	ç (see §3.5)	r
*ɕ (monosyllabic)		

(Note: ‘Monosyllabic’ indicates that those onsets occurred only in monosyllabic words.)

Crucially, the intervocalic position of the lenited onsets was between an unstressed presyllable and a stressed main syllable (i.e., the C₂ in C₁V.C₂VC₃). This stress pattern is the typical Austroasiatic iambic stress pattern in words in Austroasiatic languages and is seen as well among conservative Vietic languages (see Alves 2021 for an overview of the typology of Vietic languages). Intervocalic lenition is a cross-linguistic phenomenon, involving changes in voicing, spirantization, and gemination (see cross-linguistic samples in Kirchner 1998:102, 136). Thus, as Thompson posited, this was a suitable phonological environment for the spirantization in Vietnamese.

Over 40 years later, new data can be checked to see how well this hypothesis holds, including Austroasiatic reconstructions of Shorto (2006) and Vietic reconstructions of Ferlus (2007), as provided in Table 7. For the Austroasiatic items, I have selected those with widespread representation among Austroasiatic languages. The sesquisyllabic Vietic reconstructions are attested by sesquisyllabic forms in Vietic languages (e.g., Vietnamese *vả* ‘to slap’ from Proto-Vietic *t.pa:h, based on May *tampah*¹, Sach *təpah*¹, and Arem *mpǎh*, etc.). In general, the small sampling in Table 7 supports the hypothesis, though this select set is more consistent than when larger amounts of data are considered.¹¹

In addition to Proto-Vietic words, early Chinese loanwords in Vietnamese (i.e., those borrowed before Late Middle Chinese) can be compared with sesquisyllabic Old Chinese reconstructions, as per Baxter and Sagart (2014a:93-94, 98). The remainder of this article proceeds as follows: (a) an overview of data sources and approaches, (b) the phonological sources of the five lenited Vietnamese onsets, and (c) a summary and concluding thoughts on the data and ethnohistorical-linguistic implications. Finally, tables in the Appendix list all the lexical data (Vietic and Old Chinese) used in this study grouped by onset type.

¹¹ Vu (2020) provides a substantive overview and lists of comparative data for the topic of Vietic sesquisyllables (Vu 2020:42-55) and of possible previous prefixes (Vu 2020:56-73).

Table 7: Vietnamese onsets vs. presyllables in Proto-Vietic and Proto-Austroasiatic

Gloss	Vietnamese	Proto-Vietic	Proto-Austroasiatic
field crab	đám	*k.ta:m	*kta:m
lie (speaking)	đổi	*p.to:jʔ	NA
bear (animal)	gấu	*c.ku:ʔ ~ c.gu:ʔ	*jkaw (Vietic, Katuic, and Bahnaric)
break, snap off	gãy	*C.kes	*dkas (tentative)
lime (mineral)	vôi	*kn.pur	*knpur
gibbon	vượn	*k.wa:pʔ	*kwa:pʔ (Vietic, Bahnaric, Katuic, and Aslian)

2. OVERVIEW OF DATA SOURCES

The data used for this study includes 118 Vietic reconstructions and 88 Old Chinese loanwords in Vietnamese. A breakdown of the instances of onsets are provided in Table 8.

Table 8: Numbers of relevant reconstructions in Vietic and Old Chinese

Group	No.	Breakdown
Vietic reconstructions	118 items	‘d’ x 25; ‘g/gh’ x 23; ‘gi’ x 15; ‘r’ x 16; ‘v’ x 38
Old Chinese loanwords	88 items	‘d’ x 13; ‘g/gh’ x 28; ‘gi’ x 12; ‘r’ x 15; ‘v’ x 20

As noted, the Vietic reconstructions are based on those of Ferlus (2007), who used comparative data from a dozen Vietic lects to reconstruct over 1,000 items. However, of these, only several hundred can be considered viable Proto-Vietic reconstructions since a few hundred reconstructions have attestations in only some sub-branches (e.g., only

Vietnamese and Muong, only Viet-Muong and Cuoi, etc.). To that data, I have added another dozen lects and reconstructed about 150 additional Proto-Vietic etyma and re-assessed and sometimes updated Ferlus's Vietic reconstructions. I have noted about 20 reconstructions attested only in Viet-Muong and Pong and/or Cuoi, not other more conservative sesquisyllabic languages. However, when these words are innovations shared by Viet-Muong and the Pong-Cuoi languages, such words must have still been sesquisyllabic in that period and had voiceless stops in intervocalic position, and like other such words, the intervocalic onsets became lenited later in Vietnamese and are valid instances of the phenomenon.

For Old Chinese reconstructions, the main source is Baxter and Sagart (2014), but Schuessler's 2009 Old Chinese and Han Chinese reconstructions (which do not include disyllabic reconstructions) were also checked and used for forms that Baxter and Sagart have not reconstructed. The timings of the borrowing of early Chinese loanwords were considered: some were borrowed in the stage of Late Old Chinese and thus could have retained presyllabic material, while those borrowed in the Early Middle Chinese period were already monosyllabic. I excluded items that were likely from Early Middle Chinese or later and focused on what phonological evidence suggests is possibly from Late Old Chinese in the first few centuries CE. Even if some of the proposed early Chinese loanwords are shown to belong to a later period, the overall tendencies in this study are well supported by substantial quantities of probable genuine Old Chinese loanwords.¹²

A note on Baxter and Sagart's Old Chinese reconstructions: Baxter and Sagart used data from conservative Vietic languages with early Chinese loanwords to provide support for their Old Chinese reconstructions with disyllabic forms, and they considered the issue of

¹² In Baxter and Sagart's reconstruction notation, there are distinctions of types of presyllabic material as well as the issue of uvularized onsets. The main concern of these loanwords is the place of articulation of the intervocalic onsets, and not those other details. In the tables with information about complex onset material, I have taken shortcuts with presentation by not noting those differences as they would add excessive complexity to the tables without offering insights. The onset types in the numbered tables are simplified to omit brackets, uvularization marks, and so on.

lenited onsets in early Chinese loanwords in Vietnamese (Baxter and Sagart 2014:94). This creates a potential problem of circularity: I am comparing Old Chinese reconstructions with the same Vietnamese data used in consideration of those Chinese reconstructions.

However, that is not the only support they use in their Old Chinese reconstructions with disyllables. They refer as well to special classes of onsets in Kra-dai (Lakkia) and Proto-Min (Baxter and Sagart 2014:37). Also, the early Chinese loanwords in this study include at least a dozen Vietnamese items which have not been noted in past publications (e.g., Haudricourt (1954), Wang Li (1958) and Pulleyblank (1981, 1984)) and are likely not part of the data Baxter and Sagart used (though only some of the Vietnamese data they considered is presented in their book). Additional evidence comes from Xun (2019), who has reviewed textual data of several early disyllabic Vietnamese Chinese loanwords.

An additional point to consider is that many early Chinese loanwords in Vietnamese are reconstructed by Baxter and Sagart in Old Chinese with presyllabic material but are not lenited in Vietnamese (e.g., Viet. *bũa* 'widowed' from OC *mə.bəʔ 婦 fù; Viet. *cưỡi/cỡi* 'ride a horse' from OC *C.g(r)aj 騎 jì; Viet. *cũ* 'old' from OC *N-kʷəʔ-s 舊 jiù, etc.). There are more examples with tones that do not distinguish chronology and could have been borrowed in Old Chinese or Early Middle Chinese, but the instances provided here have tones suggesting time depth potentially to the Eastern Han period. Overall, Baxter and Sagart used a range of data sources to reconstruct, and Vietnamese loans were among various factors they considered.

Finally, the evidence of Proto-Vietic forms with presyllabic material is not in question, as modern sesquisyllabic Vietic languages provide ample attestations, among which are sesquisyllabic Austroasiatic etyma. Thus, the regular correspondences between disyllabic forms in conservative Vietic languages and Vietnamese words with lenited onsets do indeed support Baxter and Sagart's reconstructions of Old Chinese, as they have asserted. This loanword data also supports the notion that at least some Old Chinese presyllables lasted into the early period of language contact of Sinitic and Vietic in the Eastern Han (25 to 220 CE).

3. SOURCES OF LENITED VIETNAMESE ONSETS

This section presents the origins and diachronic developments of lenited onsets in Vietnamese: ‘d’, ‘gi’, ‘g/gh’, ‘v’, and ‘r’. In each subsection, previous historical linguistic studies on the sounds are described, and assessments of such claims are made based on assembled data. I consider (a) Thompson’s (1976) Proto-Viet-Muong reconstructions, (b) Ferlus’s key works on spirantization (1982, 1992) and Proto-Vietic lexical reconstructions (2007), (c) Nguyễn T. C.’s (1995) Proto-Vietic reconstructions and posited origins of Vietnamese onsets, and (d) Gregerson’s Master’s thesis on Middle Vietnamese, based mainly on de Rhodes’s 1651 description of Vietnamese speech sounds. For early Chinese loanwords, reference to data on the Muong lects in Nguyễn V. K. et al. (2002) is made for additional comparative context from that closely related Vietic lectal group. Then, dominant tendencies of source onset material in the data are noted, with tables showing numbers of categories of reconstructed onset material. The term “onset material” is used broadly in this diachronic study to include a range from simplexes, to onset clusters, to presyllabic material.

The tables in following subsections present reconstructions of onset material for sources of lenited Vietnamese onsets. Capital “C” is used to refer to nonspecific consonants in presyllable onsets. Also, the presyllables are reconstructed without vowels as there is no way currently to reconstruct specific vowels, or even to know if a full vowel was part of the sesquisyllable. In the Proto-Vietic form, periods are used to indicate syllable boundaries. Thus, in Table 7, the form *k.ta:m ‘crab’ has a sesquisyllable with a *k onset, and it could either have had a neutral vowel, or the *k itself had syllable status. Similarly, the notation used by Baxter and Sagart for Old Chinese disyllabic forms (2014:53), a period is used to mark presyllabic material, including what they call “tightly attached preinitials” with just single consonants, and those with schwa which they call “loosely attached preinitials”. Regardless, such Sinitic loans would have likely been borrowed as sesquisyllabic forms.

In each table with data, the left column shows onset material of Proto-Vietic and Old Chinese; the next column shows the number of words in the data with such onset material; and the right column contains a

breakdown of specific items when detail is available (“C” there means a specific segment is not reconstructable). Rows of reconstructed words with presyllabic material are highlighted in light grey, visually contrasting them with monosyllabic proto-forms.

The goal of this study is not to answer all questions about the intermediary stages, such as precise reconstructions of intervocalic segments, but rather to establish patterns of the changes from source phonological material to modern voiced fricative onsets in Vietnamese. Many details of the process of that change cannot yet be answered in this study.

3.1 ‘d’

The Vietnamese Quốc Ngữ symbol ‘d’ is pronounced in two ways in modern varieties of Vietnamese: [z] in Northern Vietnamese and [j] in Central and Southern Vietnamese, though all are voiced continuants. Thompson (1976:1130) refers to a “hardening” of his reconstructed Proto-Viet-Muong *j (which he indicated with *y) to [dʲ]. However, Nguyễn T. C. (1995:62-64) posits sources of Proto-Vietic (what he calls Việt-Chứt) *t and *d, as did Ferlus (1992), as in Table 6.¹³

In Ferlus’s model (Ferlus 1992:113), the intervocalic segment became corresponding voiced or voiceless interdental fricatives *θ or *ð. Gregerson (1969:156-157) suggests that, at the time of de Rhodes’ 1651 dictionary, the sound was a voiced segment, possibly *d, based on an early Vietnamese loanword in Chrau. However, that would depend on the timing of that single loanword, which is too little evidence to make such a claim.

In data from Muong, corresponding onsets are mostly [t], but with some instances of [d] and [j] (e.g., Muong *jəl* ‘to awaken’, Viet. *dại*, PV *p.jərʔ). The path of change in Vietnamese from the lenited interdentals to modern [z] or [j] seems uncertain, so I will not hypothesize specific segments in the intervocalic position between the time of the original Vietic reconstruction and the modern segment in Vietnamese.

¹³ Both Nguyễn T. C. (1995) and Ferlus (1992) posit Middle Chinese origins of all the onsets in this study. These are not directly relevant to this study and thus are not described herein.

In the relevant Vietic reconstructions (see Table A in the Appendix), the most common source of ‘d’ is *t in intervocalic position in sesquisyllabic words in 17 of 24 instances. Of the other instances, three have *d, two have *j, and two are monosyllabic words with *j. Of the Old Chinese data (see Table F in the Appendix), *C.t/d makes up only 4 of 12 instances, while others contain intervocalic liquids *r or *l. For Muong, there are few attestations of these early Chinese loanwords, but of those, [t] is noted in a few cases (e.g., Muong *tao* ‘knife’, Viet. *dao*, Chinese 刀 *dāo*, OC *C.tʰaw).

Dominant pattern of source of ‘d’
*C.[alveolar] > ‘d’

Table 9: Vietic and OC onset material sources for Vietnamese ‘d’

Onset Material	No.	Breakdown
Vietic		
*C.t	17	*C.t x 10; *k.t x 5 (AA x 2); *p.t x 2
*C.d	3	*C.d x 2; *k.d x 1
*C.j	2	*k.j x 1; *p.j x 2
*j	2	*j x 2
Total	24	
Old Chinese		
*C.t/d/tsʰ	5	*C.t x 3; *k.dr x 1; *m-tsʰ x 1
*Cə.l	2	*sə.l; *kə.l
*Cr/C-r	3	*N-r; *gr; *tsr (clusters with medial *r from Schuessler 2009)
*C	3	*l, *r, *j
Total	13	

Thus, the overall tendency is that reconstructed alveolar segments (i.e., mostly *t but also *d, *l, and *r) in intervocalic position in sesquisyllabic words became voiced continuant ‘d’ in modern Vietnamese. There are five instances of palatals, which should be the source for ‘gi’ (as discussed in §3.2), a matter for which I have no explanation. Still, this data largely supports the hypothesis of intervocalic lenition, but since some elements

of palatals in Proto-Vietic and of liquids (laterals and rhotics) in Old Chinese, alveolar stops are not the only source segments.

3.2 ‘gi’

Like Vietnamese ‘d’, ‘gi’ is a voiced alveolar fricative among Vietnamese dialects and is similarly realized as [z] in Northern Vietnamese and [j] in Central and Southern Vietnamese. However, in the Vinh dialect of Vietnamese in north-central Vietnam, a palatal feature is retained, with ‘gi’ realized as palatalized [z̟], in contrast with ‘d’ realized as alveolar [z] (Ferlus 1991:1).

For Vietnamese words with ‘gi’, Ferlus (1992) and Nguyễn T. C. (1995:64-68) posit Proto-Vietic *c and *j as the origins. Among Proto-Viet-Muong lexical reconstructions for words with Vietnamese ‘gi’, Thompson (1976) reconstructs disyllabic words with either *hə.c- or *ə.gɦj- presyllables plus main syllable onsets.

Gregerson (1969:161) suggests that, based on de Rhodes’ 17th-century description, the segment was a palatal affricate *dz (he used the symbol dž). Ferlus instead posits a stage with voiced and voiceless palatal glides *ç and *j. In Muong, the related words have variously [j] and [c] palatal onsets. The process of the merger of ‘d’ and ‘gi’ is a matter beyond this study, but clearly, the two segments have two origins distinguished by place of articulation.

The early Chinese loanwords considered in this category had to be carefully selected. Some of the words with disyllabic forms also developed palatal fricative onsets in Middle Chinese and so could have been borrowed at that later monosyllabic stage. Also, some of those early Chinese loanwords have features suggesting that they are from the Early Middle Chinese stage, and I have done my best to identify and exclude them. These early Chinese loanwords in Muong commonly have voiceless palatal stop onsets (e.g., Muong *ciəŋ*²¹ ‘bed’, Viet. *giuròng*, Chin. 床 *chuáng*, OC *k.dzraŋ).

In the data, the most common source material for ‘gi’ is palatal stop onsets in intervocalic position, with a scattering of onsets of other places of articulation (see the Appendix, Table B for Vietic and Table G for Old Chinese). The majority of the source word forms are sesquisyllabic

reconstructions, but several onset clusters and simplex onsets are also source forms. While they tend to support the hypothesis of intervocalic lenition and Baxter and Sagart's Old Chinese forms with presyllabic material, this particular onset category is less consistent in source material.

Dominant pattern of source of 'gi'
**C.[palatal] > 'gi'*

Table 10: Vietic and OC onset material sources for Vietnamese 'gi'

Onset Material	No.	Breakdown
Vietic		
C.c	5	k.c x 3; *j.c x 1; C.c x 1
C.j	2	*k.j, *C.j
*k.j	1	NA
*k.t	1	NA
*C	4	*c, *j, *j, *k ^h
*kr	1	NA
Total	15	
Old Chinese		
*C.t	4	*k.t x 2; *C.1 x 1; *(mə-)t x 1
*C.[palatal]	3	*C.ts; *k.dz; *k.dzr
*C.[retroflex]	2	*k.dr, *C.tr
*sə-l	1	NA
*[d]r	1	NA
*[d]	1	NA
Total	12	

3.3 ‘g/gh’

The Vietnamese Quốc Ngữ symbol ‘g’ (or ‘gh’ before front vowels ‘i’ and ‘ê’) is realized as a voiced velar fricative [ɣ] in northern Vietnamese (but commonly [g] in other parts of Vietnam (Brunelle 2015:912)). For Proto-Vietic, Ferlus (1992) and Nguyễn T. C. (1995:69-70) reconstruct *k or *g as the origins of Vietnamese ‘g/gh’. For Proto-Viet-Muong, Thompson (1976) reconstructs disyllabic words in which the onsets in the main syllables are either *k or *g. Gregerson (1969:165) accepted Maspero’s (1912:23) assumption that it was derived from *k, in comparison with Muong lects. Gregerson posited that it was voiced by the time of de Rhodes’ dictionary, though the evidence of frication was less certain based on de Rhodes’ description. Ferlus (1992:113) posited a pair of intervocalic velar fricatives distinguished by voicing: *x and *ɣ. In Muong, the early Chinese loanwords also mostly have [k] onsets, but some instances of [g].

For Vietnamese ‘g/gh’, a solid majority of the source Vietic reconstructions (see Table C in the Appendix) and Old Chinese sources (see Table H in the Appendix) are sesquisyllabic forms with *k in the intervocalic position, but also with intervocalic *g in Vietic and uvular *q in Old Chinese. In several other instances, the onsets are simplexes, all of which are velar stops. It appears that *g onsets in monosyllabic words merged with modern ‘g’. The dominant pattern for the source material is one in which there is an intervocalic velar segment, though with a slight expansion to include uvulars (which merged with velars, meaning they were likely *k by that time), but still ultimately, dorsal consonants broadly speaking. This pattern largely supports the hypothesis, and at the same time, supports the Old Chinese reconstructions of Baxter and Sagart.

Dominant pattern of source of ‘g/gh’ C.[velar] > ‘g/gh’
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Table 11: Vietic and OC onset material sources for Vietnamese ‘g/gh’

Onset Material	No.	Breakdown
Vietic		
*C.k	14	*t.k x 7; *C.k x 4; *r.k x 2; *ʔ.k x 1
*C.g	3	*C.g x 3
*g	5	NA
*k	1	NA
Total	23	
Old Chinese	No.	Breakdown
*C.k	15	*C.k x 8; *m.k x 4; *t.k x 1; *s.k x 1; *N-h x 1
*C.kr	7	*C.kr x 4; *s.kr x 2; *m.kr x 1
*C.q	3	*C.q x 2; *S-N-q x 1
*C.g	2	NA
*g ^w	1	NA
Total	28	

3.4 ‘v’

The Quốc Ngữ letter ‘v’ is realized in northern Vietnamese as [v], while to the south, it is typically a palatal glide [j]. Into the 20th century, in central dialects, a cluster [βj] was still a variant (Hoàng 1989:137-146). For ‘v’, Nguyễn T. C. (1995:58-62) variously reconstructs Proto-Vietic *v, *p, and *b, while Ferlus (1992) notes only *p and *b. Thompson (1976) reconstructs multiple types of onsets for ‘v’ in Proto-Viet-Muong, including monosyllabic words with *pj and *w onsets and disyllabic words with *p onsets.

In de Rhodes’ 17th century dictionary, words that later became spelled with ‘v’ initially were originally written with the symbol **ϕ**. Gregerson (1969:150) posited that de Rhodes’ description was of a voiceless bilabial fricative. Similarly, Ferlus (1992:113) posits a stage with a pair of bilabial fricatives: voiceless [β] and voiced [ϕ].

Considering the various reconstructions, and based on current data, the sources of onset material of Vietnamese ‘v’ are diverse, as shown in Table 12 (see Tables D and I the Appendix for the lexical data). The intervocalic onsets in the data include *p, *b, *v, *w, and Old Chinese *g^w, all having [labial] as a feature. In the three instances of Old Chinese *g^w, the labial feature evidently became the primary feature. Many of these early Chinese loanwords with ‘v’ onsets in Vietnamese have [w] onsets in Muong (e.g., Muong *wɛ* ‘to draw’, Viet. *vẽ*, Chinese 畫 *huà*, OC *C-g^w_ɿrek-s).

There are interesting exceptions which are seen for ‘v’ and no other onsets in this study. In two cases, the presyllabic onset (rather than the intervocalic onset) has a labial *p in Vietic reconstructions, which are possible sources of the labial onsets in those words. Second, there are two instances in Old Chinese of *m onsets; there are no other instances of intervocalic nasals among any of the lenited onsets in this study. However, in the transition from Early Middle Chinese *m to Late Middle *w, there was a period of labiodental *v, and thus a viable source of ‘v’ in these cases, and not the result of intervocalic lenition.¹⁴ Finally, among Vietic reconstructions, while intervocalic onsets are not implosives in any of the disyllabic reconstructions in this data, there are six monosyllabic Vietic reconstructions with implosive *ɓ onsets. Interestingly, three of these six are also Austroasiatic etyma, though whether that is significant in the phonetic change remains uncertain.

There is nevertheless consistent presence of some type of labial onset material in all the source reconstructed words. A majority of the reconstructions are sesquisyllabic, but a notable number of the Vietic reconstructions are not. While retention of earlier *v explains some instances, the question of the cause of onset lenition in other monosyllables is unanswered for now.

Dominant pattern of source of ‘v’

*C.[labial] > ‘v’

*[labial] > ‘v’

¹⁴ This matter was helpfully pointed out to me by an anonymous reader.

Table 12: Vietic and OC onset material sources for Vietnamese ‘v’

Onset Material	No.	Breakdown
Vietic		
*C.p	16	*k.p x 7; *C.p x 5; *t.p x 4
*C.b	2	*C.b x 1; *t.b x 1
*C.v	3	NA
*p.l	1	NA
*p.n	1	NA
*k.w	1	NA
*v	6	NA
*ɓ	6	NA
*p	3	NA
*b	1	NA
Total	40	
Old Chinese	No.	Breakdown
*C.p	8	NA
*C.g ^w	3	NA
*C.m	2	NA
*mɔ.b	2	NA
*N.k	2	*N.k x 1; *m.k x 1
*G ^w	3	NA
Total	20	

3.5 ‘r’

The Vietnamese symbol ‘r’ is pronounced as alveolar [ʐ] in the north but as a rhotic in central and southern Vietnam, with variation ranging from a flap to a voiced retroflex fricative. For Vietnamese ‘r’, Ferlus (1992) reconstructs *s and *ʑ, while Nguyễn T. C. (1995:114-119) posits origins of Proto-Vietic *r or onset clusters with medial *-r-. Similarly, Thompson (1976) reconstructs Proto-Viet-Muong *r and onset clusters with medial *-r-.

Gregerson (1969:160) posits that in de Rhodes’ time, it was a flap which could be optionally spirantized, as in modern Southern Vietnamese. Correspondingly, Ferlus included ‘r’ in the class of onsets which represent

‘spirantization’. To indicate the segment of the intermediary stage between Proto-Vietic and modern Vietnamese, Ferlus (1992:113) uses the sigma symbol ς , which should be a voiceless labialized alveolar or dental fricative, but he does not describe this.

In the assembled lexical data (see Tables E and J in the Appendix), the most common intervocalic onset is *r as an onset in both monosyllabic and disyllabic words in both Proto-Vietic and Old Chinese, but *s in intervocalic position is also seen in many instances. The Muong dialect data is complicated: the onsets range from [s] to [t^h] to [r]. In a dozen monosyllabic words in both Vietic and Old Chinese, *r onsets are retained in modern Vietnamese.

The Vietic reconstructions provide comparative support for sesquisyllabic reconstructions in Old Chinese, as well as for the Old Chinese *r onset. The dominant pattern in Vietic is that of a sesquisyllable with intervocalic *r, but in both Vietic and Old Chinese, a notable number of the reconstructions are sesquisyllables with intervocalic *s. Lastly, again, retention of *r is seen in both Vietic and Old Chinese reconstructions. While the merging of *C.s with ‘r’ can be considered lenition in the early to mid-1st millennium, for reconstructions with intervocalic *r, the timing of the loss of the presyllables cannot be determined (i.e., whether the ‘r’ in modern Vietnamese could have occurred before or after lenition). Still, the large number of Vietic presyllabic reconstructions with intervocalic *r allows that at least some could have retained presyllables into the period of intervocalic softening.

Dominant pattern of source of ‘r’

*C.r/s > ‘r’

*r > ‘r’

Table 12: Vietic and OC onset material sources for Vietnamese ‘r’

Onset Material	No.	Breakdown
Vietic		
*C.r	23	*C.r x 7; *m.r x 4; *k.r x 3; *s.r x 3; *b.r x 2; *p.r x 2; *ʔ.r x 1
*C.s	8	*k.s x 4; *p.s x 2; *m/p.x x 1; C.s x 1
*m.l	1	NA
*r	6	NA
Total	38	
Old Chinese	No.	Breakdown
*C.s	4	NA
*C.r	3	NA
*C.sr	1	NA
*r	6	NA
*sr	1	NA
Total	15	

4. CONCLUDING THOUGHTS, QUESTIONS, CHRONOLOGY AND ETHNOHISTORICAL IMPLICATIONS

This study has presented data that supports and refines hypotheses of the process of loss of presyllables and modified simplex onsets. Most modern Vietnamese voiced fricative onsets are derived from stop onsets in previous intervocalic position and of the same place of articulation (e.g., *C.[velar] > modern Vietnamese ‘g/gh’).

However, while the data generally indicates the current updated hypothesis, there are numerous instances of changes that have no apparent conditioning factors. Some are retentions of earlier reconstructed simplexes (e.g., *g > ‘g’, *v > ‘v’, etc., as in *vẻ* ‘return’ from Vietic *ve:r). But occasionally, evidence of presyllabic material is lacking (e.g.,

Vietnamese *vắt* ‘press, wring’ from Vietic *pat), and whether derivational prefixes existed in such instances remains to be determined. More data is needed, though it is uncertain whether enough additional data can be gathered to account for apparent exceptions.

The telescoping of presyllabic material into simplexes in Vietnamese makes reconstructions of presyllables challenging. However, with new data, including both native Vietic etyma and Old Chinese loanwords, it is increasingly feasible to do so. That the Vietic etyma are most often sesquisyllabic supports reconstructions of Old Chinese with presyllabic material, but other general historical phonological observations can be made.

- **Restructuring of the onset inventory:** The collapsing of complex onset material to simplexes was likely a factor in the restructuring of the onset system of Vietnamese (as summarized in Ferlus 1992 and Nguyễn T. C. 1995), which has a typologically odd distribution (e.g., no /p/ onset, no plain /b/, /d/, or /g/ sounds, etc.).
- **Tonogenesis before monosyllabification:** Comparative and textual data suggest that Vietnamese tonogenesis predates the loss of sesquisyllables by at least a few centuries (see Alves 2018 on hypotheses of the chronology of tonogenesis), but this happened centuries later than in Middle Chinese. In Viet-Muong, in sesquisyllabic words, we can assume they developed only on major syllables, which is the situation in modern Chứt languages (see Nguyễn V. L. 1993 and Tạ 2020 for description of the Ruc language). This supports previously noted studies (e.g., Shimizu 2015, etc.) that Vietnamese retained sesquisyllables into the 2nd millennium CE, possibly even after Phan’s (2013) hypothesized shift of Annamese Chinese to Viet-Muong. If not, there would have been no environment to trigger this change. Regardless of the details, by the 1600s, only monosyllables with lenited onsets remained.
- **No lenition of nasal and implosive onsets:** Of the intervocalic segments that became lenited onsets in modern Vietnamese, none are implosive or nasal sounds. Some Proto-Vietic sesquisyllabic words must be reconstructed with those sounds in intervocalic position, but these sounds appear to have prevented lenition (e.g., Vietic *s.na:ʔ

‘crossbow’ to Vietnamese *ná*, or implosives merged with nasals, as in Vietic **p.ɗuŋʔ* to Vietnamese *nóng*).¹⁵ This makes it impossible to offer a chronology of the loss of presyllables in these words without textual evidence.

- **Co-occurrence restrictions:** Throughout the data, a recurring feature of the sesquisyllabic words is that the two onsets of the presyllable and main syllable do not match in place of articulation. For example, in Table 9, while there is **k.t* and **p.t*, there is no instance of **t.t*. A similar pattern is seen throughout the reconstructed Vietic data and, if the restriction holds after further exploration of data, it could aid in future reconstructions by restricting the number of possibilities.
- **Vietnamese versus Muong lects:** Muong lects generally do not show this lenition of onsets (with a few exceptions, as per the tables of Muong dialect data in Nguyễn V. T. (2005)) and have typologically typical onset systems (i.e., *p/t/c/k* instead of implosive onsets or voiced fricative onsets, unlike in Vietnamese). Additional comparative data comes from Vietnamese of the north-central Nghe-Tinh region. The Vinh dialect in that region often has voiceless stop counterparts to the voiced ones, like Muong lects, as shown in Table 13, with exception in the ‘ph’ [f] initial in ‘to wave’. Apparently, Vietnamese in that region followed a different path and chronology, a matter that is beyond the scope of this limited study and that must be saved for future queries.

For broader historical context, I tentatively propose the chronology of key typological phonological changes from Vietic to Vietnamese as in Table 14, based on previous studies (e.g. Alves 2018) and the data considered in this study. The assumption is that laryngeal codas led to phonation and tone-like features, though at this point, details of the onset voicing changes leading to height distinctions are unclear. The timing of the lenition of intervocalic onsets, as discussed in previous sections,

¹⁵ Indeed, as one reviewer noted, nasal fricatives are typologically uncommon, making this hypothetical change unlikely. However, another possibility is for the change to be to place of articulation, such as labial **m* in intervocalic position becoming ‘v’. Another complication is that Proto-Vietic implosive stops merged with nasals (e.g., **ɗ* becoming ‘n’, as in Proto-Vietic **ɗa:k* and Vietnamese *nước* ‘water’).

should have happened at some point between the beginning and middle of the 2nd millennium.

Table 13: North-Central Vietnamese words with voiceless onsets

Gloss	Standard Viet.	North-Central Viet.	Muong	Source reconstructions
chicken	gà	ca	ca	*r.ka: (Proto-Vietic)
knee	gối	cúi	côi	*t.ku:lʔ (Proto-Vietic)
to wave	vẫy	phẩy	NA	*k.pəs (Proto-Vietic)
well (for water)	giếng	chiếng	chiếng	*C.tseŋʔ (Old Chinese)
bed	giường	chương/chơng	chiềng	*k.dzraŋ (Old Chinese)

(North-central Vietnamese data from Trinh 2022)

Table 14: Typological changes from Vietic to Vietnamese

Approximate dates	Features
Until late 1st mill. CE	- Presyllables retained - No tones
End of 1st mill. CE	- Presyllables retained - Rephonologization of codas and development of tones
Intermediary period	- Tone height influenced by onset voicing changes - Presyllables retained, but typological pressure towards monosyllabicity Lenition of intervocalic onsets - Fully developed tone system
By mid-2nd mill. CE	- No presyllables Restructured onset system - Tones

Some questions arise from the data, for which only initial hypotheses can be offered. First, why did the intervocalic lenition happen only in Vietnamese? The telescoping from sesquisyllabic to monosyllabic prosodic words has been a regional trend. However, what made Vietnamese prone to intervocalic lenition, not other Viet-Muong languages? The related Muong and Nguon lects/languages mostly did not undergo this lenition and retained voiceless onsets in main syllables.¹⁶ One possibility is that the Muong lects underwent loss of presyllables sooner than in Vietnamese or at least before lenition could develop, as Thompson (1976:1131) speculated. Another possible factor is that this is related to marking of sociocultural status of archaic Vietnamese as the language of the cultural center, the development of the Nôm writing system for vernacular Vietnamese, and/or a sociocultural preference toward preserving the overall accent, delaying the ultimate complete loss of presyllables. Another possibility is that the spread of voicing from surrounding vowels during telescoping in Vietnamese might represent the phonetic impact of trying to retain presyllabic material. These speculations cannot be tested, but they are ideas to consider.

Second, what can explain the gaps in the data? In all the tables in §3, there were instances of Vietnamese words with voiced fricative onsets corresponding to monosyllabic reconstructions with voiceless stop onsets in both Vietic and Old Chinese, with no clear phonological conditioning factors for those changes. Conversely, why did some onset stops in reconstructed disyllabic words not undergo lenition in Vietnamese, as in Table 15? One reason could be that presyllables in some words were lost earlier than in others. It is possible that the dropping of presyllables varied

¹⁶ The lists of comparative data on 30 Muong lects in Nguyễn Văn Tài's 2005 book on Muong shows some instances in some words in which there was lenition. The number of such instances is small, so it is uncertain whether these are indications of lenition or the result of borrowing and/or influence from Vietnamese in later periods. Many lects may have lost presyllables earlier than Vietnamese did, or perhaps (most) lects did not undergo lenition. Even Cuoi retained voiceless stops (e.g., Viet. *váy*, Cuoi *pal*⁴⁴², Vietic *k.pas), while conservative polysyllabic lects show instances of lenition (e.g., May *kaβeh*¹ 'to wave', Tho *βəo:j*¹ 'lime', etc.). This matter is beyond the scope of this study and will require additional study and consideration of Muong data.

among words, more like lexical diffusion than absolute sound change.¹⁷ In those cases, the loss of presyllables in some words may have preceded onset lenition. Researchers must still seek conditioning factors, but telescoping can in many cases leave no traces of past phonological features to explain these, making the phonological history of many words unexplainable.

Table 15: Disyllabic reconstructions with intervocalic *k and [k] in modern Vietnamese

Gloss	Vietnamese	Proto-Vietic
branch	cành	*t.kɛ:ŋʔ (AA *kaŋ)
grill/grilling sticks (v/n)	cặp ‘tongs’	*t.kap
sand	cát	*t.ka:c
cloudy/dim	cáu	*r.ku:ʔ

Another area of onset material is clusters. Clusters *ml, *bl, and *tl in Vietnamese are supported by data in both Chinese and Nôm texts, comparative data in Vietic languages, and Romanized texts. The loss of clusters is even more recent than the loss of presyllables, with evidence as late as the early 1800s (Vu 2019). This is also counter to the idea that Vietnamese quickly came to resemble Chinese typology.

Beyond historical phonology, this data also increases understanding or at least raises hypotheses about Sinitic-Vietic language contact and the process of morphophonological restructuring, with ethnohistorical implications. Based on observation of modern language data, it might seem that language contact with Chinese dramatically and rapidly influenced¹⁸ the ultimate trajectory of the telescoping of presyllabic material in Vietnamese. However, monosyllabic Middle Chinese was in contact with the Vietic ancestor of Vietnamese for more than several centuries before Vietnamese reached a stage of complete monosyllabicity,

¹⁷ See Miyake 2021 on comparable intervocalic lenition and varied loss of presyllables in Kradai.

¹⁸ Contact with Tai languages is undoubtedly another factor, but details of the history of Tai-Vietic language contact is much less developed than for Sinitic-Vietic language contact.

and onset clusters remained even longer. The local bilingual Chinese-speaking community that eventually shifted to Viet-Muong would have spoken this sesquisyllabic tonal language.¹⁹

While that bilingualism may have contributed to the loss of presyllables, these presyllables appear to have remained even after the shift of the local Chinese-speaking community to Vietnamese. Other features of Vietnamese also suggest this kind of sociocultural status, such as the retention of the complete native numeral system (in contrast with the complete replacement with Sinitic numbers among Tai languages. See Alves 2022 for discussion). Despite the amount of lexical borrowing, the situation considered in this study could be an indication that the Viet-Muong speech community in northern Vietnam had sociocultural prominence in a bilingual Sinitic-Vietic community sufficient to retain native linguistic elements for many centuries despite typological pressure.

¹⁹ See Phan 2013 on the hypothesis of the shift of what he named “Annamese Chinese” to Viet-Muong in northern Vietnam in the centuries after Vietnam’s independence from China.

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FROM VIETIC PRESYLLABLES TO VIETNAMESE SIMPLEX ONSETS

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Appendix: Tables of Comparative Data

(Notes: Austroasiatic reconstructions are those of Shorto (2006). Only those with widespread attestations have been included. When the attestations are geographically restricted, Austroasiatic branches having such forms are listed. As for Chinese, the Old Chinese and Middle Chinese forms are those of Baxter and Sagart 2014, except some instances of Schuessler's (2009) reconstructions; Key: (v) = verb, (n) = noun, AA = Austroasiatic, Sch = Schuessler 2009, OC = Old Chinese, L. Han = Late Han Dynasty Chinese as per Schuessler (2009), SV = Sino-Vietnamese readings, PY = Pinyin, MC = Middle Chinese, OC = Old Chinese).

Table A: Vietic etyma with 'd' onsets in Vietnamese

Gloss	Vietic Reconstructions	Vietnamese
wild (of plants)	*C.da:lʔ	dại
stop (v, intr.)	*C.dɨŋʔ	dừng
skin	*C.ta:	da
under	*C.ta:lʔ	dưới
lead (with a tether) (v)	*C.tac	dắt
goat	*C.te:	dê
cricket	*C.te:lʔ	đế
bury/cover (v)	*C.təp (AA *təp)	dập
sandal	*C.tɛ:p	dép
chestnut	*C.tɛh	đê (cây đê)
blackberry	*C.to:	dâu (cây dâu)
bamboo rat (Rhizomis)	*C.tu:jʔ	dúi
long/high	*ja:r	dài
naughty	*jɨh	dữ 'vicious'
thick	*k.daj	dày
gibbon	*k.jo:k	dộc
hard/tough	*k.ta:l	dai
crab	*k.ta:m (AA *ktaam)	dam 'field crab'
bamboo	*k.ta:ŋ	dang / giang
scrotum/testicles	*k.ta:lʔ	dái

Gloss	Vietic Reconstructions	Vietnamese
mark/footprint	*k.taw?	dấu
awaken/rise (v)	*p.jər?	dậy
awaken/rise (v)	*p.jər?	dây / dậy
build (v)	*p.tiŋ?	dựng
lie/tell an untruth (v)	*p.to:j?	dối

Table B: Vietic etyma with ‘gi’ onsets in Vietnamese

Gloss	Vietic	Vietnamese
grape, Burmese (<i>Baccaurea sapida</i>)	*C.cu:	giâu (cây giâu gia)
kill (v)	*k.ce:t (AA *kcət ‘to die’)	giết
rag	*k.cəh	giẻ
watch/look after (v)	*k.cih	giữ ‘to keep’
mat (of leaves)	*ŋ.ca:r?	giại ‘bamboo screen’
flat/flattened	*k.tə:p	giẹp
rich	*k.jaw	giàu
wind	*k.jə:ʔ (see AA *kjaal)	gió
raise (as of hand)/tighten (by hand) (v)	*C.jə:	giơ
old (in age)	*k ^h ra:	già
maggot/worm	*k ^h rə:j	giòi ‘larva/worm’
middle	*krah	giữa
roach/cockroach	*ca:n?	gián
vinegar	*jəm?	giấm
angry (v)	*jən?	giận

Table C: Vietic etyma with ‘g/gh’ onsets in Vietnamese

Gloss	Vietic	Vietnamese
stick, walking	*C.gi:ʔ	gậy
wash one’s hair/shampoo (v)	*C.go:l?	gội

Gloss	Vietic	Vietnamese
bear (n)	*c.gu:ʔ; c.ku:ʔ (AA *cgu:ʔ; cku:ʔ in Vietic, Bahnaric, and Katuic)	gấu
knock/rap (v)	*C.kə:h ; *gə:h (*g[uə]h)	gõ
woman, female; principal, main	*C.ke:ʔ	gái / cái
fold (v)	*C.kəp (AA *ckəp ‘to cover’)	gấp
break/break off/snap (v)	*C.kəs (*[d]kah; *lkas)	gãy
span	*c.ka:ŋ; *t.ka:ŋ	gang
crow (cock) (v)	*t.karʔ	gáy
thorn	*t.ke:	gai
hate (v)	*t.kə:t	ghét
foot of tree/stump/root	*t.ko:k	gốc
pillow/cushion and rest one’s head	*t.ko:lʔ; *t.ko:rʔ	gối
knee	*t.ku:lʔ (AA *[]kuul)	gối
rice, husked	*r.ko:ʔ (AA *rk[aw]ʔ)	gạo
scratch (due to itch) (v)	*ʔ.ka:s (*kais)	gãi
chicken	*r.ka:	gà
kapok tree (Bombax)	*qa:wʔ	gạo
gnaw/nibble (v)	*gamʔ	gặm ‘nibble/ be gnawed’ (Nôm dictionaries)
pick up with chopsticks	*gap (Regional: AA, Chinese, Daic)	gắp
carve/chisel (v)	*gə:t	gọt ‘peel/whittle’
shell (crab, tortoise)	*go:p	gòp
gourd/calabash	*ka:wʔ	gáo

Table D: Vietic etyma with ‘v’ onsets in Vietnamese

Gloss	Vietic	Vietnamese
sew/repair (v)	*C.pa:ʔ	vá
hit with hand/slap (v)	*t.pah	vả
fig tree	*CV.vah	vả
slap (v)	*t.pa:h (AA *pah ‘to slap’)	vả
carry (on shoulder) (v)	*ʁa:k (AA *ʁoʔ or *[d]ʁaak)	vác
shoulder	*ʁa:j	vai
cloth of cotton	*k.pa:s	vải
lychee/litchi	*pa:jʔ	vải
twist/wring (v)	*vaŋʔ (AA *wɪŋ)	vặn
deserted/absent (of people)	*ʁaŋʔ	vắng
trip/bump/stumble against (v)	*t.bəp	vấp
press (fruit)/wring (v)	*pat (AA *pit)	vắt
pluck off (v)	*p.lac	vặt
croquette of rice	*pat	vắt
borrow (v)	*ʁal (AA *pəl/*pul)	vay
skirt	*C.bə:lʔ	váy
fin	*C.pi:l	vây
wave (v)	*k.pəs (AA *was (Bahnaric, Katuic, Khmeric, and Vietic))	vẫy
scale (of fish) > operculum	*k.pas	vảy
come back/return (v)	*ve:r	về
shake/wag (the tail) (v)	*vas	ve vẫy ‘to wag’; vung vẫy ‘to swing arms’
pinch (v)	*ʁe:wʔ	véo
duck	*vi:t	vịt
bark/shell (n)	*k.pəh	vỏ

Gloss	Vietic	Vietnamese
handful/contents of two cupped hands	*k.po:k	vốc
elephant	*C.və:j	voi
trunk (of an elephant)	*və:j	vòi
lime (mineral)	*k.pu:r	vôi
round/circle	*ḍəŋ	vòng
breast	*p.nu:ʔ (AA *ʔbuuʔ)	vú
king/lord/ruler	*t.puə	vua
fit/be just right (v)	*C.puə	vừa
happy/joyful	*C.pu:j	vui
bury/put in the ground	*bu:l	vùi
heap up (v)	*C.pun (AA *ḍun/*ḍuun)	vun
lid/cover of pot	*k.puəŋ	vung
sesame	*C.viŋ	vùng, (mè)
gibbon	*k.waŋʔ; *k.waŋ (AA *kwaŋʔ (Aslian, Bahnaric, Vietic)	vượn
throw (v)	*vət (AA *wat (Khmeric, Khmuic, Palaungic)	vứt ‘to throw away’
thigh	*t.pe:l	vế ‘thigh’

Table E: Vietic etyma with ‘r’ onsets in Vietnamese

Gloss	Vietic	Vietnamese
mountain	*b.ru:ʔ	rú, (núi)
forest	*b.ru:ʔ (AA *briiʔ)	rú (rừng rú)
roast/fry (without oil) (v)	*C.ra:ŋ (cf. Bahnaric *-riəŋ)	rang
fry (v)	*C.ranʔ	rán
vegetables	*C.raw	rau
fill up (v)	*C.rə:c	rót ‘pour out’
sieve/sift (v)	*C.re:	rây, (sàng)

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Gloss	Vietic	Vietnamese
galangal (<i>Alpinia galanga</i>)	*C.riɛŋ (cf. Katuic *-riiŋ)	riềng
shiver, shake, rock (v)	*C.ru:n (#kruun (Bahnaric, Khmeric, Monic))	run
cry/call (of animal) (v)	*k.ro:ŋʔ	rống
bleat/cry/shout (v)	*k.ru:	rú
forest	*k-rəŋ (cf. Katuic *kruuŋ ‘forest’; *kriŋ, *criŋ ‘virgin forest’)	rừng
whip (n)	*p.rɔ:j	roi
knife/bush-knife	*m.ra:ʔ (from Tai *vraC ‘sword’ (Li), Several AA branches)	rạ / rựa
louse on the body	*m.rəpʔ (AA *[d]mrəpʔ)	rận
axe	*m.ri:w	rìu
fly (n)	*m/p.rɔ:j (AA *ruj)	ruồi
go out (v)	*s.ra:	ra
beard/moustache	*s.ro:	râu / (ria)
basket (flat, round, for fruits and vegetables)	*s.roh	rổ
tortoise/turtle	*ʔ.ro: (cf. Several Munda languages (e.g. Mundari hɔrɔ, dura))	rùa
gather/pull out w. hands (v)	*p.ru:c	rút
field, dry	*s.reʔ (AA *sreʔ)	rẫy
fart/pass gas (v)	*k.samʔ	rắm
hard/firm	*k.sanʔ	rắn
tooth	*k.səŋ (AA *sraŋ)	răng
centipede	*kr.si:p (AA *kʔip)	rệp ‘bedbug’
navel/umbilicous	*m/p.su:pʔ	rốn
centipede	*C.se:t	rết / rít
snake	*p.səpʔ (AA *[b]səpʔ)	rắn

Gloss	Vietic	Vietnamese
otter	*p.se:ʔ (AA *bheʔ)	rái
fly, bluebottle	*m.laŋ	ruồi lẳng
stubble	*ra:ʔ	rạ
intestines	*rɔ:c (AA *ruuc)	ruột
root	*ries (AA *ris)	rễ
wide	*ro:ŋʔ	rộng
fall (v)	*ruh	rũ
leak/drip (v)	*ruŋʔ	rụng

Table F: ‘d’ in Possible Old Chinese Loanwords

Viet.	Gloss	SV	Chin.	PY	MC	OC
đạo	stroll, to	đạo	道	dào	dawX	*[kə.l]ʔuʔ
dải	band, range	đái, đới	帶	dài	tajH	*C.tʰa[t]-s
dao	knife	đao	刀	dāo	taw	*C.tʰaw
dùi	awl	chùy	椎 (槌); cf. 錐	chuí	drwij	*k.druj
dễ	easy	dị	易	yì	yeH	*lek-s
dạ	stomach	đỗ	肚	dù	duX	*m-tʰaʔ
dậu	10th year in the cycle	dậu	酉	yǒu	yuwX	*N-ruʔ
diềm	fringe	liềm	簾	lián	ljem	*rem
dần	gradual	tuần	馴	xùn	zwin	*sə.lu[n]
dền, rền	amaranth	hiện	莧	xiàn	*yǎn ^C (Sch)	L. Han *gɛnC OC *grɛns (Sch)
dua	flatter, toady	du	諛	yú	*jiu (Sch)	L. Han *jo OC *jo (Sch)
dưa	salted vegetables	trư, thur	菹	jū, zū, jù	*tɕjwo (Sch)	L. Han *tɕa OC *tsra (Sch)

Viet.	Gloss	SV	Chin.	PY	MC	OC
dừa	gather, collect	tụ	聚	jù	dzjuH	*m-tsʰoʔ-s

Table G: ‘gi’ in Possible Old Chinese Loanwords

Viet.	Gloss	SV	Chin.	PY	MC	OC
giêng	first month	chinh	正	zhēng	tsyeng	*C.teŋ
giếng	well	tỉnh	井	jǐng	tsjengX	*C.tseŋʔ
giống	type	chủng, chúng	種	zhǒng	tsyowng X	*k.toŋʔ
giấy	paper	chí	紙	zhǐ	tsyeX	*k.teʔ
giặc	bandit	tặc	賊	zéi	dzok	*k.dzʰək
giường	bed	sàng	床	chuáng	dzrjang	*k.dzraŋ
giùi	awl	chùy	椎 (槌); cf. 錐	chuí	drwij	*k.druj
giương/ giǎng/ch ăng	stretch/e xtend, to	trương	張	zhāng	trjang	*C.tran
giống/tr ồng	plant, to	chúng	種	zhǒng	tsyowng H	*(mǝ-)to ŋʔ-s
giã	thank; take leave	tạ	謝	xié	zjaeH	*sǝ-lAk- s
giượng	husband of aunt	trượng	丈	zháng	drjangX	*[d]raŋʔ
giờ	hour, time	thì	時	shí	dzyi	*[d]ə

Table H: ‘g/gh’ in Possible Old Chinese Loanwords

Viet.	Gloss	SV	Chin.	PY	MC	OC
góa	widowed	quả	寡	guǎ	kwaeX	*[C.k]ʷraʔ
gửi/gởi	send, to	ký	寄	jì	kjeH	*C.[k](r)aj-s
gỏi	dish of chopped	khoái	膾	kuài	kwajH	*C.[k]ʰ[o][p]- s

Viet.	Gloss	SV	Chin.	PY	MC	OC
	vegetables and meat					
gân	sinew/tendon	cân	筋	jīn	kj+n	*C.[k]ə[n]
góc	corner	giác	角	jiǎo/jué	kaewk	*C.[k]ʰrok
ghi	record (written), to	ký	記	jì	kiH	*C.k(r)ə(?)s
gác	pavilion	các	閣	gé	kak	*C.kʰak
gang	steel	cươn g	鋼	gāng	kang	*C.kʰaŋ
ghê	itch (n.); scabs	giới	疥	jiè	keajH	*C.kʰr[ɛ][p]-s
ghế	chair	kỷ	几/機	jī	kijX	*C.kr[ə]jʔ
gừng	ginger	khương	姜	jiāng	kjang	*C.qaŋ
grương	mirror	kính	鏡	jìng	kjaengH	*C.qraŋ-s
guốc	wooden clogs	kịch	屐	jī	gjaek	*Cə.[g]rek
gấm	brocade/embroidered silk	cầm	錦	jǐn	kimX	*Cə.k(r)[ə]m ?
gồm	include, to	hàm	含	hán	hom	*Cə-m- kʰ[ə]m
gào	shout, to	hào, hiệu	號	háo, hào	haw	*[C.g]ʰaw
gạch	draw a line	hoạch	畫	huà	hweak	*gʷrek
gượng	make effort, to	cưỡng, cườn g	強	jiàng, qiáng	gjang	*m-kaŋʔ

Viet.	Gloss	SV	Chin.	PY	MC	OC
gấp	take with chopsticks, to	giáp	挾/夾	jiā, xié	hep	*m-k ^ɛ ep
góp	contribute ; join (in), take part (in);	hợp; hiệp	合	gě, hé	hop	*m-k ^ɛ op; *k ^ɛ op
gộp	combine	hợp; hiệp	合	gě, hé	hop	*m-k ^ɛ op; *k ^ɛ op
ganh	compete	cạnh	競	jìng	gjaengH	*m-kraŋʔ-s
gần	near	cận	近	jìn	gj+nH	*N-kərʔ
gan	liver	can	肝	gān	kan	*s.k'a[r]
gươm	sword	kiếm	劍	jiàn	kjaemH	*s.kr[a]m-s
gả	marry, to	giá	嫁	jià	kaeH	*s.k'ra-s
ghen	be jealous	tiện, di	羨	xiàn	zjenH	*s-N-qa[r]-s
ghim	pin/needle	châm	針/鍼	zhēn	tsyim	*t.[k]əm

Table I: 'v' in Possible Old Chinese Loanwords

Viet.	Gloss	SV	Chin.	PY	MC	OC
vá	mend, to	bổ	補	bǔ	puX	*[Cə]-p'aʔ
vã	go on foot, walk	bộ	步	bù	buH	*mə-b'a-s
vách	wall/partition	bích	壁	bì	pek	*C.p'ek
vạch	draw a stroke, to	hoạch	畫/劃	huà	hweaH	*C-g ^{wɛ} rek-s
vái	pray, beseech (compounds)	bái	拜	bài	peajH	*C.p'ro[t]-s
ván	board/plank	bản	板, 版	bǎn	paenX	*C.p'ranʔ
vàn	ten thousand	vạn	萬	wàn	mjonH	*C.ma[n]-s

Viet.	Gloss	SV	Chin.	PY	MC	OC
vàn	crowded,					
vàn	numerous	vạn	萬	wàn	mjonH	*C.ma[n]-s
vàng	yellow/gold	hoàng	黃	huáng	hwang	*N-k ^w an
vẽ	draw/paint, to	họa	畫/劃	huà	hweaH	*C-g ^w rek-s
ví	compare, to	tỷ	比	bǐ	pjijX	*C.pij?
việc	work	dịch	役	yì	ywek	*G ^w ek
vò	jar	vu	孟	yú	hju	*[G] ^w (r)a
vợ	wife	phụ	婦	fù	bjuwX	*mə.bə?
vốn	capital/funds	bổn, bản	本	běn	pwonX	*C.p ^s ə[n]?
vòng	rainbow (in cầu vòng)	hồng	虹	hóng	huwng	*m-k ^s on
vừa	assist (in vừa giúp)	phò, phù	扶	fú	bju	*m-[p](r)a
vườn	garden	viên	園	yuán	hjwon	*C.G ^w a[n]
vuông	square	phương	方	fāng	pjang	*C-paŋ
vượt	cross over, to	việt	越	yuè	hwot	*[G] ^w at

Table J: ‘r’ in Possible Old Chinese Loanwords

Viet.	Gloss	SV	Chin.	PY	MC	OC
rò	leak, to	lậu	漏	lòu	luwH	*[Nə-r] ^s ok-s
ràn	stall, pen, enclosure	lan	欄	lán	lan	*[r] ^s an
rèn	forge, to	luyện	鍊; 煉	liàn	lenH	*[r] ^s en-s
rương	box; trunk	tương	箱	xiāng	sjang	*C.[s]aŋ
rao	announce/ad vertise/cry out	táo	譟	zào	sawH	*C.s ^s aw-s
ráo	dry	táo	燥	zào	sawX	*C.s ^s aw?
rảy	sprinkle	sái	灑	sǎ	sreaX	*Cə.s<r>ər?

FROM VIETIC PRESYLLABLES TO VIETNAMESE SIMPLEX ONSETS

Viet.	Gloss	SV	Chin.	PY	MC	OC
rây	strain/sift	si	𪛗	shāi	srje	*Cə.sre
rồng	dragon	long	龍	lóng	ljowng	*mʰroŋ
râm	shade	âm	陰	yīn	im	*q(r)um
ruồng	kingpost	lươn g	梁	liáng	ljang	*raŋ
rèm	bamboo curtain/blinds	liêm	簾	lián	ljem	*rem
rọc	pulley (in ròng rọc)	lộc	轆	lù	*liek- luk (Sch)	L. Han *lek - lok OC NONE (but see rhyme *rôk) (Sch)
rui	rafter	suy	榱	cuī	*ɬwi (Sch)	L. Han *ɬui OC *srui (Sch)
ruộng	field	lũng	壟	lǒng	*ljwoŋ B (Sch)	L. Han *lioŋB OC *roŋ? (Sch)

Mark Alves

從原始越語支的前音節到越南語的聲母

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本文回顧原始越語支 (Vietic) 的雙音節單詞到越南語單音節單詞的弱化現象(reduction)以及越南語濁輔音的發展。Thompson (1976:1131-1133) 重建的越芒語支(Viet-Muong)以及後來 Ferlus (1982 & 1992)重建的原始越語支都假設塞音 *p/t/c/k 和 *b/d/j/g 的擦音化發生在雙音節之間的位置和前音節丟失時，也因此產生越南語聲母 'v' [v]、'd' [z] (來自假設的中古越南語 *ð)、'gi' [z] (來自假設的中古越南語 *ʒ)，以及單音節詞中的 'g/gh' [ɣ]。本文比較相關的原始越語支和上古漢語詞彙的重建，語音資料支持 Thompson 和 Ferlus 的假設，但同時也揭示了更複雜的情況。

關鍵字：越南語，原始越語支，上古漢語，音韻史

A PHILOLOGICAL STUDY OF THE VIETNAMESE GRAMMATICAL MARKER *ĐANG**

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ABSTRACT

This study considers the grammaticalization process that produced the progressive marker *đang* in modern Vietnamese. The word *đang* originates from the Chinese 當 *dāng*, which means ‘be at.’ Frequently it is followed by 時 ‘time’ modified by a noun, pronoun or noun phrase, e.g., 當 [A] 之時 ‘at the time of/when [A],’ where A is a noun, pronoun, or noun phrase (Pulleyblank 1995). In Sino-Vietnamese Nôm texts published in the 15th century, Chinese *dāng* is translated as 當 *đang/đương* in five cases, as 候 *hầu* ‘be about to’ in one case, and as 合 *hợp* ‘right’ in four cases. Meanwhile, in the Romanized texts of the 17th century, the element very often occurs in subordinate (adjunct) clauses, e.g., (a) *đang* NP (Time phrase); (b) *đang khi* NP+VP; and (c) *khi* (NP) *đang* VP. These patterns, compared with the usages of 當 in literary Sinitic in Vietnam, imply a sequence of developments: (Ch) 當 +NP+VP+(SUB)+NP_{temp} > (Ch) NP+ 當 +VP+(SUB)+NP_{temp} > (V) *NP+*đang*+VP+*khi* > (V) *khi*+NP+*đang*+VP. After that, the unit ‘*đang*+VP’ was reanalyzed to give rise to the progressive marker *đang*.

Keywords: Vietnamese, progressive, *đang*, grammaticalization

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1. INTRODUCTION

Mikami (2016) pointed out that the preverbal and postverbal elements expressing the grammatical aspect in Vietnamese are *đang* ‘continuous,’ *sắp* ‘about to; on the point of,’ *vẫn, còn, vẫn còn* ‘to be or act still,’ *vừa, mới, vừa mới* ‘recent past,’ *rồi* ‘(definitely) over and done with; already,’ *chưa* ‘not yet,’ *đã* ‘anterior,’ and *sẽ* ‘subsequent.’ Minegishi (2021) described the system of Thai aspectual expressions through four levels: syntactic level 1 (adverbials, auxiliary verbs, main verbs), morpho-syntactic level (serial verbs), syntactic level 2 (directional verbs), and discourse--cognitive level (final particles). Given the same descriptive levels for Vietnamese, most of the elements in Mikami above are distributed in syntactic level 1 as adverbials or auxiliary verbs, except for *rồi*. The purpose of this study is to trace back the development of one of those elements, *đang*, which expresses progressive in modern Vietnamese. According to Alves (2007:225), *đang/đương* originates from the Chinese 當 *dāng*, which means ‘at a certain time’ in the Middle Chinese. On the other hand, Gregerson (1991) pointed out the possible Austronesian origin of *đang, đã, sắp, and mãi* ‘continuative.’ He compared *đang* with *sedang* ‘while, in progress’ in Indonesian, *đã* with *sudah* ‘already’ in Indonesian, *sắp* and *siap* ‘ready’ in Indonesian, and *mãi* and *masih* ‘still, yet’ in Indonesian. This study aims to illustrate the process of development from the original Chinese meaning to the modern Vietnamese meaning.

After reviewing previous studies about Vietnamese *đang* in the next section, in section 3, I review diachronic studies on the Chinese 當, based on Pulleyblank (1991) and Meisterernst (2015). In section 4, I analyze the usage of 當 in the Vietnamese texts written in literary Sinitic, especially in *Đại Việt Sử Ký Toàn Thư* 大越史記全書. Then, I analyze the usage of *đang* in old Vietnamese texts written in Nôm and Quốc Ngữ, especially *Phật thuyết Đại báo Phụ mẫu Ân trọng kinh* 佛說大報父母恩重經 (PT, in short) and *Cathechismus in octo dies diuisus* (*Phép giảng tám ngày*, PG in short) by Alexandre de Rhodes (1651) in order to trace back the process of its development.

2. PREVIOUS STUDIES ON ĐANG

Considering the original meaning of 當, ‘at a certain time,’ Alves (2007) explained the grammaticalization process of *đang*, citing the cline IN (SPACIAL) > CONTINUOUS listed in Heine and Kuteva (2002:178-179). Bybee et al. (1994:128-129) also pointed out that the lexical sources and mode of expression in world languages’ progressives are Location, Be + Nonfinite form, Movement, Reduplication, and Other. According to Alves’s opinion, Vietnamese *đang* must be concerned with Location among those sources.

In addition, Alves (2009) pointed out that there existed in the 17th century another progressive marker, *chung*, which might have been replaced by *đang* in the later period¹.

Vũ (2020) analyzed the usage of *đang/đương* in 55 diachronic documents, dating from *PT* to present, and concluded that it appears constantly in most of the texts to express the continuous and nonterminal aspect of the active verbs and continuous and terminal aspect of the stative verbs.

3. REVIEW OF THE DIACHRONIC STUDIES ABOUT CHINESE 當

Among the historical studies on grammatical vocabularies of Chinese, Pulleyblank (1995) applied the form of a dictionary with examples cited from the well-known classics. Pulleyblank (1991) compiled a dictionary of reconstructed pronunciation of each Chinese character. In cases where one Chinese character has plural readings, it is noted how their meanings are different, and 當 is among those cases, claiming that dāng 當 (Y.tan L.tan E.tan) means ‘match, correspond to; at; ought, should; undertake, act as,’ whereas dàng 當 (Y.tan` L.tan` E.tan^h) means ‘right, appropriate;

¹ A similar opinion to regard *chung* as having the meaning of *đương* can be found in Vương (2002). However, Washizawa (2017) pointed out that, in the bilingual version (Sinitic Chinese and Vietnamese) of *Thiền tông khóa hư ngữ lục* 禪宗課虛語錄 *chung* correspond to Chinese pronouns 之 and 夫, while in monolingual (Vietnamese) texts it is used as a preposition to indicate place, time, etc.

regard as, pawn.’ Those two readings of 當 are reflected in Sino--Vietnamese readings, which are *dāng/đương* and *dáng*, corresponding to *dāng* and *dàng*, respectively. Pulleyblank (1995) explained that simultaneity can be expressed by *dāng* 當, meaning ‘be at.’ For example, *Dāng zài Sòng yě ...* 當在宋也... ‘When I was in Song ...’ (Mèng 2B/3); *Dāng Yáo zhī shí ...* 當堯之時... ‘In the time of Yao ...’ (Mèng 3A/4, 3B/9); *Dāng jīn zhī shì ...* 當今之世... ‘In the present age ...’ (Mèng 2B/13); and *Dāng Yān zhī fāng míng fèng fǎ shěn guān duàn zhī shí* 當燕之方明奉法審官斷之時 ‘At the time when Yān was clearly upholding the laws and scrutinizing officials’ decisions ...’ (HF 19, p.91)

Concerning the grammatical vocabularies expressing tense and aspect in historical documents of Chinese, Meisterernst (2015) explained the meaning of *dāng* 當 as (1) ‘match, correspond to’ and (2) ‘be at,’ to which the prepositional meaning is closely related. Prepositional phrases with *dāng* 當 refer to locatives that can be both spatial and temporal. Examples are as follows:

[calendar adverbial]

- (1) 當 幽 王 三 年, 王之後宮見而愛之.
Dāng Yōu Wáng sān nián, ...
 (be).at You king three year
 ‘In the third year of king You, the king went to the women’s quarters of the palace and, seeing her, fell in love with her.’ (Shi Ji: 4; 147)

[temporal adverbial (independent)]

- (2) 當 周 夷 王 之 時, 王室微, 諸侯或不朝, 相伐.
Dāng Zhōu Yí wáng zhī shí, ...
 At Zhou Yi king SUB time
 ‘At the time of king Yi of Zhou, the royal house was insignificant, some of the feudal lords did not come to court and attacked each other.’ (SJ: 40; 1692)

[temporal adverbial (dependent)]

- (3) 當 是 之 時, 吏治若救火揚沸, ...
Dāng shì zhī shí, ...
At this SUB time
'In our times, none of the states established East of the Mountains is stronger than Zhao.' (SJ: 69; 2247)

[topicalized subject]

- (4) 費 昌 當 夏 桀 之 時, 去夏歸商, 為湯御, 以敗桀於鳴條.
Fèi Chāng dāng Xià Jié zhī shí, ...
Fei Chang at Xia Jie SUB time
'At the time of Jie of Xia, Fei Chang left Xia and returned to Shang; he became charioteer of Tang and so he defeated Jie at Mingtiao.'
(SJ: 69; 2247)

The prepositional phrases with dāng 當 occur in the sentence-initial and preverbal positions, and not in the postverbal position (Meinsterernst 2015:219).

4. 當 IN LITERARY SINITIC DOCUMENTS IN VIETNAM

Before analyzing the usages of *đang* in the Vietnamese documents, it is necessary to confirm if the original usages of Chinese dāng 當, as in (1)~(4), were maintained in literary Sinitic documents written by the Vietnamese authors. Here I take *Đại Việt Sử Ký Toàn Thư* 大越史記全書 to collect sentences with dāng 當 and analyze its usages.

Ngô Sĩ Liên 吳士連 first compiled *Đại Việt Sử Ký Toàn Thư* 大越史記全書 in 1479, based on *Đại Việt Sử Ký* 大越史記 (Lê Văn Hưu 黎文休 1272) and *Đại Việt Sử Ký Tục Biên* 大越史記續編 (Phan Phu Tiên 潘孚先 1455). Another version of *Đại Việt Sử Ký Toàn Thư* 大越史記全書 with 23 volumes was compiled by Phạm Công Trứ 范公著 in 1665 (TT,

in short), as well as with *Bản Kỷ Thực Lục* 本紀實錄 (16th century) and *Bản Kỷ Tục Biên* 本紀續編 (Phạm Công Trứ 范公著)*.

1. [當+NP+(SUB)+(NPtemp 時/後), ...]

- (5) [當 此 之 時], 我家臣主就縛... (本紀卷之六、陳紀)
at this SUB time
'At this time, our sovereigns and subjects were all caught...'
- (6) [當 五 刻 後]復如故。(本紀卷之十八、黎皇朝紀)
at five 1/4hour after
'After 5 khac, all were restored.'
- (7) [當 此 純 陰 月 季], 接得陀陽王歸, (本紀卷之十五、黎皇朝紀)
at this pure yin month end
'At the end of this pure yin [day of the] month, (they) could welcome Da Duong Vuong back,'
2. [當+NP+VP+SUB+ NPtemp , ...]
- (8) [當 天 眷 西 顧 之 日],
(be).at heaven favor West favor SUB day
不忍視生民之塗炭, (本紀卷之十、黎皇朝紀)
'On the day when Heaven's Favor westwardly looked back, it could not endure citizens' misery...'

* The text used in this study (see Primary Resources) contains 卷首(Preface), 外紀(Peripheral Records, Vol. 1~5), 本紀(Basic Records, Vol. 1~19) and 續編(Continued Compilation, Vol. 1~5). When citing each sentence, I put the number of volume with its title in parentheses, e.g., Basic Records, Vol. 2: (本紀卷之二、李紀)

- (9) [當黎朝 主 弱 臣 強 之 際],
at Le dyasty sovereign weak subject strong SUB moment
登庸能師古昔之聖臣賢相，尊主庇民，如伊尹之輔太甲，周公之輔成王，其彰彰然偉績，庶可嘉焉。(本紀卷之十五、黎皇朝紀)
‘At the moment when Le dynasty’s sovereigns were weak and subjects were strong, if Dang Dung could inherit an excellent, ancient retainer, ...’

3. [NP+當+VP+(SUB)+ NPtemp , ...]

- (10) 而[太后 當 奔突跳梁 之 際],
empress dowager at rush rampant SUB moment
心神不動，... (本紀卷之五、陳紀)
‘However, at the moment of their rush and rampancy, Empress Dowager was calm...’
- (11) [臣 當 直 館 之 初], 得預濡毫之列。
subject at assume officer SUB beginning
(卷首擬進大越史記全書表)
‘When the subjects had just assumed officers at Su Quan, they could attend the procession of wetting brushes.’
- (12) [璚 當 徇 時]有詩云:(本紀卷之十五、黎皇朝紀)
Su at go on patrol time
‘When Su went on patrol, he made a poem as follows.’

[NP+當+NP+VP+SUB+ NPtemp , ...]

- (13) [劉夔 當 北 朝 擾亂 之 時],
Luu Nghiêm at Northern dynasty disturbance SUB time
席兄舊業，建國紀元，(本紀卷之五、南北分爭紀)
‘When the Northern dynasty was disturbed, Luu Nghiêm could rely on his brother’s achievement to found the nation ...’

- (14) [太宗 當 創鉅痛深 之 日]，變生肘腋，（本紀卷之二、李紀）
emperor at deep sorrow SUB day
‘On the day when Emperor Thai Tong was in deep sorrow, a disturbance occurred in a nearby place...’

It is obvious that prepositional phrases with *dāng* 當 referring to temporal locatives are quite common in literary Sinitic in Vietnam. Furthermore, their usage as temporal adverbials with A topicalized subject was also quite common, as in (10)~(14).

5. VIETNAMESE *ĐANG* IN THE OLD LITERATURE

In this study, I take into account two Vietnamese documents in order to analyze the actual usages of *đang*. One is the oldest Nôm text, and the other is the oldest Quốc Ngữ text. The former contains a Chinese--Vietnamese bilingual text in the form known as *giải âm*. In this kind of text, it is easy to see how the Chinese sentences were translated into Vietnamese.

5.1 *đang* in PT

The Nôm text used here is that of *Phật thuyết Đại báo Phụ mẫu Ân trọng kinh* 佛說大報父母恩重經 (PT for short). The original version of this Chinese-Vietnamese bilingual text was compiled between the 13th and 15th century*, and the text available now was published in the 18th century. I could find 10 sentences containing *đang* as preverbal elements. They correspond to Chinese 當, 方, 將, 故, and 曷. These elements have three kinds of meaning that is, ‘should,’ ‘will (intention),’ and ‘will (future).’ The Chinese equivalents, their meanings, and the number of occurrence are shown in the following table.

* Nguyễn (2008) and Trần (2012) suppose that the Nôm characters in this document represents Vietnamese in the 12th century. I suppose it was compiled between the 13th and 15th century from a philological point of view (Shimizu and Li 2019).

Table 1. *đang* and its Chinese equivalents in *PT*

<i>đang</i>	‘should’	‘will (intention)’	‘will (future)’
dāng 當	3	1	1
fāng 方			1
jiāng 將			2
gù 故		1	
hé 曷			1

Each of the following examples express three meanings above*.

1. [當 (Ch): đương (V) ‘should’]

- (15) a. 汝 當 諦聽, 善 思念 之.
you should listen, well consider this
b. 邁 當 察 宜, 哈 卢 渚 帝.
mày đương xét nghe, hay lo nhớ đây.
you should look listen well think remember FP
‘You should listen and consider carefully.’ (34b1)

2. [當 (Ch): đương (V) ‘will (intention)’]

- (16) a. 汝 好 諦聽, 善 思念 之, 當 爲 汝 說.
you well listen, well consider this, will for you explain

* For sentences (15)~(17), those labelled with ‘a.’ are Sinitic Chinese sentences and ‘b.’ are corresponding Vietnamese sentences written in Nôm characters.

- b. 邁 參 舍 察 宜, 哈 卢 渚 帝,
 này chin xét nghe, hay lo nhớ đây,
 you well look listenwell thinkremember FP
 當 爲 邁 麻 說.
 Đương vì này mà thốt.
 will for you and speak
 ‘You listen and consider carefully, I will explain for you.’
 (38a4)

3. [當 (Ch): đương (V) ‘will (future)’]

- (17) a. 緣 此 人 造 經 力, 是 諸 佛
 with this person create sutra power, then PL Buddha
 等, 常 當 擁 護, ...
 etc. always will protect
- b. 因 徵 力 導 衣 經, 時 包
 Nhân chung sức người ấy làm kinh, thì bao
 because at power person that make sutra then how
 饒 孛 等, 恒 當 遮 護, ...
 nhiều bụt đẳng, hằng đương giá hộ
 many Buddha etc. long always protect
 ‘Thanks to the persons’ power of creating sutras, many
 Buddhas will always protect, ...’ (30b2)

In the case of giải âm texts, where literal translation is preferred, the meaning of original Chinese sentences should be regarded as preserved in the Vietnamese sentences. Because the three meanings described above have nothing to do with the durative/continuous/progressive meaning, it is not plausible to regard the preverbal *đang* in PT as a durative/continuous/progressive marker.

5.2 *đang* in PG

The next objects of analysis are the usages of *đang* in *Cathechismus in octo dies diuisus* (*Phép giảng tám ngày*, PG in short) by Alexandre de Rhodes (1651). PG is well known as the oldest Quốc Ngữ text that consists

of the sentences of *Cathechismus*. I could find 18 cases in which *đang* is used, and all those cases are classified into seven patterns as follows:

1. [đang NPtemp ...] (2 cases)

- (18) ^x lâu nữa đức Chúa Iefu đang bốn mươi ngày, ^y hiện cho đầy tớ
lastly Jesus đang 40 day appear for apostle
cả xem, ...
biggest look, ...
'Lastly, for 40 days, Jesus appeared for the biggest apostle to look, ...'
(245, x-y)

2. [khi ... đang NPtemp ...] (1)

- (19) khi mặt blời ở trên, đang nửa ngày, ⁱ mà thoát chóc
when sun on top, đang half day, CONJ suddenly
mặt blang thì lên, cho đến dưới mặt blời ngay, mà che
moon TOP rise upto under sun right CONJ hide
mặt blời,
sun
'When the sun was highest at the half-day point, and suddenly the
moon rose up under the sun and eclipsed the sun.' (228, h-i)

3. [... đang khi ...] (1)

- (20) ^m mà lại nhệt thực ếp một giờ rưỡi làm tối mặt blời,
CONJ solar eclipse that 1 hour half darken sun
đang khi đức Chúa Iefu còn fõ chịu tội trên cây Crux,
đang when Jesus still live suffer crime on tree cross
'Furthermore, the solar eclipse darkened the sun for an hour and a
half, while Jesus was still alive on the cross tree.' (229, m)

4. [khi đang VP thì ...] (11)

- (21) ^a mà khi đang làm việc ấy hết lực, thì đức Chúa bời
 CONJ when đang do work that at full force then God
 lộn tiếng nó,
 confuse language he
 ‘When doing that work at full force, God confused his language.’
 (102, a)

5. [... khi đang VP] (1)

- (22) chẳng lọ là thấy đi gì đi gì mình làm, khi đang sống
 not only that see what what self do when đang live
 ở thế này,
 in world this
 ‘not only to see what he himself has done when living in this world,’
 (272, z)

6. [khi NP đang VP, ...] (1)

- (23) ^a Sao le vì khi đức Chúa Iefu đang chịu trên cây Crux,
 but because when Jesus đang suffer on tree cross
 ‘có cầu củ đức Chúa bời,...
 have pray with God
 ‘But as Jesus was suffering on the cross tree, they prayed together
 with God, ...’ (258, q-r)

7. [... khi NP đang VP] (1)

- (24) ^b thì kể tảo lự khôn nạn khác khi cõn ậy đang ùi
 then talk in matter difficult other when army that đang surround
 thành Ierufalem,
 castle Jerusalem
 ‘then talked in other difficulties when the army was surrounding the
 Jerusalem Castle,’ (259, b)

It is noteworthy that all of the cases above contain *đang* appearing in the subordinate clauses with temporal meaning (21~24) or in the adverbial phrases (18~20). In other words, *đang* precedes a temporal NP in (18)~(20), whereas it appears in preverbal positions in (21)~(24).

6. DISCUSSION

Concerning 10 cases of *đang* in *PT*, all of them appear in the preverbal positions. However, as mentioned above, they all correspond, not to the Chinese prepositional 當 that is of concern here, but to the adverbials that have nothing to do with durative/continuous/progressive meanings. This means that those 10 cases are not the case of durative/continuous/progressive markers but that the elements remaining in the adverbial meanings were originally possessed by Chinese.

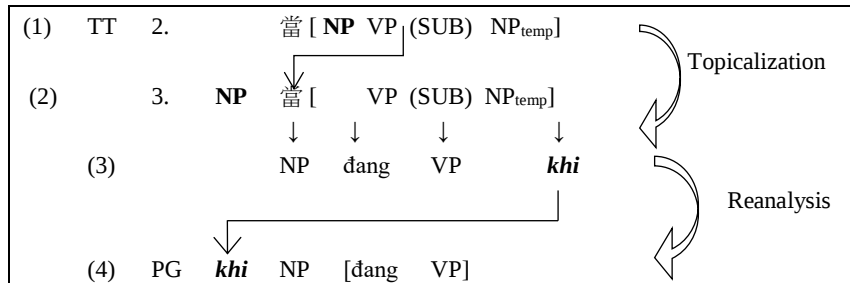
On the contrary, at least 14 of the 18 cases in *PG* are regarded as the durative/continuous/ progressive markers appearing in the preverbal positions. The remaining four cases appear in the prenominal positions, but the NPs following *đang* still have temporal meaning, such as ‘*bốn mươi ngày* (40 days),’ ‘*nửa ngày* (middle of the day),’ ‘*khi* (when),’ and so on.

Considering the difference in the NP word order between Vietnamese (N+A) and Chinese (A+N), as well as the correspondence between 當 (*TT*) and *đang* (*PG*), NP_{temp} (*TT*) and NP_{temp} (*PG*), NP_{temp} (*TT*) and *khi* (*PG*), and VP (*TT*) and VP (*PG*), the correspondence between the Chinese sentence patterns containing 當 and those of Vietnamese containing *đang* can be proposed as in Figure 1. It is important to confirm that, in the case of *đang*+NP_{temp}, NP_{temp} remains as it is, while in the case of *đang*+VP, NP_{temp} is quite often translated into *khi*.

<i>TT</i>				<i>PG</i>	
1.	當	NP	(SUB) NP _{temp}	1.	đang NP _{temp}
2.	當	NP VP	(SUB) NP _{temp}	(2. khi	đang NP _{temp})
3.	NP	當	VP (SUB) NP _{temp}	3. ...	đang khi ...
				4. Khi	đang VP, ...
				5. ... khi	đang VP
				6. khi NP	đang VP, ...
4.	NP	當	NP VP SUB NP _{temp}	7. ... khi NP	đang VP

Figure 1. Comparison of sentence patterns in *TT* and *PG*

Based on the correspondence shown in Figure 1, I propose the process in which the Chinese sentence patterns 2 and 3 are translated into Vietnamese sentence patterns 4~7, as shown in Figure 2.

Figure 2. The process of developing *đang*+V

The process from sentence pattern 2 to 3 in *TT* can be explained in terms of topicalization (Meisterernst 2015:172). (3) in Figure 2 is the result of substituting each element of (2) to the Vietnamese equivalents. Since the word order in (3) is not accepted in Vietnamese syntax, the temporal noun *khi* is placed in the initial position, resulting in the sentence pattern shown in (4), which corresponds to patterns 4~7 in *PG*. After the process from (3) to (4) had been completed, a kind of reanalysis must have occurred. The reanalysis is a type of misunderstanding of the sequence in (4) and in regarding the unit '*đang* + VP' as 'preverbal + VP,' which is different from the original structure 'preposition + VP.' Once the unit '*đang* + VP' as 'preverbal + VP' is formed, the original meaning of 當 'be

at (a certain time)’ changes to the preverbal/auxiliary meaning and begins to function as a durative/continuous/ progressive marker.

6. CONCLUSIONS

In this study, I traced back the development process of the durative/continuous/progressive marker *đang* in modern Vietnamese by analyzing their usages in old documents.

First, I reviewed the studies on the grammaticalization process of *dāng* 當 in Chinese and analyzed the usages of the same element in literary Sinitic documents in Vietnam in order to confirm the same usages are also common in literary Sinitic in Vietnam, especially the prepositional usage of *dāng* 當, which is the main concern here.

I considered the The usages of *đang* that originates from the Chinese *dāng* 當 by analyzing its usages in the oldest Nôm and Quốc ngữ documents. While *đang* in the bilingual Nôm document has nothing to do with durative/continuous/progressive meaning, the data in the old Quốc Ngữ document provide us valuable information. These usages allow us to trace back its origin to the prepositional *dāng* 當 in Chinese, and the fact that all of them occur in the subordinate clauses or adverbial phrases reveals an important stage in the course of its development. In the following stage, the unit ‘*đang* + VP,’ which originates from ‘prepositional 當 + VP,’ was reanalyzed as ‘preverbal + VP’ and gave rise to the new function of *đang* as a durative/continuous/ progressive marker.

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ABBREVIATION

CONJ	conjunction
FP	final particle
PL	plural
TOP	topic

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越南語語法標記 ĐANG 的文獻學研究

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本研究考察了現代越南語中進行體標記 *đang* 的語法化過程。*Đang* 來源於漢語“當”（*dāng*，“在”義），它後面經常跟隨著名詞、代詞或名詞短語修飾的“時”（“時間”義）。例如，“當[A]之時”，其中 A 是名詞、代詞或名詞短語(Pulleyblank 1995)。在 15 世紀出版的漢喃對譯文本中，漢語“當”有 5 處譯為“當”，有 1 處譯為“候”，有 4 處譯為“合”。另一方面，在 17 世紀的越南拉丁文文本中，該詞彙經常出現在從屬（附加）子句中。例如，(a) *đang* NP（時間短語）；(b) *đang* khi NP+VP；(c) khi (NP) *đang* VP。通過與越南漢文中“當”的用法比較可知，這些模式意味著一個發展順序：(Ch) 當+NP+VP+ (SUB) +NPtemp > (Ch) NP+當+VP+ (SUB) +NPtemp > (V) *NP+Đang+VP+khi > (V) khi+NP+Đang+VP。之後，“*đang*+VP”被重新分析，產生了進行體標記 *đang*。

關鍵詞：越南語、進行體、*đang*、語法化

NEGATION AND POLAR QUESTIONS IN VIETNAMESE: PRESENT AND PAST ¹

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ABSTRACT

Polar questions in Vietnamese consist of an affirmative sentence followed by a negation particle. Modern Vietnamese has three negation particles, but only two can occur in this function. This note proposes an account for this gap. The account is premised on the analysis of questions as sets of alternatives, and draws on facts of diachronic change gleaned from historical texts.

Keywords: polar questions, negation, Vietnamese

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1. QUESTIONS AS SETS OF ALTERNATIVES

Asking a question, intuitively, involves requesting the addressee to make a choice between several propositions (cf. Grice 1967, Searle 1969). This intuition underlies the ‘proposition set’ analysis of question which we will be assuming in this discussion. Specifically, we will take a question to denote the set of propositions that count as its possible answers (Hamblin 1958; also Karttunen 1977; Groenendijk & Stokhof 1984). The question in (1a), for example, denotes the set in (1b), assuming that John, Mary, Sue and Anne are the individuals in our universe of discourse.²

- (1) a. Ai thích John
 who like John
 ‘Who likes John’
 b. $[[(1a)]]$ = {Mary like John, Sue like John, Anne like John}

We see that the elements of (1b) differ from each other in a systematic way: they vary on the subject position, which is underlined in (1b). This is the ‘focus’ of the sentences, i.e. the position which is ‘targeted’ by the question. We will call such sets of sentences as (1b) sets of ‘alternatives’.

- (2) Definition of alternatives (Rooth 1992, Fox and Katzir 2011)
 S' is an alternative of S iff S' is derivable from S by replacement of a constituent with an expression of the same type

The question in (1a), then, denotes a set of ‘subject alternatives’, as every element of the set is derivable from any other element by replacing the subject constituent. The subject constituent bears focus, so to speak. The question in (3a), on the other hand, denotes a set of ‘object alternatives’, i.e. sentences whose object constituent is focused.

² Following common practice, we write $[[\alpha]]$ to represent the semantic value of α .

- (3) a. John thích ai
 John likes who
 ‘Who does John like’
 b. [[(3a)]] = {John like Mary, John like Sue, John like Anne}

Subject and object are not the only constituents which can be targeted by a question. In fact, every position in the sentence can be targeted by a question. Wh-phrases are the usual means to target subjects, objects and adverbials, but for other grammatical functions other strategies are available. The simplest strategy, which can be employed to target any position in the sentence, is to list the alternatives using the connective *hay*.³ Targeting subject and object using *hay* is exemplified in (4). Thus, (4a) and (4b) are equivalent to (1a) and (3a).

- (4) a. John thích Mary hay John thích Sue hay John thích Anne
 John like Mary HAY John like Sue HAY John like Anne
 b. Mary thích John hay Sue thích John hay Anne thích John
 Mary like John HAY Sue like John HAY Anne like John

Targeting the verb using *hay* is exemplified in (5), and targeting the whole sentence is exemplified in (6).

- (5) a. John thích Mary hay John yêu Mary
 John like Mary HAY John love Mary
 ‘Does John like Mary or does he love her?’
 b. [[(5a)]] = {John likes Mary, John loves Mary}
 (6) a. John thích Mary hay tôi đang ngủ mơ
 John like Mary HAY I am dreaming
 ‘Does John like Mary or am I dreaming?’
 b. [[(6a)]] = {John likes Mary, I am dreaming}

³ Vietnamese *hay* thus resembles English inquisitive *or*, as exemplified in *does John like Mary or does he like Sue*. Note that the sentences connected by inquisitive *or* exhibit subject auxiliary inversion. We will assume that this syntactic operation has no semantic effects.

2. VIETNAMESE POLAR QUESTIONS AS SETS OF SECOND POSITION ALTERNATIVES

Polar questions in Vietnamese consist of an affirmative sentence followed by a negation particle. There is dependency between the syntactic profile of the affirmative sentence and the choice of the negation particle. Specifically, if the second position of the affirmative is *có*, glossed as AFF, the particle will be *không*, glossed as NEG. If the second position of the affirmative is *đã*, glossed as PERF, the negation particle will be *chưa*, glossed as NEGPERF. The reason for these glosses will be presented shortly. By ‘second position’ we mean the head which immediately follows the subject.

- (7) a. John *có* đọc sách *không*
John AFF read book NEG
‘Does John read books?’
b. John *đã* đọc sách *chưa*
John PERF read book NEGPERF
‘Has John read books?’

The general forms of Vietnamese polar questions are thus (8a) and (8b).

- (8) a. Subject AFF VP NEG
b. Subject PERF VP NEGPERF

As the translations in (7) show, (8a) is in simple aspect and (8b) is in perfective aspect. Note, importantly, that (8a) and (8b) exhaust the possibilities of formulating a polar question in Vietnamese. In other words, there is no polar question in which the second position of the affirmative is not AFF or PERF, and there is no polar question in which the clause final negation particle is not NEG or NEGPERF.

We may now ask what the relationship is between AFF and NEG on the one hand and PERF and NEGPERF on the other. Specifically, we may ask whether this relationship is arbitrary, similar to that of, say, the verb *wait* and its subcategorizing preposition *for*, or whether it has some sort of semantic motivation. Can we say anything about the dependency between

the second position of the affirmative and the clause final negation particle other than that the first ‘selects’ the latter? It turns out that we can. Consider the sentence pairs in (9) and (10).

- (9) a. John có đọc sách
 John AFF read book
 ‘John does read books.’
 b. John không đọc sách
 John NEG read book
 ‘John does not read books.’
- (10) a. John đã đọc sách
 John PERF read book
 ‘John has read books (already)’
 b. John chưa đọc sách
 John NEGPERF read book
 ‘John has not read books (yet).’

As the translations show, (9b) is the negation of (9a) and (10b) is the negation of (10a). We can see that AFF occurs in the second position of a positive sentence and NEG occurs in the second position of its negative counterpart, and the same holds for PERF and NEGPERF.⁴ This fact suggests the following syntax and semantics for Vietnamese polar questions.⁵

What about the phonology of Vietnamese polar questions? We propose the following syntax-phonology interface rule.

⁴The reason for the glosses of these items is now clear: AFF is mnemonic for “affirmative”, NEG for “negation”, PERF for “perfective”, and NEGPERF for “negation of perfective”. Note that AFF is optional in (9a) and (9b), and indicates verum focus.

⁵We write “ $\neg p$ ” to represent the negation of p . The “lambda notation” used to represent functions is to be interpreted as specified in Heim and Kratzer (1998). Thus, $[\lambda\alpha : \gamma. \phi]$ is the function from α such that γ to ϕ or to 1 iff ϕ .

- (11) Polar questions in Vietnamese are sentences of the form $[p [Q q]]$, where
- (i) Q is silent
 - (ii) Everything in q is silent except the focused constituent

Let us apply our analysis to a concrete example. Consider the question in (7a), repeated below in (12a). The Logical Form of the question would be (12b), and its denotation the set in (12c). We use strikethrough to represent phonological deletion.

- (12) a. John có đọc sách không
 John AFF read book NEG
 ‘Does John read books?’
 b. $[[\text{John AFF read book}] [Q [\text{John NEG read book}]]]$
 c. $[[(12b)]] = \{ \text{John AFF read book}, \text{John NEG read book} \}$

The two arguments of Q are second position alternatives (henceforth SPAs), as one can be derived from the other by replacing the second position constituent. The analysis delivers the correct meaning: the set denoted by the question contains the proposition that John does read books and the proposition that he does not. These are, intuitively, the two possible answers to the question. Also, we get the right pronunciation, as NEG, even though syntactically it is the second position of the second sentence, ends up being pronounced like a clause final particle. Perfective questions are illustrated in (13).

- (13) a. John đã đọc sách chưa
 John PERF read book NEGPERF
 ‘Has John read books (yet)?’
 b. $[[\text{John PERF read book}] [Q [\text{John NEGPERF read book}]]]$
 c. $[[(12b)]] = \{ \text{John PERF read book}, \text{John NEGPERF read book} \}$

Again, the two arguments of Q are SPAs. The meaning is correct, as the question denotes the set containing the proposition that John has read books and the proposition that he has not. Intuitively, these are the two possible answers to (13a). Last but not least, the analysis yields the right

pronunciation. Let us now discuss some predictions made by our analysis. First, we predict that no polar question can be derived by merging *Q* with two propositions which are negation of each other but which are not SPAs. This prediction is borne out. Consider (14a) and (14b).⁶

- (14) a. John sẽ có đọc sách
 John FUT AFF read book
 ‘John will read books.’
 b. John sẽ không đọc sách
 John FUT NEG read book
 ‘John will not read books.’

These sentences are negation of each other. However, they are third position alternatives, not second position alternatives. Consequently, future tense polar questions are ineffable in Vietnamese, as has been observed (cf. Trinh 2005; Duffield 2007, 2013; Phan and Duffield 2019; Phan 2023).

- (15) *John sẽ có đọc sách *Q* ~~John sẽ~~ không ~~đọc sách~~
 John FUT AFF read book *Q* John FUT NEG read book
 (‘Will John read books?’)

Similarly, preterite polar questions are ineffable, as a preterite sentence and its negated counterpart differ with respect to the third position, not the second position.⁷

⁶ Note that AFF is optional in future and preterite sentences. In fact, AFF would not appear in normal pronunciation of these sentences. The occurrence of AFF would indicate “verum focus”, similar to stress on auxiliaries in English. We will abstract from this fact for the present discussion.

⁷ Ibid. Note that the morpheme *đã* which is glossed as PAST is assumed to be different from the homophonous morpheme *đã* which is glossed as PERF. The first expresses past tense, while the second expresses perfective aspect. These came apart when the sentence is negated. Negated past tense is *đã không* (PAST NEG), while negated perfective aspect is *chưa* (NEGPREF). The homophony most probably has historical ground (Trinh 2005).

- (16) a. John đã có đọc sách
 John PAST AFF read book
 ‘John read books.’
 b. John đã không đọc sách
 John PAST NEG read book
 ‘John did not read books.’

- (17) *John đã có đọc sách Q ~~John đã không đọc sách~~
 John PAST AFF read book Q John PAST NEG read book
 (‘Did John read books?’)

We also predict that no polar question can be formed from two propositions which are SPAs but which are not negation of each other. This prediction is borne out as well. The two sentences (18a) and (18b) are SPAs, as one can be derived from the other by replacement of the second position constituent. However, the question in (19) is ungrammatical.

- (18) a. John được đọc sách
 John may read book
 ‘John may read books.’
 b. John phải đọc sách
 John must read book
 ‘John must read books.’

- (19) *John được đọc sách Q John phải đọc sách
 John may read book Q John must read book
 (‘Is it the case that John may read books or is it the case that he must?’)

The question arises, in this connection, as to whether there is any way to ameliorate the ungrammaticality of such sentences as (15), (17), and (19).⁸ If we want to keep to polar questions, i.e. those which consist of an affirmative sentence followed by a negation particle, then the answer is no. This answer, of course, follows from what we said above about Q.

⁸ We thank a reviewer of our paper for raising this question.

However, if the question is understood as asking whether the intended meaning of (15), (17) and (19), or an approximation thereof, can be expressed by some sort of interrogatives, then the answer is yes. Specifically, we could connect the two sentences with HAY. What we end up with would of course be alternative questions, which is similar but not identical to polar questions.⁹ The alternative questions in (20a), (20b), and (20c) express the intended meaning of (15), (17), and (19), respectively.

- (20) a. John sẽ đọc sách hay John sẽ không đọc sách?
 John FUT read books HAY John FUT NEG read books
 b. John đã đọc sách hay John đã không đọc sách?
 John PAST read books HAY John PAST NEG read books
 c. John được đọc sách hay John phải đọc sách
 John may read books HAY John must read books

Another question which arises is why the second position is the focus of polar questions? Why is another position not chosen for this function? We have no satisfying answer to this question. However, we would note that the second position is actually the highest operator position. According to the standard view on sentence structure, the thematic core is the constituent containing the verb and its arguments. This is the smallest propositional constituent. This constituent then recursively merges with operators, i.e. heads that map a propositional object into another propositional object, for example heads expressing tense, aspect, and negation. After the last operator has merged, the subject moves from its base position, merging with the matrix node and becoming the ‘specifier’ of the highest operator.¹⁰

- (21) [_S Subject [_S OP_n ... [_S OP₁ [_{VP} *t*_{Subject} Verb Object]]...]]

Thus, what we call ‘second position’ is in fact the position of the main operator. Negating the sentence would then mean either merging a truth-

⁹ We come back to this issue in section 6 below.

¹⁰ This movement of the subject from its base position to the specifier position of the highest operator is required by the so-called Extended Projection Principle (EPP) which states, among other things, that the highest operator must have a specifier (Chomsky 1986).

value reversing operator on top of the sentence, or replacing the main operator with another operator. As only the latter option results in an ‘alternative’ as defined in (2), it is natural that polar questions target the second position.¹¹ Again, we stress that this is just a hunch. We hope to be able to formulate a more concrete proposal in the future.¹²

We will also note that there are some similarities between Vietnamese and Mandarin and some other Chinese dialects with respect to polar questions. Specifically, the latter also formulate these questions with a negative particle. The analysis proposed by Cheng et al. (1997), for example, is different from the analysis proposed here in that they do not assume a deletion based account. The comparison between these two languages are worth pursuing but would have to be left for future.¹³

3. EXPLAINING A GAP IN COLLOQUIAL SAIGONESE

Colloquial Saigonese has two simple aspect negations: *hông* and *hổng*, glossed as [hong] and [hong?], respectively.¹⁴ These items differ only in their tones, not in their segmental structure.

¹¹ It should be noted here that our use of the term “second position” is not to be confused with how this term is used in the literature on the so-called “V2” phenomenon in Germanic languages (Grewendorf 1988). The “second position” which hosts the finite verb in V2 languages (the “linker Satzklammer”) is the highest head in the C domain. What we call “second position” here is actually the highest head in the INFL domain. Assuming a simple C-T-V structure, the V2 position would be C, while what we call “second position” would be T. We assume, as is standard, that the C domain relates to the information structure and not the logical content of the sentence (Chomsky 1995). We thank a reviewer for pointing out the need of making this distinction clear.

¹² Note that we use “operator” in the sense of a function from things to things of the same kind, in this case from propositions to propositions. Thus, the “question operator” Q, which maps propositions to sets of propositions, would not be an “operator” in this sense. We thank an anonymous reviewer for making us aware of the need to make this clear.

¹³ We thank an anonymous reviewer for drawing our attention to Cheng et al. (1997).

¹⁴ Glosses in square brackets are intended to reflect the phonology, not the semantics, of the Vietnamese items. Note that [hong] has level tone while [hong?] has falling tone.

- (22) a. John hông đọc sách
 John [hong] read book
 ‘John does not read books.’
 b. John hỏn đọc sách
 John [hong?] read book
 ‘John does not read books.’

As the translations in (22) show, [hong] and [hong?] are semantically equivalent. There is, in fact, a pragmatic difference between (22a) and (22b). In particular, it seems that (22b) is more ‘emphatic’ in some sense. We will, however, ignore this difference and note the following puzzle: [hong] can occur in polar questions but [hong?] can't.

- (23) a. John có đọc sách hông
 John AFF read book [hong]
 ‘Does John read books?’
 b. *John có đọc sách hỏn
 John AFF read book [hong?]
 (‘Does John read books?’)

How do we resolve this puzzle? First, let us note that in Saigonese, there is another way to express negation which is syntactically complex, namely by [hong] or [hong?] followed by AFF, as exemplified in (24).

- (24) a. John hông có đọc sách
 John [hong] AFF read book
 ‘John does not read books’
 b. John hỏn có đọc sách
 John [hong?] AFF read books
 ‘John does not read books’

Again, (24a) and (24b) are logically equivalent. It turns out that pragmatically, (24a) and (24b) have the same ‘emphatic’ effect as (22b). In light of this fact, we propose that both [hong?] and [hong?] AFF are realizations of the same underlying complex negation NEG AFF. Here is the relevant morphophonemic rule.

(25) Morphophonemic rule of Saigonese

- (i) NEG => [hong]
[hong] AFF
- (ii) NEG AFF => [hong?] AFF
[hong?]

Thus, NEG has one phonological realization, while the complex NEG AFF has three, which are free variants. This means that (23a) and (23b) have the analyses in (26) and (27), respectively.

(26) Analysis of (23a)

- a. John có đọc sách Q John hông ~~đọc sách~~
John AFF read book Q John [hong] read book
- b. Logical Form: John AFF read book Q John NEG read book

(27) Analysis of (23a)

- a. *John có đọc sách Q John hông ~~đọc sách~~
John AFF read book Q John [hong?] read book
- b. Logical Form: *John AFF read book Q John NEG AFF read book

We can see the Logical Form in (26) fulfills all syntactic and semantic conditions on polar questions. The two arguments of *Q* are SPAs: one can be derived from the other by replacing just the second position. Furthermore, the two sentences are logical negation of each other. Consequently, (23a) is well-formed, as expected. Turning to (27), we can see that this Logical Form fails to fulfill the syntactic conditions on polar question, in that the two arguments of *Q* are not SPAs. Specifically, we cannot derive one from the other by replacing just the second position. Consequently, (23b) is unacceptable, as expected.

4. EXPLAINING A GAP IN STANDARD VIETNAMESE

It turns out that standard Vietnamese, i.e. the Hanoi dialect, also has two negations. Above we considered *không*. There is another head, *chẳng*,

which is logically equivalent to *không*. In what follows we will gloss *không* and *chẳng* as [khong] and [chang?], respectively, to reflect the phonological realizations of these items rather than their syntax and semantics.¹⁵

- (28) a. John không đọc sách
 John [khong] read book
 ‘John does not read books.’
 b. John chẳng đọc sách
 John [chang?] read book
 ‘John does not read books.’

Although [khong] and [chang?] are semantically equivalent, we can ask whether there are pragmatic differences between them. It turns out, interestingly, that [chang?] conveys the same sense of emphasis as [hong] AFF or [hong?] in Saigonese. Moreover, we observe that just like [hong?], [chang?] cannot occur as sentence-final particle in polar questions.

- (29) a. John có đọc sách không
 John AFF read book [khong]
 ‘Does John read books?’
 b. *John có đọc sách chẳng
 John AFF read book [chang?]
 (‘Does John read books?’)

Given our discussion of colloquial Saigonese in the previous section, the following morphophonemics rule suggests itself for standard Vietnamese.

- (30) Morphophonemic rule of standard Vietnamese
 (i) NEG => [khong]
 (ii) NEG AFF => [chang?]

Thus, we claim that syntactically standard Vietnamese does have a complex negation NEG AFF which, however, is always mapped to the

¹⁵ Again, the “?” inside the phonological gloss of *chẳng* ([chang?]) indicates the falling tone of this item.

monosyllabic [chang?]. The rule in (30) makes it possible to derive the distribution of [khong] and [chang?] in standard Vietnamese polar questions in the same way we derived the distribution of [hong] and [hong?] in colloquial Saigonese polar questions. Specifically, we can now say that (29b) is ill-formed because the two arguments of *Q* are not SPAs.

(31) Analysis of (29b)

- a. *John có đọc sách *Q* John chẳng ~~đọc sách~~
 John AFF read book *Q* John [chang?] read book
- b. Logical Form: *John_{AFF} read book *Q* John_{NEG AFF} read book

5. HISTORICAL CONSIDERATION

Comparing (25) and (30), we can see that the former is plausible while the latter looks like a trick. There seems to be a possibility of motivating (25) in terms of familiar phonological processes: *AFF* changes the tone of the immediately preceding items and can optionally delete. For (30), however, it is hard to see by what phonological process *AFF* turns [khong] to [chang?]. This section attempts to defend (25) from charges of being ad hoc and arbitrary. The defense will appeal to facts of historical changes described in Vu (1986), which examines Vietnamese texts spanning several centuries.¹⁶ The titles are listed below in (32).

- (32) (A) *Quốc Âm Thi Tập* (*Poem Collection in the National Language*) by Nguyễn Trãi (15th century)
- (B) *Hồng Đức Quốc Âm Thi Tập* (*Hong Duc Poem Collection in the National Language*) by Hội Tao Đàn (15th century)
- (C) *Thơ Nôm* (*Poems in Nôm*) by Nguyễn Bỉnh Khiêm (16th century)
- (D) *Phép Giảng Tám Ngày* (*Cathechismvs in octo dies diuisus*) by Alexandre de Rhodes (17th century)
- (E) *Truyện Kiều* (*Tale of Kiều*) by Nguyễn Du (18th century)

¹⁶ To be exact, Vũ (1986) examines all the texts in (32) except (F) and (G). These two texts are examined by us for this paper.

- (F) *Thầy Lazaro Phiền (Father Lazaro Phiền)* by Nguyễn Trọng
Quản (19th century)
(G) *Đôi Mắt (The Eyes)* by Nam Cao (20th century)

Examining these texts, we find that Vietnamese used to have not two but three negations: *không* ([khong]), *chẳng* ([chang]), and *chẳng* ([chang?]).¹⁷ We counted the number of occurrences of each of these items in texts belonging to each of the six centuries. The frequencies are presented in (33).

(33) Frequency of [khong], [chang] and [chang?] as negation

century	15th	16th	17th	18th	19th	20th
[khong]	7	7	0	14	87	59
[chang]	73	42	0	3	0	0
[chang?]	231	72	691	107	32	28

We can see that Vietnamese mainly used [chang] and [chang?] until the 19th century, after which [khong] became the item of choice to express negation. The historical development of the three particles is best presented visually in terms of not frequencies but probabilities, as below.

¹⁷ As suggested by the glosses, *chẳng* ([chang]) is different from *chẳng* ([chang?]) in that the first has level tone while the second has falling tone.

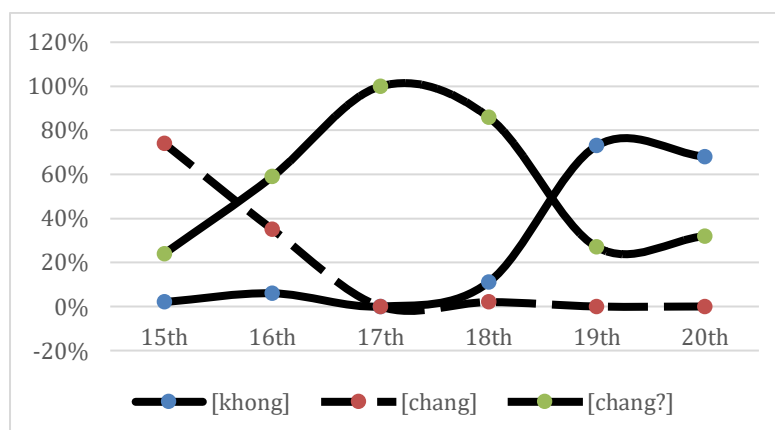


Figure 1. Probabilities of [khong], [chang] and [chang?] as negation

Here is how this graph is to be read. In the 15th century text samples, for example, 2% of negations are expressed by [khong], around 20% are expressed by [chang], and around 75% are expressed by [chang?]. Thus, [chang?] were the most popular negation, followed by [chang], and [khong] was rarely used. We then witness a big dive with [chang] in the 17th century text, with this item becoming as unpopular as [khong]. In the 18th century text, [khong] starts to occur more than [chang]. In the 19th and 20th century texts, [khong] becomes the most popular item to express negation, [chang?] being the distant second, and [chang] practically becoming obsolete and out of use.

Vu (1986) proposes that [chang] used to be the default negation in Vietnamese, while [khong] comes into the language at a later time. We will take up this proposal, and add to it the claim that [chang?] is the realization of [chang] and AFF. Thus, the morphophonemics rule for, say, 15th century Vietnamese would be (34).

(34) Morphophonemic rule of old Vietnamese

- (i) NEG => [chang]
- (ii) NEG AFF => [chang?]

Against the background of the rule in (34) for old Vietnamese, the rule in (30) for modern Vietnamese makes more sense: what changes is that

[khong] replaces [chang] as the realization of NEG, nothing else. Note that this account makes an interesting prediction regarding the diachronic development of polar questions in Vietnamese. In sections 3 and 4, we argue that items which realize NEG AFF cannot occur as (clause final) polar question particles. Given our claim that [chang?] has always been the realization of NEG AFF throughout the history of Vietnamese, we expect that [chang?] has never been used as a polar question particle. And since NEG changes from [chang] to [khong], we expect that [chang] and [khong] switch places as the polar question particle in Vietnamese. Both of these expectations are borne out in the texts listed in (32). We counted the occurrences of [khong], [chang], and [chang?] in these texts, and got the following frequencies and probabilities.

(35) Frequency of [khong], [chang], [chang?] as polar question particles

century	15th	16th	17th	18th	19th	20th
[khong]	0	0	0	2	2	10
[chang]	7	3	32	19	10	1
[chang?]	0	0	0	0	0	0

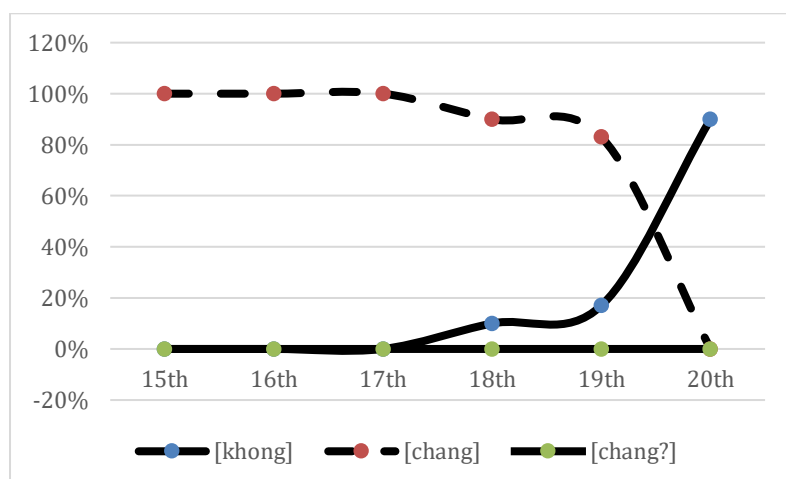


Figure 2. Probabilities of [khong], [chang], [chang?] as polar question particles

6. AN OPEN QUESTION ABOUT HAY

We now turn to a brief discussion of an open questions which, we believe, should be addressed in the context of our analysis. The question concerns the differences between *Q* and *HAY* regarding their usage. We have proposed a semantics for *Q* which is ‘akin’ to that of *HAY*, in the sense that both of them map propositions to sets of propositions. What distinguishes *Q* from *HAY* is that *Q* requires each of its two arguments to be the logical negation of the other. This proposal does justice to our basic intuition about polar questions, namely that they present us with *p* and $\sim p$ as possible answers. Similar proposals have been made for polar questions in English, where the English counterpart of *HAY* is the disjunctive particle ‘or’ (cf. Katz and Postal 1964; Langacker 1970; Romero and Han 2004; Guerzoni and Sharvit 2014). In fact, *or* would be an appropriate English translation of *HAY*, as the readers may have noted in the examples above.

Our proposal thus raises the question whether polar questions are the same as alternative questions, i.e. those constructed with *HAY*, in all respects. We submit that the answer is no, and we would also submit that our analysis is compatible with this answer. In other words, the semantic similarity between *Q* and *HAY* does not force us to say that these items have the exact same interpretation or the exact same use, as similarity is not identity. As it turns out, alternative and polar questions differ in Vietnamese in much the same way that they differ in English. As an example, take the observation, made by Bollinger (1978), that polar but not alternative questions are felicitous as invitations. This observation holds for Vietnamese also. Thus, suppose John sees Mary admiring the oranges in his garden and wants to invite her to try out one of them, he would ask the polar question in (36a), not the (elliptical) alternative question in (36b).

- (36) a. Em có muốn ăn cam không
 you AFF want eat orange NEG
 b. Em có muốn ăn cam hay không
 you AFF want eat orange HAY NEG

Given the stated empirical focus of this paper as well as its scope, we must remain agnostic about the semantic and pragmatic properties of HAY which distinguish its usage from that of *Q*. To the best of our knowledge, this is also the current situation in the literature (cf. for example Romero and Han 2004:643). We hope to pursue this interesting topic in the future.

7. CONCLUSION

We approach the grammar of polar questions in Vietnamese as many works have approached the grammar of questions in general, namely as a representation of a set of alternatives which is subject to semantic, syntactic and phonological conditions. Specifically, we propose that polar questions in Vietnamese denote sets containing a proposition *p* and its negation $\sim p$, where *p* and $\sim p$ must be expressed by sentences that are second position alternatives. We apply our analysis to explain a gap in colloquial Saigonese, and extend that explanation to another gap in standard Vietnamese. Our account of the gap in standard Vietnamese involves a morphophonemic rule which looks implausible, but we argue that it has historical motivation, using texts spanning six centuries to corroborate our argument.

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否定和疑問在越南語中的現在和過去

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越南語的極性問句是將一個否定助詞加在肯定句之後而形成的。現代越南語中有三種否定助詞，但卻只有其中兩種可以置於肯定句後使之形成問句。本文為此現象提出了一個分析。此分析是基於將極性問句分析為備選集，並利用從歷史文本中發現的歷時變化事實進行推理。

關鍵字：否定、極性問句、越南語

THE USE OF CLASSIFIERS IN VIETNAMESE IN TYPICAL AND ATYPICAL LANGUAGE DEVELOPMENT

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ABSTRACT

The acquisition of numeral classifiers and their associated syntactic structures has been documented and studied in a broad range of East and Southeast Asian languages among typically-developing (TD) young speakers. However, little research has considered how classifiers are acquired by children with developmental language disorder (DLD). The current paper compares and analyzes the development of numeral classifier patterns among a set of Vietnamese speakers, TD and DLD, studied over three years, from kindergarten to second grade. The investigation highlights differences in the performance of children with TD and DLD and describes the areas of classifier use that seem to be most challenging. Children with DLD produced more errors of classifier omission in kindergarten, showed more random alternations in representational forms, and delays in the development of three element classifier structures. Findings are discussed in terms of future directions in the study of classifier use in Vietnamese speakers with DLD.

Keywords: Developmental language disorder, DLD, specific language impairment, longitudinal design, acquisition, narratives *

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1. INTRODUCTION

This paper describes and analyzes patterns of classifier use among young speakers of Vietnamese with typical development (TD) and developmental language disorder (DLD²). The goal of the study is to establish a baseline characterization of potential differences between TD and DLD in children's use of numeral classifiers, and how control of this complex aspect of Vietnamese grammar may undergo change over time in TD and DLD populations. While there are a number of studies of the acquisition of classifiers in East and Southeast Asian languages in typically developing children (Gandour, Petty, Dardarananda, Dechongkit, and Mukngoen 1984; Lee and Lee 2005; Liu 2008; Tran 2011; Yamamoto 2000), little is known about the command of classifiers among speakers who exhibit a language disorder, and whether there are regularly occurring distinctive features of classifier use among young speakers with DLD.³ The present paper sets out to address this largely uncharted area and provide a first characterization of how classifier structures are produced in Vietnamese DLD as a basis for the further cross-linguistic investigation of classifiers in other East and Southeast Asian populations.

2. PHAM ET AL.'S (2019) TD AND DLD LANGUAGE CORPUS

Pham, Pruitt-Lord, Snow, Nguyen, Phạm, Dao, Tran, Pham, Hoang, and Dam (2019) documented the language patterns of children independently characterized as having typical development or DLD⁴ by

² DLD has been referred to as many terms including specific language impairment. Here, we follow international consensus to use the term DLD (Bishop, Snowling, Thompson, Greenhalgh, and Catalise Consortium 2016).

³ The only work on classifier patterns among children with DLD (also called specific language impairment, SLI) we are aware of is Cheung's 2009 study of two speakers of Mandarin Chinese, a group study of Cantonese classifiers by Stokes and So 1997, and a dissertation of classifier patterns among Mandarin-English bilingual children by Du 2014.

⁴ DLD vs. TD distinctions were made on the basis of significant differences in children's use of vocabulary, grammar, and discourse, as well as parental/teacher report. Kindergarten DLD profiles reported in Pham et al., 2019 reflected reduced vocabulary, poorer grammaticality, and shorter utterance length compared to same-aged peers. DLD

means of a story retell task from the Multilingual Assessment Instrument for Narratives (Gagarina, Klop, Kunnari, Tantele, Välimaa, Balciuniene, Bohnacker, and Walters 2012). Here we focus on five pairs of children, with and without DLD, from Pham et al.'s study, individually matched by age (± 1 month) and gender (2 girls, 3 boys). Children ranged in age from 5 years;2 months to 5 years;8 months at the first time point, kindergarten.

In the present study, children completed a different narrative task from Pham et al., 2019, story tell, also referred to as story generation in which the child produces his/her own story, using the wordless picture book *A Boy a Dog and a Frog* (Mayer 1976), which was recorded at three consecutive annual time points, namely kindergarten, first grade, and second grade.⁵ In section 3, we describe and illustrate the ways that classifiers are used by the pairs of children, noting the relative frequency and type of errors that occurred in classifier use (3.1), meaningful and random variation in the use of different classifier-related referential forms (3.2 and 3.3), and the use of syntactically complex classifier patterns (3.4). We also note throughout section 3 how these phenomena undergo change over time in the DLD and TD groups.

Before presenting the results of the analysis of the story tell task, some further information about the actual story itself will help contextualize the patterns described in section 3 which spotlights the use of classifiers in children's referential forms. *A Boy a Dog and a Frog* involves three primary actors/participants – the boy, his dog, and a frog which the boy attempts to catch – and these three individuals are typically referenced at high rates and continually throughout the children's telling of the story. There are also several other inanimate entities depicted in the story line which play some role in the development of the story (e.g. a bucket, a net) and these are referred to by many of the children, though at a lower rate than with the main protagonists. Finally, some pictures in the storybook contain additional backgrounded entities (such as a lake, a tree stump, and

severity ranged from moderate to severe.

⁵ Data from the other five DLD/TD pairs documented in Pham et al. (2019) is partially incomplete for certain time points. For the present study, we therefore make use of the pairs of TD/DLD children for whom a full three-year set of data is available. See Pham, Simpson, and Nguyen (2023) for a growth curve analysis of classifier use with the 10 DLD/TD pairs, a statistical procedure that permits missing data.

a house), which were occasionally mentioned in the children's storytelling but have a lower degree of salience than either the primary or secondary referents. The 'correctness' of the children's use of classifiers in producing noun phrases referring to these individuals/entities (as well as other aspects of the grammaticality of their utterances) was subsequently judged by two adult native speakers of Vietnamese, according to adult norms. A consideration of this rich source of data now permits a range of potential generalizations about differences in classifier use among children with DLD or TD, particularly at time point 1 in the study (kindergarten), as detailed in section 3.

3. CLASSIFIER PATTERNS IN CHILDREN WITH DLD VS. TD

Based on the evidence gathered in Pham et al. (2019) (and Tran's 2011 study with typically developing children), a number of potentially useful observations can be made about the use of classifiers among children with DLD when compared with typically developing children. These relate to classifier errors and their frequency (3.1), the in/stability of referential systems involving classifiers (3.2), use of classifiers with non-primary referents in a storyline (3.3), and sophistication in the use of syntactic structures incorporating classifiers (3.4).

3.1 Classifier errors

In Vietnamese, as in many other numeral classifier languages, classifiers may commonly occur when numerals are combined with nouns, as for example in (1), where the presence of the classifier is obligatory, and the word order must be as shown, with the numeral preceding the classifier, and the classifier (CL) preceding the noun:⁶

⁶ The following abbreviations are used for grammatical elements in the glosses to examples in the paper: CL = classifier, TOP = topic marker, ASP = aspect marker, C = complementizer, NEG = negation, PERF = perfective marker, PASS = passive.

- (1) hai con chó
2 CL dog
'two dogs/the two dogs'

Vietnamese also exhibits a patterning which is less frequently found in other classifier languages – the use of a classifier with a noun in the absence of any numeral, as shown in (2):

- (2) con chó
CL dog
'the dog'

Such 'bare classifier' patterns are also found in certain regional forms of Chinese, Hmong, Bangla, and Assamese (Simpson, Soh and Nomoto 2011), and are very often interpreted as referential definites and used anaphorically to refer back to entities already introduced linguistically into the discourse (Bisang, Walter, and Quang 2020).

Three kinds of classifier-related errors might, in principle, be anticipated to occur in the production of these kinds of classifier structures. First, it is conceivable that young speakers would perhaps produce syntax/word order/semantic errors and create sequences of numerals/classifiers/nouns which depart, ungrammatically, from the adult template *numeral classifier noun*. Second, one might expect that speakers acquiring Vietnamese would at times use classifiers that are not appropriate for the nouns they are being combined with, for example using the 'inanimate' classifier *cái* with an animate noun such as *chó* 'dog' to produce **hai cái chó*. A third type of error that might be predicted to occur is the *omission* of classifiers from positions which require them, for example, the failure to add the classifier *con* into (1) above: **hai chó*. Tran (2011) reports that young, typically developing speakers of Vietnamese produce extremely few errors of the first, syntactic/word order type, and also very few errors of the second semantic type, very rarely using the 'wrong' classifier for a noun. The majority of classifier errors found by Tran in her extensive study of TD acquisition patterns were of the third type, with children leaving the classifier unexpressed in positions where it is required (or felt necessary) in adult Vietnamese. For further, general

information about the use of classifiers in Vietnamese, see Pham, Simpson and Nguyen (2023:2-3, section 1.2), and Simpson and Ngo (2018).

This general patterning of errors also turns out to characterize the storytelling data gathered in Pham et al. (2019), both for children with TD and DLD. Neither set of speakers produced any errors of syntax/word order with classifiers, and minimal errors of ‘commission’, using a classifier that was not appropriate for the noun it was combined with. For both TD and DLD, the common error that occurred was omission of classifiers in contexts that were judged to require a classifier in adult Vietnamese. Furthermore, due to aspects of the story itself, these omission errors regularly occurred with the omission of the classifier in positions where adults would produce a bare classifier pattern (illustrated above in (2)) rather than following numerals, as in (1). This was because there were no opportunities for speakers to use numerals other than *một* ‘one’ in their storytelling, as none of the entities in the story occurred in a plurality (i.e. there was just a single boy, a single dog, a single frog etc). When the numeral *một* ‘one’ did occur, in presentational contexts such as (3) below, there were extremely few omission errors. However, it should be added that at the kindergarten level, where most classifier omission errors were found, such sequences of *một* CL N were in fact *only* produced by TD children, and fully absent from the DLD group (see 3.4):

- (3) có một con chó ở đằng sau đi theo
be one CL dog be direction behind go follow
‘There was a dog behind, following.’ TD5.1⁷

Concerning the classifier omission errors that did occur, these were overwhelmingly found in contexts of anaphoric definite reference, where speakers refer to an individual/entity that has already been explicitly introduced into the discourse/storyline. In Vietnamese, bare classifier patterns are very frequently employed for such anaphoric reference as a more explicit form of reference than pronouns (which are less commonly used in Vietnamese than European languages such as English, French and

⁷ The notation used here and in other examples references the speaker identity number and the time point of the utterance, hence TD5.1 tags an utterance made by child number 5 from the typically developing group at time point 1 (kindergarten).

German). This is illustrated in (4), where TD7 uses the bare classifier expression *con ếch* [CL frog] ‘the frog’ to refer back to the frog which was introduced in the preceding sentence, in which ASP is used to denote aspect:

- (4) đúng lúc đấy thì thấy có một con ếch đang đậu ở trên lá sen.
time that TOP see be one CL frog ASP wait there on leaf lotus
‘Then (he) saw there was a frog on the lotus leaf.’
cậu bé định bắt con ếch.
CL boy plan catch CL frog
‘The boy planned to catch the frog.’ TD7.3

The same speaker at time point 1, however, produced the inappropriate continuation shown in (5) where a bare noun *ếch* ‘frog’ was used to refer anaphorically back to the frog introduced in the preceding sentence, and this is judged unacceptable and classified as an error of classifier omission – the speaker should have used a bare classifier phrase in this context, as in (4).⁸

- (5) nhưng có một lúc bạn ấy bạn đang nhìn thấy một con ếch .
but be 1 moment friend that friend ASP look see one CL frog
‘But then the friend is looking at a frog.’
#thì bạn ấy bạn chạy ra bắt ếch
C friend that friend run out catch frog
Intended: ‘The friend ran out to catch the frog.’⁹
Communicated: ‘The friend ran out to catch frogs/a frog.’ TD7.1

(6-8) show further examples of classifier omission from the DLD/TD corpus discussed in Pham et al. (2019). In all cases, the speaker incorrectly used a bare noun in situations of anaphoric definite reference, where adult

⁸ The symbol # is used to signal that a sentence/phrase is inappropriately expressed for its intended meaning. TNS denotes verb tense in example (7).

⁹ The characterization ‘Intended’ here and in other examples is used to signal that there is only one meaning that could have plausibly been intended by the speaker given the context of the utterance, and this ‘intended meaning’ is at odds with what the speaker’s words actually convey – the ‘communicated’ meaning.

speakers would use a classifier + noun combination. This error patterning was particularly pronounced at time point 1, and speakers who exhibited high rates of classifier omission in kindergarten increasingly switched to the adult-like use of bare classifier forms over time. For example, DLD1 produced 34 classifier omission errors at time point 1, 12 errors at time point 2, and 5 at time point 3. Similarly, DLD3 transitioned from 17 errors in kindergarten to only one omission error at time point 3.

- (6) #ếch nhảy lên đá, và #chó sắp rơi xuống nước
frog jump up rock and dog ASP fall down water
Intended: 'The frog jumped up onto the rock, and the dog is about to fall into the water.' DLD1.1
- (7) #cậu bé đã chụp được chó
CL boy TNS catch able dog
Intended: 'The boy caught the dog.' DLD3.1
- (8) #mà không nói một câu gì với ếch
but NEG say one word any with frog
Intended: 'But (he) didn't say a word to the frog.' TD6.1

It can also be noted that the omission of classifiers regularly occurred in a full range of syntactic positions (subject, object and object of preposition positions, as can be seen in the representative examples above), and did not cluster in any particular position or differ in any significant way relative to syntactic position in the DLD and TD groups (i.e. both groups produced a similar proportion of omission errors in different syntactic positions).¹⁰

In terms of the overall rate of classifier omission found in the DLD and TD groups as a whole, clear differences occurred, and the omission of classifiers was much more pronounced in the DLD group, especially in kindergarten, with speakers with DLD producing over twice the number of omission errors at time point 1, on average, than TD speakers (total

¹⁰ The DLD group produced a total of 44 omissions in subject position, 31 in object position, and 16 in object of preposition position, and the TD group produced 19 omissions in subject position, 15 in object position, and 9 in object of preposition position.

errors: DLD: 62 vs. TD: 30). While the speakers with DLD reduced their omission rate over time, at time point 3 they were nevertheless still making twice the number of omission errors than their TD peers (total errors: DLD: 14 vs. TD: 6), due to improvement by the latter group over time. Consequently, from the data gathered in Pham et al.'s (2019) investigation, it would seem that speakers with DLD are, on average, prone to a sustained higher rate of classifier omission than typically developing children, throughout their early years of schooling, although there is improvement among speakers with DLD over time.

Two further points can be made about classifier omission as they occurred in the corpus studied here. First, there was clear individual variation in speakers' omission rates, both in the DLD and the TD groups. Hence there were some speakers in both groups who omitted classifiers considerably more frequently than others. Second, there were certain specific contexts which caused omission errors to occur quite distinctively across multiple speakers. The first of these was the use of the bare noun *ếch* 'frog' following the verb *bắt* 'catch', resulting in the sequence *bắt ếch* 'catch frog' at points in the storytelling when the speaker would have been expected to use a classifier with the noun, as its reference had already been established and would be naturally coded by adult speakers with the sequence *bắt con ếch* [catch CL frog] 'catch the frog', as already illustrated in example (5). This error was found with 6/10 of the speakers, and for two of the speakers (one TD and one DLD), this was actually the only classifier omission error in all of their storytelling at time point 1 (one token each). It is possible that this specific error might stem from the influence of other verb + noun pairs which are learned as lexical units and used very frequently in Vietnamese, for example *ăn cơm* [eat rice] 'eat', *làm việc* [do work] 'work'. Speakers in the study may have produced *bắt ếch* as a similar, single meaning unit without reflecting on the need to individualize the object by means of a classifier. A second potential cause of the error may be the effect of prosody and a preference for bisyllabic structures among children acquiring Vietnamese noted in Tran (2011). A two-syllable verb + noun sequence (*bắt ếch*) might have been favored by speakers over the three syllable unit (*bắt con ếch*) due to this preference for bisyllabic structures. Some interesting support for such a speculation comes from the observation that three of the six speakers who produced

bắt ếch in inappropriate positions introduced the classifier (correctly) before *ếch* when a longer sequence was produced with a 2 x 2 syllable structure (i.e. two sequential phrases, each consisting in two syllables). This resulted in all three speakers producing the sequence *bắt được con ếch* [catch can CL frog] ‘able to catch the frog’ during the same part of the storytelling that they incorrectly used *bắt ếch*. For example, speaker TD7 produced (9) below shortly after producing the pair of examples in (5) (with *bắt ếch*), and speaker TD5 produced the sequence of sentences in (10a-c) within a portion of the speaker’s telling of the story:

- (9) rồi lúc đấy bạn không bắt được con ếch
then moment that friend not catch able CL frog
‘Then, at that time, the boy didn’t manage to catch the frog.’ TD7.1
- (10) a. xong rồi con ếch buồn
then CL frog sad
‘Then the frog was sad.’
b. #cậu bé định bắt ếch
CL baby intend catch frog
‘The boy wants to catch the frog.’
c. xong rồi cậu bé không bắt được con ếch
then CL baby not catch able CL frog
‘Then, the boy didn’t manage to catch the frog.’ TD5.1

It may be useful to consider the potential effects of prosody and bisyllabicity in further studies of classifier use and omission, as in Tran (2011).¹¹

¹¹ The possible effects of prosodic rhythm of bisyllabicity might also extend to a second common error found in the corpus, which was the omission of a classifier following a preposition. This is illustrated in (i). Here the classifier *con* was omitted before *ếch* ‘frog’, resulting in a bisyllabic constituent *với ếch* ‘with frog’ in place of a (grammatical/appropriate) three syllable sequence *với con ếch* [with CL frog] ‘with the frog’.

(i) #mà không nói một câu gì với ếch
but NEG say one word what with frog
Intended: ‘..but didn’t say a word to the frog.’ TD6.1

Finally, as we are here summarizing patterns of classifier omission in the DLD/TD corpus, and these regularly involve the use of a bare noun in place of a classifier + noun combination in contexts of definite anaphoric reference, some comments are called for on the use of bare nouns with definite reference in adult Vietnamese. As regularly noted in the literature, the common, dominant mode of representation of anaphoric definite reference is via the use of a classifier paired with a noun (if a pronoun is not employed), the so-called bare classifier pattern (see Bisang et al. 2020 among others). However, it has also been noted (see in particular Phan and Dong 2021) that bare nouns may sometimes be acceptable in contexts of definite reference, including those involving anaphoric reference. An example of this, (slightly) adapted from Phan and Dong (2021) is given in (11):

- (11) a. Mẹ mới mua một cuốn sách cho tôi.
mum just buy one CL book for me
'Mum has just bought a book for me.'
b. Sách vẫn còn thơm mùi giấy mới.
book still good smell paper fresh
'The book still has the good smell of freshly-printed paper.'

In (11b), the bare noun *sách* is used to refer back to the book introduced in (11a), and speakers find this acceptable (although possibly preferring a form with either the classifier present *cuốn sách* or a demonstrative added after the noun: *sách này* 'book that'). The conditions which permit the acceptable use of bare nouns in contexts of definite anaphoric reference are still not clear and need to be investigated further.¹² What can be said here is that each of the instances of classifier omission noted as errors in the corpus under discussion was judged to be unacceptable in adult Vietnamese by native speakers in the context in which it occurred, hence bare nouns were not felt to be acceptable in these sentences. It is to be hoped that future investigations of Vietnamese will clarify what discourse/structural conditions do license the occasional use

¹² Trinh (2011) actually claims that definite readings of bare nouns are not at all possible in Vietnamese. Ngo (2012) suggests that the acceptability of bare nouns in contexts of definiteness depends on syllable structure and the aspectual type of the predicate.

of bare nouns as anaphors and why such forms are sometimes acceptable to speakers as alternatives to bare classifier forms (see work on similar phenomena in Chinese, and the challenges facing the analysis of different referential forms in anaphoric contexts in Jenks 2018; Dayal Vaneeta and Li 2021; Simpson and Wu 2022). Here we will not attempt to account for why bare nouns were judged to be acceptable by the two adult native speakers in the corpus, and simply note that the forms speakers used were felt to be inappropriate in adult Vietnamese, and emphasize again that both DLD and TD children also converged on the regularized use of base classifier patterns over time in instances of anaphoric reference, in place of their earlier use of bare nouns.

3.2 Systemic (in)stability in referential forms

A second noteworthy property of classifier use among the DLD and TD children relates to the general *(in)stability* of their language systems, as manifested in alternations between different linguistic forms used for the same referent in the story, in particular during kindergarten, before the language of speakers with DLD becomes more like adult Vietnamese in its systematic use of classifiers. In kindergarten, if the special errors noted in 3.1 are set to one side (i.e. the inappropriate use of *bắt éch* and occasional dropping of classifiers after prepositions, perhaps due to the influence of prosody/rhythm), children from the TD group were generally consistent and accurate in their use of referential forms, using a bare classifier structure (CL + N) for anaphoric reference to a character after it had been initially introduced with either a bare noun or by means of a three element structure ‘one CL N’, as in (12) below:

- (12) a. xong rồi có một con chó đứng đằng sau
 done then be one CL dog stand direction behind
 ‘Then, there is a dog standing back.’
 b. con chó nhảy theo
 CL dog jump following
 ‘The dog jumped in.’ TD5.1

This kind of alternation between forms is meaningful, reflecting the changing referential status of characters/entities as they are first referred to and then referenced anaphorically, with appropriate representations signaling their indefinite or definite status (bare nouns, one CL N sequences, bare classifier forms).

In frequent contrast to this, however, a dominant pattern found among the children with DLD in kindergarten was a much more random alternation between bare nouns and CL N sequences without this corresponding to or signaling differences/changes in a character's referential status. This is illustrated in (13), which shows how DLD3 switches between different forms to refer to the frog in the story in an apparently random way. DLD3 first introduces the frog with the form *một ếch* 'one/a frog' (which is actually ungrammatical, as a classifier should occur following *một*), then uses the bare noun *ếch* to refer to the frog (inappropriate, as the frog's reference has been established at this point, and so should require a bare classifier structure), subsequently switches to a bare classifier form *con ếch* 'CL frog', and then returns to referring to the frog with a bare noun *ếch*:

- (13) a. ngày xưa ngày xưa có một *ếch với con chó
Once upon a time be one *frog and CL dog
'Once upon a time there was a frog and a dog.'
- b. ..#ếch nhìn thấy
frog look see
Intended: 'The frog looked on.'
- c. ...xong con ếch sang kia
then CL frog go there
'Then the frog went over there.'
- d. ...#xong ếch ở đá
then frog be.at rock
Intended: 'Then, the frog is on the rock.' DLD3.1

This kind of alternation was heavily present in a majority of the speakers with DLD at time point 1, kindergarten. While most speakers became more adult-like and consistent in their use of referential forms

during time points 2 and 3 (first and second grade), for one speaker, DLD1, seemingly random switches continued to occur through time point 3 (second grade), with the speaker referring to the frog in the following sequential way during the telling of the story: *một con ếch > ếch > con ếch > ếch* (one CL frog > frog > CL frog > frog). By way of contrast, only one member of the TD group showed a similar patterning at time point 1, with just one referent. Quite generally, then, children with typical development appear to be swifter in their adoption of consistent, adultlike referential forms and much less prone to random alternations in the linguistic representation of characters in a story.

3.3 Classifier use with non-main protagonists in the storyline

Due to the nature of the story *A Boy, a Dog and a Frog*, children recounting the story refer to the three main characters repeatedly throughout the story, and it is in these instances of reference that most of the occurrences of classifiers are regularly found. However, in addition to the boy, the dog, and the frog, reference was also made to other, more background entities in the story, as illustrated in (14-16), individualizing these nouns/referents with the use of classifiers:

- (14) cậu bé mở cái chậu
CL baby open CL pot
'The boy opens the pot.' T3.1
- (15) rồi cô bé cầm cái vợt
then CL baby hold CLnet
'Then the child holds the net.' DLD5.1
- (16) cậu bé trèo lên cái cây
CL baby climbs up CL tree
'The boy climbs up the tree.' TD6.2

Comparing the DLD and TD groups with regard to classifier use with non-main protagonists (characters or objects in the story that move the plot along, albeit in a secondary role), a broad difference emerges, with a

significantly higher rate of classifier-mediated reference to secondary, background elements being made by typically developing children. Calculating the number of different nouns other than the boy, the dog, and the frog expressed with classifier structures, members of the TD group mentioned such referents at a rate which was 64% higher than the speakers with DLD, averaged over the three time periods. The TD children were therefore creating linguistically richer stories, on average, than the DLD group, going beyond reference to the main characters in the story and using classifier phrases to highlight additional storyline content to a greater degree than the TD group. Whereas some reference to the boy, the dog, and the frog was (practically) inevitable for all speakers retelling the story, the optional mentioning of other, more backgrounded entities at higher rates among the TD speakers may be seen as demonstrating increased linguistic creativity and (perhaps) greater confidence in the use of language by TD children in comparison to those experiencing DLD.

3.4 Classifiers in complex, three element structures

A final classifier-centered patterning which seems to show very clear differences in DLD and TD children acquiring Vietnamese (based on the performance of the speakers documented by Pham et al. (2019)), involves the combination of classifiers in nominal structures containing three distinct elements – the addition of either a numeral or a demonstrative to a classifier + noun pair, as illustrated in (17):

- (17) a. numeral + classifier + noun b. classifier + noun + demonstrative
 một con chó con chó này
 1 CL dog CL dog that
 ‘a/one dog’ ‘this dog’

Both such forms occurred in the storytelling corpus, as seen in (18) and (19) below, but were used at a much higher rate by TD speakers – on average over 2.5 times more frequently over the three time points.

- (18) lúc đẩy con ếch đã ra một hòn đá
moment that CL frog PERF go out one CL rock
'At that point, the frog went onto a big rock.' TD7.1

- (19) con ếch ở trên cái cành cây kia
CL frog be on CL branch tree that
'The frog was on that tree.' TD1.1

These three element structures have a greater syntactic complexity than simple classifier + noun pairs¹³, and the ability to correctly and confidently produce such patterns shows growing sophistication in speakers' development and control of nominal syntax.

A particularly striking aspect of the distribution of these structures in the DLD/TD corpus is their heavily imbalanced presence at time point 1. When recorded in kindergarten, there was almost no use of three-element forms by speakers with DLD – only one occurrence among all five speakers. By way of contrast, all five TD speakers used three-element structures multiple times in kindergarten – in total, 22 occurrences and an average of 4.4 uses per speaker/storytelling. This very sharp difference in the spontaneous use of three-element classifier forms in kindergarten among TD and speakers with DLD (at least, in the context of storytelling) therefore patterns as a consistently strong marker of TD vs. DLD language ability/performance which it will be useful to track in future studies. It is also relevant to note that the use of such structures showed improvement over time among the speakers with DLD, with all five speakers starting to use these forms from time point 2 onward, though still with less frequency than the TD speakers. The acquisition of these more complex nominal patterns consequently has the general profile expected for children with DLD, being an aspect of linguistic competence that emerges later than with TD children, but subsequently shows steady consolidation over time.

¹³ For detailed discussion of the syntactic structure of noun phrases in Vietnamese, and how numerals and demonstratives are syntactically combined with classifiers and nouns, see Nguyen (2004).

4. POTENTIAL CORRELATIONS WITH THE DEVELOPMENT OF OTHER GRAMMATICAL MORPHEMES

Before summarizing the findings of this preliminary study of classifier use among Vietnamese children with and without DLD, we will briefly comment on the use of other grammatical morphemes in the DLD/TD corpus and whether there might be any parallels with the development of classifier syntax in the DLD and TD populations examined by Pham et al. (2019).¹⁴ Specifically, we ask if differences between DLD and TD speakers in their use of classifiers might be matched by differences in the use of morphemes encoding tense/aspect, passive-marking, and/or the use of clausal connectives (complementizers).

The two most frequently used tense, aspect, and mood (TAM) markers in the corpus were the progressive aspect marker *đang*, illustrated in (20), and the perfect marker *đã* (Phan and Duffield 2019) seen in (21):

- (20) cậu bé đang đi trên đường
CL baby ASP go on road
'The boy is walking along the road.' DLD7.1

- (21) nhưng cậu bé và con chó đã nhìn thấy con ếch
but CL baby and CL dog PERF see CL dog
'But the boy and the dog saw the frog.' DLD1.2

The element *đang* was used quite frequently by both DLD and TD children at all time points, and there was no sign of any difference in the acquisition of *đang* among the DLD and TD children. In fact, the DLD group used *đang* more frequently than the TD speakers (a total of 57 times (DLD), vs. 21 times (TD)). The perfect morpheme *đã* was also used quite frequently by both DLD and TD children at all time points, and, similarly, there were no obvious indications of DLD/TD differences in the acquisition of *đã* within the corpus. However, as with *đang* there was a frequency difference with *đã*, which was the opposite from *đang*, with TD

¹⁴ Thanks to Nigel Duffield (personal communication) for encouraging us to look at possible correspondences in the development of other grammatical morphemes across nominal and clausal domains among DLD and TD speakers.

children using *đã* at a higher overall rate than the children with DLD (a total of 39 uses (TD) vs. 22 uses (DLD)).¹⁵

Additionally, both DLD and TD speakers frequently used the passive-like morpheme *bị*, as illustrated in (22).¹⁶ Every speaker used *bị* at least once and for most speakers it was used from kindergarten on, but as with *đang* and *đã* there were no obvious DLD/TD distinctions.

- (22) cậu bé bị ngã xuống ao
CL baby PASS fell descend pond
'The boy fell into the pond.' DLD6.1

Considering the patterning of *đang*, *đã* and *bị* in the DLD/TD corpus, there is no evidence to suggest a correlation between speakers' ability to use classifiers correctly and their use of TAM markers and passive *bị* - although there are significant differences between the DLD and TD groups in the area of classifier syntax and use, there do not seem to be similar differences between the two groups with regard to *đang*, *đã* and *bị*. However, it should be noted that a primary measure of speakers' acquisition of classifiers is the omission of such elements, which measures the (ungrammatical) *absence* of an element, whereas the characterization of *đang*, *đã* and *bị* presented above monitors the *presence* of these morphemes (as TAM elements are mostly optional in Vietnamese and ungrammaticality is not caused when such morphemes are not present). The comparison is therefore somewhat imbalanced in nature, though still potentially informative.

In contrast with the use of *đang*, *đã* and *bị* in the corpus, the distribution of the connectives *vì* 'because' and *khi* 'when' did show significant differences among the DLD and TD groups. When the presence of these two elements was tracked across the three time points, it was found that TD speakers used these morphemes considerably more

¹⁵ Other TAM markers such as *sẽ* (future tense), *sắp* (imminent action) and *đã* (already) occurred much less frequently and were only used by a very few speakers.

¹⁶ This element patterns in many ways like Mandarin *bei*, but may also occur with a following intransitive verb, signaling that the subject suffers an unwelcome action (see Simpson and Ho 2013).

frequently than speakers with DLD, as represented in Table 1 and illustrated in (23) and (24):

Table 1. Total occurrences across time points 1-3

Item	DLD group	TD group
vì ‘because’	3	11
khi ‘when’	6	17

- (23) thật bức mình vì không bắt được con ếch
truly angry self because not catch able CL frog
‘(He) was really angry with himself because (he) couldn’t catch the frog.’ TD7.1
- (24) khi con chó và cậu bé nhìn thấy con ếch ộp thì cậu bé chạy ra bắt con ếch ộp
when CL dog and CL baby see CL frog then CL baby run out catch CL frog
‘When the dog and the boy saw the frog, the boy ran out to catch the frog.’ DLD6.1

Two other generalizations relating to *vì* and *khi* which emerge from the corpus are the following. First, every TD speaker used *vì* and *khi* at some time point, whereas only 3/5 of the speakers with DLD ever used *vì* (and only used it once), and only 2/5 of the speakers with DLD used *khi*. Second, at time point 3, only one DLD speaker used one of these two elements, whereas at the same time point *all* the TD speakers used one of these morphemes (or both). There was consequently a clearly elevated rate of use of *vì* and *khi* among the TD group in comparison to the speakers with DLD. As *vì* and *khi* are both used to introduce subordinate clauses, they serve as overt markers of increased grammatical complexity in the clausal domain. During the same period of time in which DLD and TD groups are distinguished in their development of classifiers within the nominal domain, it would seem that DLD/TD speakers’ development of clausal connectives is also developing at different rates, suggesting a possible correlation in syntactic growth in both sentential and nominal

structures which may be worthwhile exploring further, in future studies comparing DLD and TD speakers.¹⁷

5. SUMMARY

Developmental language disorder is a phenomenon which has thus far been investigated predominantly in Indo-European languages¹⁸ and focused on the acquisition of morphosyntax and the accurate use of grammatical elements such as markers of tense and agreement, comparing such patterns with those exhibited by children experiencing a more typical trajectory of (linguistic) development. In order for DLD to be understood more fully in a cross-linguistic context, more studies of typologically and genetically different languages are necessary, with data relating to a broader array of grammatical patterns. This short paper hopes to contribute to current efforts to expand information about how DLD may manifest itself in different languages with its documentation of classifier patterns in DLD and TD Vietnamese. The study has led to the observation of a number of DLD/TD differences in classifier use, including errors of omission, meaningful vs. random alternations in representational forms, and the development of three element classifier structures. This now provides a comparative base for the investigation of DLD/TD classifier patterns in other numeral classifier languages, and for further studies of Vietnamese. With regard to Vietnamese itself, as the present study reports on language used in children's free storytelling, and only involved the use of a small number of different classifiers (ranging from 1-5, with most instances being the use of *con* for animate entities, and *cái* for inanimates), a next useful step will be to try to elicit a wider range of classifiers, experimentally, to see how the broader inventory of classifiers may differ

¹⁷ We also collected data on the use of other connectives and complementizers such as *mà* 'but', *rằng* 'that' and *là* 'that', but there were much less frequent occurrences of these elements (only one or two occurrences across the entire corpus) and so no clear generalizations are possible about differences between the DLD/TD groups.

¹⁸ Though the bulk of the DLD literature focuses on Indo-European languages, DLD has been studied in Asian languages such as Chinese (e.g., Cheung 2009) and Japanese (e.g., Murao, Ito, Fukuda, and Fukuda 2017).

in DLD/TD speakers at different time points. It will also be instructive to see if children with DLD are able to *produce* three element classifier structures in focused experiments (although these were largely absent from the storytelling corpus) and how classifier omission rates may occur in structures using (more) numerals, as the omission patterns in the current study largely relate to the absence of classifiers in the bare classifier structure, where numerals are not present. We hope to engage in this work in future projects.

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越南語中量詞的使用：典型發展以及非典型發展的差異

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關於東亞和東南亞語言中的數字量詞及其相關句法結構的習得問題，文獻上對於典型發展(Typically-developing, TD)的年輕成人有廣泛的研究與記載。然而，關於患有發展性語言障礙(Developmental Language Disorder, DLD)的兒童如何習得量詞的問題，卻極少有研究。本文針對典型發展(TD)的以及患有發展性語言障礙(DLD)的越南兒童，在他們從幼稚園到二年級的三年中，對他們的量詞習得進行比較分析。此研究指出 TD 和 DLD 兒童的表現差異，並清楚描述在不同群體中最具挑戰性的量詞使用句型。

關鍵詞：發展性語言障礙、DLD、縱向追蹤研究、習得、敘事

THE LEFT-PERIPHERAL NATURE OF THE RIGHT-EDGE PARTICLE *KHÔNG* IN VIETNAMESE*

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ABSTRACT

This work provides a syntactic account of VP-*không* questions in Vietnamese. We begin by pointing out potential problems in Duffield's (2013a) predicate-raising analysis to VP-*không* questions. First, it is unclear why raising the predicate to the left of the negator *không* could turn a declarative into a question. Second, Duffield's analysis cannot account for the occurrence of TP-level adverbs between the subject and the predicate. Third, contrary to a claim in Duffield's analysis, the topic marker *thì* is actually compatible with VP-*không* questions. To deal with these problems, we argue for an alternative analysis which involves Neg-to-C movement and the raising of a remnant TP.

Keywords: *không*, negator, negative particle questions, Vietnamese, Neg-to-C movement

* This work benefits from the comments of two anonymous reviewers, as well as the questions of the audiences at the conferences ISVL-2 and SEALS-31. We would also like to thank our informant, Trần, Phan, for the grammaticality judgments of the data. We are solely responsible for all possible errors that remain. The names of the authors are alphabetically ordered.

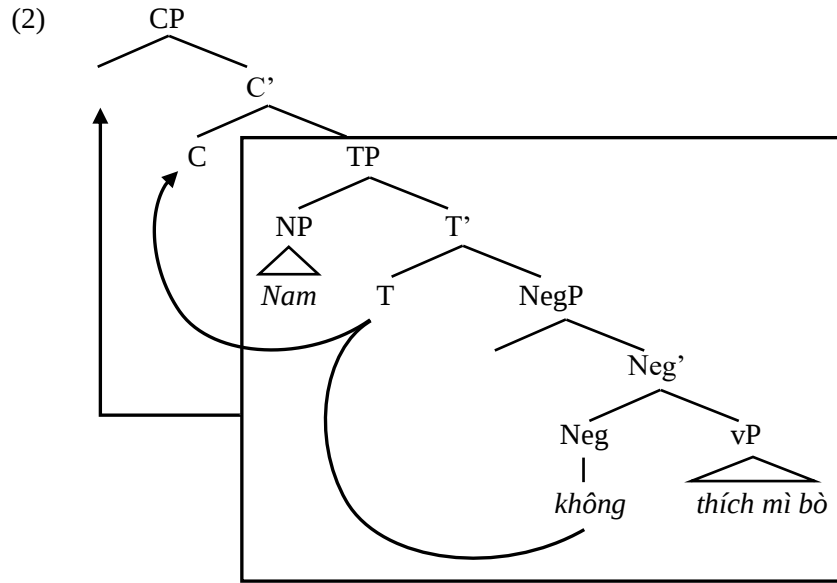
1. INTRODUCTION

There is a special type of question sentences in at least some Southeast Asian languages and Sinitic languages, which is characterized by the occurrence of a sentence-final negative particle. It is called *negative particle question* in Cheng et al. 1997. Negative particle questions have drawn much attention from linguists, and different analyses have been argued for (Cheng et al 1997; Hsieh 2013; Duffield 2007, 2013a, among many others). In this work, we focus on the structure of VP-*không* questions in Vietnamese, which is a negative particle question. The pre-verbal element *không* in (1a) is a negator. However, it functions as a question particle when it occurs after the predicate of the sentence, as in (1b).¹

- (1) a. Nam **không** thích mì bò.
 Nam NEG like noodles beef
 ‘Nam doesn’t like beef noodles.’
 b. Nam thích mì bò **không?**
 Nam like noodles beef Q
 ‘Does Nam like beef noodles?’

Duffield (2013a) proposes a predicate-raising analysis to VP-*không* questions, which he claims can account for some co-occurrence constraints in VP-*không* questions. However, we show that Duffield’s analysis leaves some problems unresolved. We instead argue for a different analysis to the VP-*không* questions, which involves Neg-to-C movement and the subsequent raising of TP, as shown in (2).

¹ Abbreviations used in the glosses are: NEG = negator, Q = question particle, CL = classifier, TOP = topic marker, FUT = future marker, POSS = possessive marker, PERF = perfective aspect marker, EXP = experiential aspect marker.



Following Nguyễn 1997 and Duffield 2013a, we assume that *không* is base-generated under the head of NegP. In addition, we propose that *không* moves to the head C.² The remnant TP subsequently raises to Spec, CP to derive the surface form.

Le (2015) also proposes a Neg-to-C analysis for the VP-*không* questions. Her evidence is the so-called identical distribution of the negator *không* and the question particle *không* when they occur with different types of verbs, aspectual markers, and modals. However, Le's work is not completely satisfactory in two aspects. First, Le only postulates the operation of Neg-to-C movement in VP-*không* questions, but why *không* ends up in the sentence-final position, she does not mention. Second, the so-called identical distribution of the two *không*'s in Le's argument does not seem to work. For example, the future marker *sẽ* actually can co-occur with the negator *không*, which is different from Le's

² We tentatively assume that Neg-to-C movement is driven by the valuation of the interrogative feature in C⁰ (Chomsky 1995, 2001, 2002).

claim that both the negator *không* and the question particle *không* cannot co-occur with the future marker *sẽ*. See the examples in (3).

- (3) a. Nam sẽ không đi Mỹ.
 Nam FUT NEG go America
 ‘Nam will not go to America.’
 b. *Nam sẽ đi Mỹ không?
 Nam FUT go America Q
 Intended reading: ‘Will Nam go to America?’

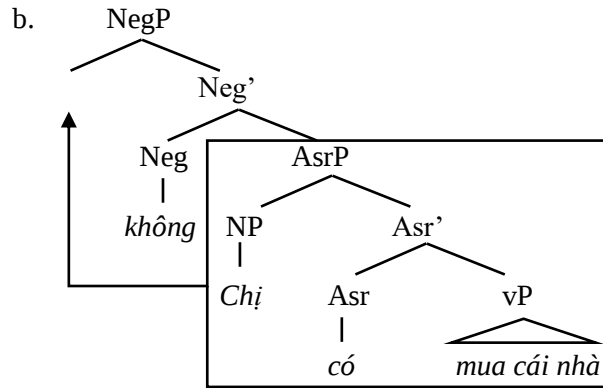
Therefore, though Le’s analysis provides interesting insights, it is actually not as explanatory as one would expect. Although we also argue that there is a Neg-to-C movement in VP-*không* questions, we provide independent syntactic evidence to support it, which is free from the potential problems that previous analyses, such as Le’s, would encounter. Furthermore, in addition to Neg-to-C movement, we also propose that the remnant TP moves to the Spec, CP. This resolves the question of the sentence-final status of the question particle *không*.

The remainder of this paper is organized as follows. Section 2 reviews the analysis of Duffield 2013a and points out some potential problems in it. Section 3 presents the proposed analysis of this work. Section 4 introduces negative particle questions in other languages. Section 5 is the conclusion.

2. DUFFIELD 2013A

Duffield (2013a) proposes a syntactic analysis for VP-*không* questions, illustrated in (4). In that proposal, the negator *không* is in the head of the Negative Phrase (NegP). The Assertion Phrase (AsrP) is the complement of NegP, and it raises to Spec, NegP to derive the observed surface form.

- (4) a. Chị có mua cái nhà không?
 you exist buy CL house Q
 ‘Did you buy (the) house?’ (Duffield 2013a:128)



(Duffield 2013a:147)

Duffield claims that this proposal would account for the following two phenomena: the impossibility of “negative” VP-*không* questions, and the incompatibility of VP-*không* questions with the topic marker *thì* and future marker *sẽ*. See the examples in (5) (cited from Duffield 2013a:128-129).

- (5) a. *Anh ấy **không** đến không?
 he NEG come Q
 Intended reading: ‘Isn’t he coming?’
- b. *Xã bên **thì** ruộng tốt không?
 village side TOP rice.field good Q
 Intended reading: ‘(As for) the neighboring village, are its
 rice-fields good (fertile)?’
- c. *Vợ anh **sẽ** có làm việc ở Paris không?
 wife you FUT exist work at Paris Q
 Intended reading: ‘Will your wife work in Paris?’

In (5a), the VP-*không* question has an independent negator *không* in it, resulting in a “negative” VP-*không* question. It is ungrammatical, however. The sentence (5a) is ungrammatical, according to Duffield (2013a), because (in his own words) “a head (Neg) cannot trigger movement of a phrase containing itself around itself without violating some fundamental

derivational constraint (e.g., Structure Preservation, Chain Uniformity, Extension Condition, etc.)” (Duffield 2013a:145). In (5b), a topic occurs along with the VP-*không* question, marked by the topic marker *thì*. In (5c), the future marker *sẽ* occurs in a VP-*không* question. Both sentences (5b) and (5c) are ungrammatical. The reason for the ungrammaticality of these two types of sentences, according to Duffield’s analysis, is, in his own words, “Yes-No questions may only involve functional categories that are initially merged lower than the projection headed by *không*. Specifically, it predicts correctly that Yes-No questions cannot contain the future tense marker *sẽ* or the topic marker *thì*” (Duffield 2013a:145).

In addition, Duffield (2013a) explicitly rejects the view that the question particle *không* is in C, because *không* can co-occur with C-elements such as *liệu* ‘whether’, which is assumed to be a complementizer. See (6) (Duffield 2013a:135).

- (6) Cô gái hỏi [liệu cô có thể đi đến
 girl ask LIEU she can go arrive
 bữa tiệc được không].
 party can Q
 ‘The girl asked if she could go to the party.’

However, we believe that Duffield’s analysis leaves some problems unresolved. First, as Duffield (2013b) himself points out, it is unclear why raising the predicate to Spec, PolP (NegP in Duffield 2013a) would turn a negative statement into a question. Thus, the change in semantics triggered by *không* needs to be accounted for in some way. Second, we do not agree that the topic marker *thì* cannot occur with VP-*không* questions as in Duffield’s claim. It is actually possible for the topic marker *thì* to occur in a VP-*không* question, as those in (7).

- (7) a. Cái này thì Nam có mua không?
 CL this TOP Nam exist buy Q
 ‘As for this, did Nam buy it?’

- b. Pate nhum **thì** có ngon không?³
 pâté sea.urchin TOP exist tasty Q
 ‘As for sea urchin pâté, is it tasty?’
- c. Dây của hãng cadi-MH **thì**
 cable POSS brand cadi-MH TOP
 chất lượng có tốt không?⁴
 quality exist good Q
 ‘As for cadi-MH electrical cables, is their quality good?’

Third, the structure in (4b) predicts that no TP-level adverb may occur between the subject and predicate of a VP-*không* question, because the pre-*không* constituent is just an AsrP, and TP is still higher up. However, this prediction is not borne out. TP-level adverbs actually may occur between the subject and the predicate of a VP-*không* question sentence, as shown in (8).

- (8) Nam **ngày mai** có đi học không?
 Nam tomorrow exist go study Q
 ‘Will Nam go to school tomorrow?’

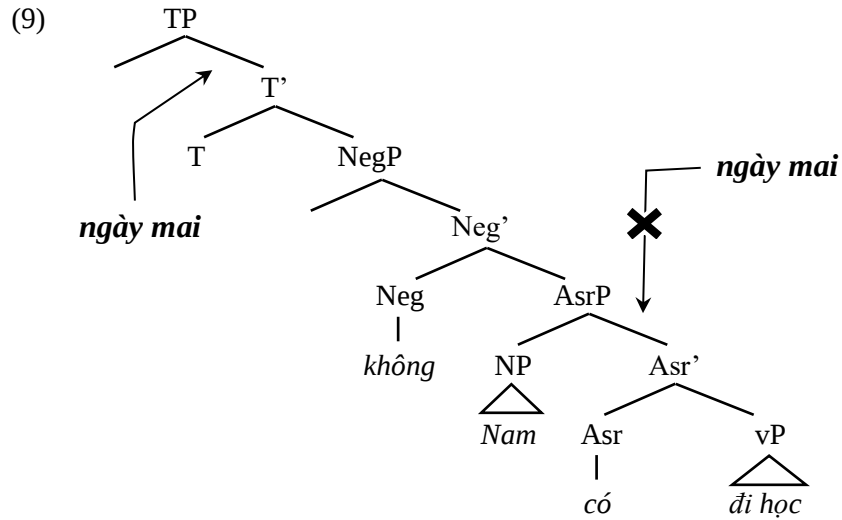
Duffield’s analysis does not permit a time adverb between the subject and the predicate of a *không* question sentence, because it must be adjoined to TP, and thus always is higher than (and therefore precedes) the subject, as shown in (9).⁵

³ <https://www.nhatrangreview.info/nha-trang/pate-nhum-nghi-vinh.html>

⁴ <http://webdien.com/d/showthread.php?t=100914>

⁵ One may think that the time adverb may be adjoined to VP rather than TP. However, the adverb *ngày mai* ‘tomorrow’ can only adjoin to TP because it cannot occur after the future marker *sẽ*, which is typically assumed to be the head of TP (Thompson 1965; Trinh 2005; Duffield 2007, 2013; Phan 2013). See (i).

- (i) a. Nam **ngày mai** sẽ đi học.
 Nam tomorrow FUT go study
 ‘Nam will go to school tomorrow.’
 b. *Nam sẽ **ngày mai** đi học.
 Nam FUT tomorrow go study



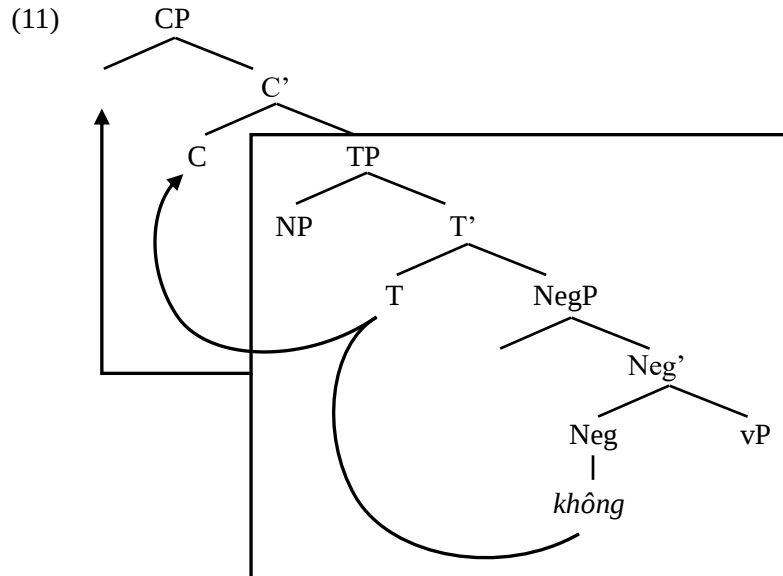
Moreover, Duffield (2013a) argues that the question particle *không* is not in C because it can co-occur with *liệu*, which he assumes is a complementizer. However, *liệu* in (6) is actually very likely an adverb which expresses the speaker's attitude of wondering, rather than a complementizer. If *liệu* is a complementizer, it can only take a TP complement. However, we observe that *liệu* may occur in a preverbal position, as shown in (10). This makes it more like an adverbial rather than a complementizer.

- (10) Nam liệu được đi Mỹ không?
 Nam LIEU can go America Q
 'I wonder whether Nam can go to America or not.'

To summarize, Duffield's analysis runs into problems as shown above. In the next section, we present an analysis which provides explanations for those problems.

3. PROPOSAL

We propose that VP-*không* questions involve Neg-to-C movement and raising of TP, as shown in (11). We assume that the question particle *không* is base-generated in the head of NegP (Nguyễn 1997; Duffield 2013a). The question particle *không* then moves from Neg⁰ to C⁰ and turns into a question particle. Furthermore, the remnant TP undergoes raising to Spec, CP. Holmberg and Nikanne 2002 propose that a [-focus] element must move out of the predicate for feature checking in the object shift construction in Finnish (also see Chomsky 1995). We follow this proposal, and assume that the remnant TP in the *không* questions is assigned a default [-focus] feature, and as a result it must move to the left of *không* so as to highlight the focus status of the particle *không* in the sentence-final position. This is why the question particle *không* ends up in the sentence-final position of the surface structure.



The proposed analysis can account for the properties of VP-*không* questions and those issues raised in the previous section. We summarize them as follows:

- A. There is a semantic change of *không* from a negator to a question particle.
- B. The topic marker *thì* actually may occur in a VP-*không* question sentence.
- C. The future marker *sẽ* is incompatible with VP-*không* questions.
- D. “Negative” VP-*không* question is not permitted.
- E. TP-level adverbs can occur between the subject and the predicate of a VP-*không* question.
- F. The element *liệu* can occur in a VP-*không* question.

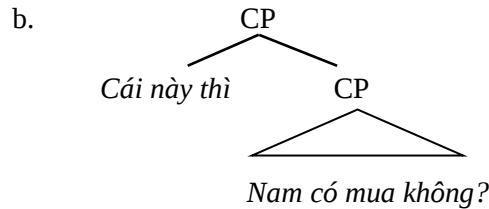
First, the negator *không* receives the function of a question particle after it moves to C, which bears the question feature (Cheng 1997; Chomsky 1995). In addition, we assume that the question feature in Vietnamese, like other sentence-final particles in Vietnamese sentences, has the property of a proclitic and needs to get cliticized to an element that is leftward to it. This triggers the raising of the remnant TP to the Spec of CP. Thus, our analysis provides an explanation for the semantic change of *không*.

Second, the occurrence of the topic marker *thì* in a VP-*không* question now is expected because *thì* and the topic it introduces may adjoin to CP.⁶ The topic element *cái này* ‘this’ and the topic marker *thì* in the example (7a), repeated in (12a), form a topical expression which is left-adjoined to the CP of the *không* question sentence, as shown in (12).

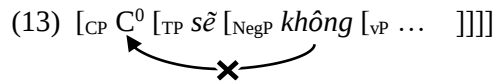
- (12) a. Cái này thì Nam có mua không?
 CL this TOP Nam exist buy Q
 ‘As for this, did Nam buy it?’

⁶ A topic element can also adjoin to a wh-question, as shown in (i). Bruening and Tran (2006) propose that the wh-element in wh-question undergoes covert movement to the Spec, CP if it is in the matrix clause and without any question particle. So, this is another example to show that a topic can adjoin to a CP.

(i) Cái này thì ai mua?
 CL this TOP who buy
 ‘As for this, who bought it?’



Third, VP-*không* questions are not compatible with the future marker *sẽ* because such a sentence incurs violation of the Head Movement Constraint (Travis 1984; Rizzi 1990). A head cannot skip an intervening head. Assuming that *sẽ* is in T (Thompson 1965; Trinh 2005; Duffield 2007, 2013; Phan 2013), it intervenes the movement of *không* from Neg to C, resulting in ungrammaticality, as shown in (13).



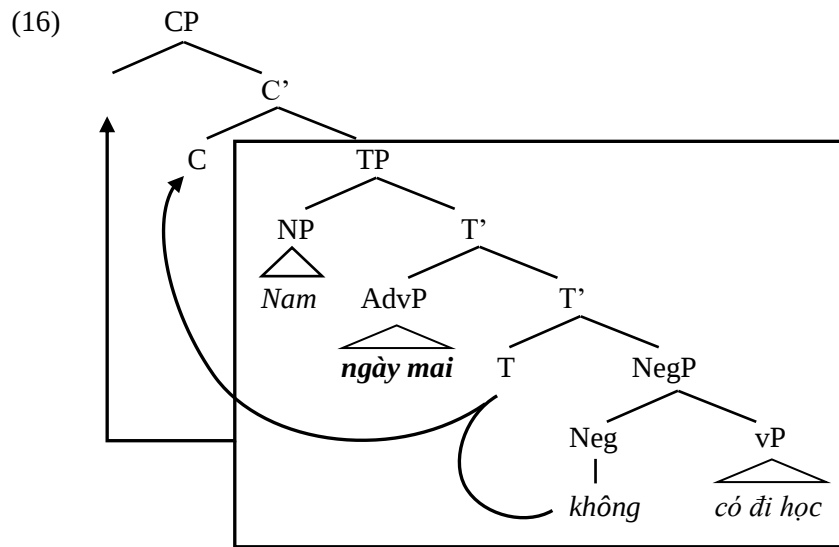
Fourth, “negative” VP-*không* questions are unacceptable because, to start with, projecting two NegPs in a sentence is impossible in principle. This is like the ungrammaticality of the English sentence (14), which contains two base-generated instances of the negator *not*.

(14) *Mary does **not not** like John.

If negative VP-*không* questions were possible, this means that it were possible to have two instances of the negator *không* base-generated in the predicate of the sentence at the beginning of the derivation, with one of them moving to C and the other staying in situ. However, just like the case (14), this two-Neg configuration only results in ungrammaticality, as in (15).

(15)	*Hoa	không	không	thích	Nam.
	Hoa	NEG	NEG	like	Nam

Fifth, a time adverb can occur between the subject and the predicate of a VP-*không* question, as shown in (8). The time adverb *ngày mai* ‘tomorrow’ adjoins to T’ between the subject and the predicate of the sentence. Since the whole TP raises to Spec of CP, the time adverb is moved along, remaining in the position between the subject and the predicate. See (16).⁷



Sixth, the occurrence of the element *liệu* in the VP-*không* questions does not pose any problem to our analysis. As indicated in Section 2, the element *liệu* is not like a complementizer because it can occur in a preverbal position as shown in (10). This makes it more like an adverbial.⁸

⁷ We assume, following proposals such as Lin 2015, that Vietnamese has the syntactic category T, which can be phonetically empty (i.e. an empty anaphoric pronominal). Sometimes it has an overt lexical form, for instance the future marker *sẽ* (and this is the basis for our minimality-violation account of (13)). We are grateful to an anonymous reviewer for bringing this question to our attention.

⁸ We leave aside questions about the syntactic and semantic properties of the element *liệu*.

⁹ The question particle *không* and the element *liệu* do not compete for the same syntactic position. Thus, the presence of *liệu* does not pose any obvious problem to our proposal.

4. NEGATIVE PARTICLE QUESTIONS IN OTHER LANGUAGES

Negative particle questions (NPQs) are also attested in other languages, in particular in the East Asian area, including Khmer, Thai, Mandarin, Taiwanese, Cantonese, and Hakka (Cheng et al. 1996; Cheng et al. 1997; Hsieh 2013; Tang 2022¹⁰). See the examples in (17).

- (17) a. Sowan məəl səphin nul tee? [Khmer]
 Sowan read book that not
 ‘Didn’t John read the book?’ (Cheng et al. 1996:67)
- b. Thaan kaa-fɛɛ ìig: mǎj? [Thai]
 want coffee more Q/not¹¹
 ‘Will you have some more coffee?’ (Cheng et al. 1996:67)

⁹ The element *rằng* can also occur in a VP-*không* question. Questions may arise about whether it is a complementizer. If it is, it may pose a problem to the analysis that we propose in this work. See (i).

(i) Nam muốn biết rằng Hoa có đi Mỹ không?
 Nam want know RANG Hoa exist go America Q
 ‘Nam wants to know if Hoa went to America or not.’

We leave the questions about the grammatical status of *rằng* aside. However, even if it is a complementizer, we may very well adopt the Split CP hypothesis (Rizzi 1997) and assume that it merges to a CP higher than the CP where *không* and the raised TP reside. Thus, as far as we can see, the co-occurrence of *rằng* does not pose any difficulty to the proposal in this work. See (ii).

(ii) [_{CP} *rằng* [... [_{CP} [_{TP} ...] *không* [... _{TP} ...]]]]

¹⁰ A reviewer points out that Tang’s (2022) analysis of VP-*mei* questions in Cantonese is different from that of Cheng et al. 1997. Tang argues that the question particle *mei* in Cantonese is located in T, whereas Cheng et al. argue that *mei* in Cantonese is base-generated in C. We will not go into these issues in this work.

¹¹ The question particle *mǎj* in Thai is assumed to be derived from a preverbal negator (Diller et al. 2008).

- c. Ta chang qu **bu**? [Mandarin]
 he often go not
 ‘Does he go often?’ (Cheng et al. 1997:79)
- d. I u ki hak-hao **bo**? [Taiwanese]
 he have go school not.have
 ‘Did he go to school?’ (Cheng et al. 1997:76)
- e. Keoi lei-zo **mei**? [Cantonese]
 he come-PERF not.have
 ‘Has he come yet?’ (Cheng et al. 1997:69)
- f. Gi oi hi hoggao **mo**? [Hakka]
 he want go school not.have
 ‘Does he want to go to school?’ (Hsieh 2013:2)

Some scholars propose accounts based on Neg-to-C movement for NPQs. Cheng et al. (1997) argue that NPQs in Mandarin employ Neg-to-C movement. This is evidenced by the agreement between the negation and the modal/aspect in Mandarin NPQs. See (18)-(20). Since the distribution pattern of negator *bu* and question particle *bu* are the same, they propose that the question particle *bu* is derived through a reanalysis process, which transforms a negator into a question marker.

- (18) a. Hufei **bu** hui qu.
 Hufei NEG will go
 ‘Hufei will not go.’ (Cheng et al. 1997:67)
- b. Ta hui qu **bu**?
 he will go Q
 ‘Will he go?’ (Cheng et al. 1997:68)
- (19) a. *Hufei **bu** qu-le xuexiao.
 Hufei NEG go-PERF school
 Intended reading: ‘Hufei did not go to school.’
 (Cheng et al. 1997:67)
- b. *Ta qu-le **bu**?
 he go-PERF Q
 Intended reading: ‘Did he go?’ (Cheng et al. 1997:73)

- [illegible]

Cheng et al. (1997) also point out that there is a phonologically null C^0 with the features [Q, Neg] in Mandarin, which attracts the negator to C for feature checking purposes. This can account for the semantic change of the negator straightforwardly.

Hsieh (2013) argues that NPQs in Hakka are a subtype of A-not-A questions¹² and involve Neg-to-C movement. Hsieh draws attention to the similarities between Hakka VP-*mo* questions and A-not-A questions in Mandarin, including fragment answers, co-occurrence with adverbs, co-occurrence with particles, and productivity. Hsieh claims that the negator *mo* in Hakka is an overt realization of the interrogative INFL in Huang's (1991) modular approach. Additionally, Hsieh adopts the split CP analysis to account for the presence of attitudinal particles following the question marker.

These studies provide additional support to our proposal that VP-*không* questions in Vietnamese also involve Neg-to-C movement and raising of remnant TP.

5. CONCLUSION

In this work, we point out problems in Duffield’s (2013a) predicate-raising analysis of VP-*không* questions in Vietnamese and propose an

¹² A-not-A question is a special type of question in Mandarin and other varieties of Chinese language. It is characterized by the combination of both the affirmative (A) and the negative form (not A) of a verb, as shown in (i).

(i) Ni lai bu lai?
you come not come
'Will you come or not?' (Huang 1991:116)

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analysis utilizing Neg-to-C movement and raising of TP. Our proposal can account for the occurrence of TP-level adverbs between the subject and the predicate, the impossibility of negative VP-*không* questions, the incompatibility of VP-*không* questions with the future marker *sẽ*, and the acceptability of the topic marker *thì* in the Vietnamese VP-*không* questions.

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越南語右緣助詞 *không* 的左緣本質

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本文探討越南語中否定詞 *không* 置於句尾作為疑問詞的問句（VP-*không* questions），並為其提出句法分析。我們指出了 Duffield（2013a）針對此種問句提出的謂語提升（predicate-raising）分析可能會面臨的問題。一，Duffield（2013a）的分析中並沒有說明謂語提升到否定詞 *không* 之前為何能將陳述句轉變為疑問句。二，Duffield（2013a）的分析無法解釋時制詞組層級的副詞（TP-level adverb）為何能出現在主詞和謂語之間。三，Duffield（2013a）認為主題標記 *thì* 無法出現在 VP-*không* 問句中，但是主題標記 *thì* 事實上是可以出現在 VP-*không* 問句中的。本文提出一套不同的句法分析，認為 VP-*không* 問句是透過 Neg-to-C 位移和餘留時制詞組（remnant TP）的提升而形成的。此分析可以解釋 VP-*không* 問句本身的句法限制，並且能為以上問題提出良好說明。

關鍵字：*không*、否定詞、否定助詞疑問句、越南語、Neg-to-C 位移

**VERB RAISING, COVERT MODALS
AND FLIP-FLOP CONSTRUCTIONS IN VIETNAMESE:
A COMPARATIVE PERSPECTIVE***

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ABSTRACT

This paper pursues the issues surrounding Vietnamese flip-flop sentences in terms of verb raising and covert modals from a comparative point of view. We show that verb movement in flip-flop constructions is found in both matrix and embedded environments where the presence of modality is attested. Evidence is presented to show the bi-clausal nature of the so-called “flip alternative” construction, as well as the rightward nature of V-to-M adjunction. We also draw cross-linguistic support from Thai data to substantiate our syntactic analyses on empirical grounds.

Keywords: verb raising, covert modals, flip-flop constructions, comparative syntax, Vietnamese

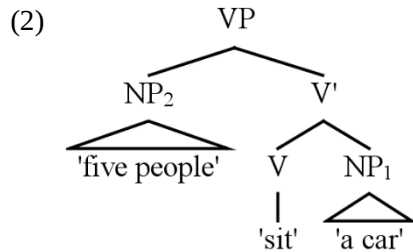
* The research leading to this article is funded by the Ministry of Science and Technology, Taiwan (“A Comparative Syntactic Study of Flip-flop Sentences,” MOST 109-2410-H-007-065-MY2). We thank the editors and the two anonymous reviewers for their comments and suggestions. Special thanks go to Noppakao Sirintranon, Santhawat Thanyawong, Liang-Fan Chen, and Chunyi Wu for providing and discussing the Thai data. All errors are ours alone.

1. INTRODUCTION

The so-called flip-flop constructions in Mandarin Chinese are defined as constructions featuring a “bare” verb whose two arguments are both indefinite quantity noun phrases, as illustrated in (1). The two arguments can alternate between subject and object, a curious phenomenon motivating the moniker (Tsai 2001). We call (1a) the flip construction and (1b) the flop construction. Zhao and Tsai (2023) claim that the two constructions underlyingly exhibit the same argument structure as schematized in (2), and the difference in linear order only comes about when the need for labeling (Chomsky 2013) forces either of the two arguments to move out of its base-generated position. The movement of NP₁ derives the flip construction, while the raising of NP₂ yields the flop construction. Tsai and Phan (2022) (T&P henceforth) identify the landing site of these NPs as [Spec, MP (Modal Phrase)], and the head M is where the verb is subsequently raised to attach to. Note that the argument alternation as displayed when flip and flop constructions are compared is not free in reality, as the respective translations indicate. The semantic disparity observed is attributed to the presence of various covert modal elements permitted for each construction.

- (1) a. *Yi-bu che zuo wu-ge ren.* (flip construction)
one-CL car sit five-CL¹ person
‘A car seats five people.’
b. *Wu-ge ren zuo yi-bu che.* (flop construction)
five-CL person sit one-CL car
‘Five people may/should/must sit in one car.’

¹ The abbreviations used in this paper are glossed as follows: CL: classifier; APPL: applicative marker; NEG: negation marker; PRT: particle; TOP: topic marker.



T&P show that a similar phenomenon is attested for Vietnamese. See (3) for an example.

- (3) a. *Một chiếc xe ngồi năm người.* (flip construction)
 one CL car sit five person
 'A car seats five people.'
 b. *Năm người ngồi một chiếc xe.* (flop construction)
 five person sit one CL car
 'Five people may/should/must sit in one car.'

In both languages, the surface position of the verb in flip sentences such as (1a, 2a) is derived via an obligatory verb-to-modal (V-to-M) raising, where the host is an implicit capacity modal ENO(ugh), as illustrated in (4a,b). The explicit counterpart of ENO in Vietnamese is *đủ* 'enough' in (5a), on par with Mandarin *gou* 'enough' in (5b), where they trigger the verb raising in question. The same pattern of movement emerges when either explicit or implicit priority modal auxiliaries substitute for the capacity modal, a point to be returned to.

- (4) a. *Một chiếc xe [ENO-ngồi] năm người <ngồi>*
 b. *Yi-bu che [ENO-zuo] wu-ge ren <zuo>* (T&P:190)
- (5) a. *Một chiếc xe đủ ngồi năm người <ngồi>.*
 one CL car enough sit five person sit
 'A car is enough to seat five people.'
 b. *Yi-bu che gou zuo wu-ge ren <zuo>.*
 one-CL car enough sit five-CL person sit
 'A car seats five people.'

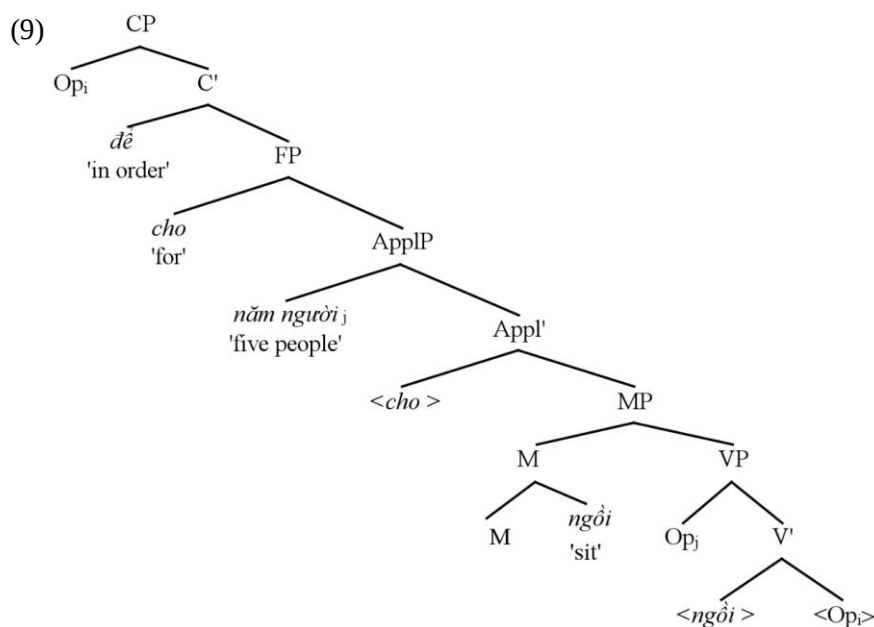
With regard to the flip construction, Mandarin also allows the main verb *zuo* ‘sit’ to stay *in situ* (“the flip alternative” henceforth), as in (6a). The same is observed with the overt presence of modal *gou* ‘enough’, see (6b). Despite that flip-flop constructions in the two languages strikingly mirror each other, Vietnamese however does not readily allow this free alternation. While (7a) and (6a) are equally degraded, (7b) is ungrammatical, unlike (6b). This leads T&P to argue that such a free alternation is but an illusion: when the verb appears not to raise, the structures at issue should be construed as bi-clausal instead. On the other hand, (6a) and (7a) induce a sense of incompleteness, although they are not technically ill-formed. To foreshadow, we will suggest in section 5 that these sentences are in fact derivationally unrelated to the flip construction, and can be improved when situated in an appropriate configuration.

- (6) a. %*Yi-bu che wu-ge ren zuo.*
 one-CL car five-CL person sit
 ‘A car seats five people.’
 b. *Yi-bu che gou wu-ge ren zuo.*
 one-CL car enough five-CL person sit
 ‘A car is enough to seat five people.’
- (7) a. %*Một chiếc xe năm người ngồi.*
 one CL car five person sit
 ‘A car seats five people.’
 b. **Một chiếc xe đủ năm người ngồi.*
 one CL car enough five person sit
 Intended: ‘A car is enough to seat five people.’

One way to salvage (7b) is to have the purpose-like C-element *để* ‘for, in order’ inserted after *đủ* ‘enough’, see (8a). Alternatively, one can add *cho* ‘for’ in front of the second NP *năm người* ‘five people’ as in (8b). We assume in T&P that *cho* here does not have a verbal meaning such as ‘give’ or ‘allow’, but acts as an applicative head selecting the NP. Interestingly, *để* and *cho* can co-occur, see (8c). As long as at least one of the two elements is overtly present, the derivation will converge. Regardless of

how the subordinate clause following *đủ* is analyzed, it is safe to assume that the sentences in (8) are not mono-clausal, and *đủ* is better characterized as a lexical verb, not a modal auxiliary. V-to-M raising is still a possibility here, but this movement is locally constrained. The proposed structure for the embedded clause in (8) is illustrated in (9). Op_i is co-indexed with the matrix subject *một chiếc xe* ‘a car’, while Op_j refers to *năm người* ‘five people’, an argument introduced by the applicative head. For more discussions on this configuration, see T&P as well as section 3 below.

- (8) a. *Một chiếc xe đủ để năm người ngồi.*
 one CL car enough for five person sit
 ‘A car is enough for five people to sit in.’
 b. *Một chiếc xe đủ cho năm người ngồi.*
 one CL car enough APPL five person sit
 ‘A car is enough for five people to sit in.’
 c. *Một chiếc xe đủ để cho năm người ngồi.*
 one CL car enough for APPL five person sit
 ‘A car is enough for five people to sit in.’



(adapted from T&P:199)

Note that Mandarin in fact permits the overt realization of *gei* ‘for’ at the exact location Vietnamese *cho* is found, see (10). A multifunctional element itself (very much like *cho*), *gei* has been commonly associated with an applicative reading (see Tsai 2012, for example). These applicative heads are taken in this work to allow either an over or a covert realization.

- (10) *Yi-bu che gou (gei) wu-ge ren zuo.*
 one-CL car enough APPL five-CL person sit
 ‘A car is enough for five people to sit in.’

This paper pursues the issues laid out by T&P, with special focus on Vietnamese flip-flop constructions and the manifestation of covert modals from the vantage point of comparative syntax. Section 2 and section 3 provide further evidence in support of the postulation of covert modals in

both main clauses and subordinate clauses. We presume that this remarkable ability to encode modality in the absence of lexical modal auxiliaries in Vietnamese (and Mandarin) is partially due to their mood-prominent nature (cf. Tsai 2019). Section 4 provides supplemental comparative evidence to support our view of the bi-clausal nature of flip sentences when the verb apparently stays *in situ*. In section 5, we tackle the issue of the directionality of head movement when V is raised to M. We argue that the pattern observed in Vietnamese is further attested for Thai, another robust analytic language genealogically related neither to Vietnamese nor to Mandarin. This lends credible support to our claim about the existence of a distinct bi-clausal configuration and the obligatoriness of V-to-M raising. Section 6 concludes the study.

2. COVERT MODALS IN MAIN CLAUSES

2.1 Covert capacity patterns

Imagine a context where a customer asks a car dealer about the seating capacity of the sedans available in his dealership. Such a question could take a form as simple as (11). The dealer may respond with (3a), repeated here as (12). This is a covertly modalized generic sentence with a dispositional reading, which features an indefinite singular NP *một chiếc xe* ‘a car’ as its subject. The modal is evaluated with regard to an ‘in virtue of’ modal base à la Lekakou 2005. Accordingly, (12) can be understood along the lines of ‘it is in virtue of some inherent properties of the cars in question that any of them is capable of seating five people.’ These properties are essentially determined by those responsible for the making of the cars.

- (11) *Một chiếc xe ngồi mấy người?*
 one CL car sit how.many person
 ‘How many people does a car seat?’

- (12) *Một chiếc xe ngồi năm người.* (= (3a))
 one CL car sit five person
 ‘A car seats five people.’

Incidentally, (12) is semantically comparable to (13a), which employs the explicit modal *đủ* ‘enough’. (12) can also be paraphrased as (13b), which features *có thể* ‘can’. The two modal auxiliaries function to explicitly indicate the physical capacity of the referent of the subject NP. With or without an overt modal, (12) and (13) both communicate that the car’s design allows it to seat (up to) five people.

- (13) a. *Một chiếc xe đủ ngồi năm người.*
 one CL car enough sit five person
 ‘A car is enough to seat five people.’
 b. *Một chiếc xe có thể ngồi năm người.*
 one CL car can sit five person
 ‘A car is capable of seating five people.’

Such a pattern of inherent modality is attested cross-linguistically. We take (13) to pattern with English dispositional sentences like (14a) in their ability to communicate modality despite the lack of any lexical means. Chierchia and McConnell-Ginnet (2000) claim that one of the main functions of generic sentences like (14a) is to express capability (or possibility). This is again shown by the overtly modalized paraphrase in (14b). That (14a) is easily paraphrasable as (14b) via the insertion of *can* reveals the covert modal nature of the former. The same goes with (15).

- (14) a. *This program parses complicated sentences.*
 b. *This program **can** parse complicated sentences.* (Chierchia and McConnell-Ginnet 2000:234)
 (15) a. *This car goes 200 kph.*
 b. *The car **can** go 200 kph.* (Menéndez-Benito 2013:284)

Kratzer (1981) points out that this covert pattern of modality is equally available for German. To illustrate, the German sentence (16) has a

modalized reading of (16b) albeit its non-modal appearance as reflected by the literal translation in (16a). Menéndez-Benito (2013) proposes to treat the covert possibility modal in these dispositional sentences as expressing ‘inner dispositions’.

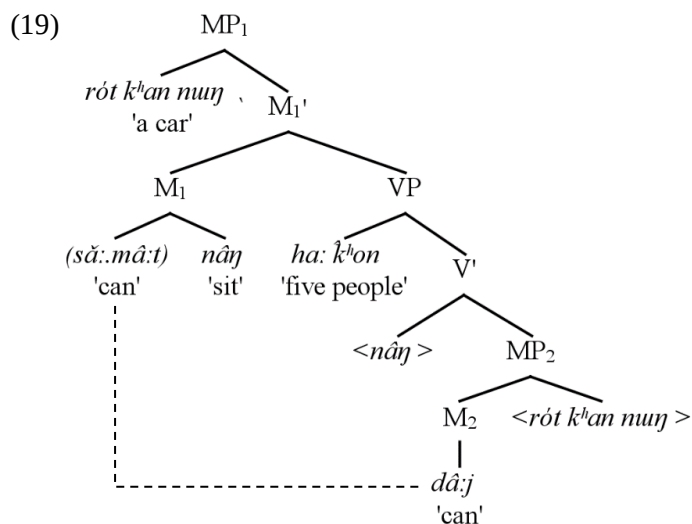
- (16) *Dieses Auto fährt zwanzig Meilen pro Stunde.*
 a. *This car goes twenty miles per hour.*
 b. *This car **can** go twenty miles per hour.* (Kratzer 1981:39)

Interestingly, Thai appears to mirror Vietnamese and Mandarin in allowing a modal reading for bare flip sentences. The bare sentence (17) could be semantically equivalent to either (18a) or (18b), which explicitly feature the capacity *pʰɔː* ‘enough’ and the dynamic *sǎː.mâːt... dâːj* construction respectively. Note that in (18b), both *sǎː.mâːt* and *dâːj* mean ‘can’. We assume, modeling after Cheng & Sybesma’s (2003, 2004) treatment of the Cantonese post-verbal modal *dak* and Phan’s (2023) analysis of the Vietnamese *được*, that *dâːj* as a cognate of both *dak* and *được* occupies the secondary modal position below VP, while the primary projection above VP is filled with *sǎː.mâːt*. The higher licenses the lower via an Agree relation. When V-to-M raising occurs, movement targets this higher projection. See (19) for a rough schematization of (18b).²

- (17) *Rót kʰan nùŋ nâŋ hâː kʰon.*
 car CL one sit five CL.person
 ‘A car seats five people.’

- (18) a. *Rót kʰan nùŋ pʰɔː nâŋ hâː kʰon.*
 car CL one enough sit five CL.person
 ‘A car is enough to seat five people.’
 b. *Rót kʰan nùŋ (sǎː.mâːt) nâŋ hâː kʰon dâːj.*
 car CL one can sit five CL.person can
 ‘A car is capable of seating five people.’

² An anonymous reviewer wonders if there is syntactic evidence for such an Agree relation in Thai. A detailed discussion on this matter unfortunately goes beyond the scope of this paper and thus must await future research.



2.2 Covert priority patterns

Besides a capacity modal reading (in response to (11)), (3a/12) may as well communicate a range of priority modal flavors *à la* Portner (2009). That is, (3a) may correspond to any of the sentences in (20), depending on the prompting context. This patterns well with Mandarin since the latter also permits the overt realization of various priority modal auxiliaries, as shown in (21).

- (20) a. *Một chiếc xe có thể ngồi năm người.* (permission)
 one CL car may sit five person
 'A car may seat five people.'
- b. *Một chiếc xe nên ngồi năm người.* (suggestion)
 one CL car should sit five person
 'A car should seat five people.'
- c. *Một chiếc xe phải ngồi năm người.* (obligation)
 one CL car must sit five person
 'A car must seat five people.'

- (21) *Yi-bu che keyi/yinggai/bixu zuo wu-ge ren.*
 one-CL car may/ should/ must sit five-CL person
 ‘A car may/should/must seat five people.’

A possible context for the ‘permission’ reading of (3a) is as followed. A group of ten tourists flags down two cabs. Since the local regulations dictate that a cab can only allow up to four passengers, the two drivers are at first reluctant to take them. After they offer to pay more, the drivers accept the deal and one of them utters (22). The relevant priority here is based on the personal wish of the drivers.

- (22) *(Được rồi.) Một chiếc xe ngồi năm người.*
 okay PRT one CL car sit five person
 ‘(Alright then.) A car may seat five people.’

Now consider another context. Towards the end of their trip, the same group of tourists plans to get back to the airport. Someone suggests they call three cabs so that three to four people can take one. Another raises the concern that the fare might be too high, then utters (23). A ‘suggestion’ reading for (3a) based on a (teleological) goal of saving money is felicitous in such a context. Alternatively, he may utter (24) knowing that the company sponsoring the trip will not reimburse the fare for the third cab since the plan is not as economical as possible. In this context, (3a) has an ‘obligation’ reading, with the priority based on certain rules or regulations.

- (23) *(Muốn tiết kiệm thì) một chiếc xe ngồi năm người.*
 want save.money then one CL car sit five people
 ‘(If we want to save money,) a car should seat five people.’

- (24) *(Công ty không duyệt đâu.) Một chiếc xe ngồi năm người.*
 company NEG approve PRT. one CL car sit five people
 ‘(The company won’t approve this.) A car must seat five people.’

Thai data provides us with exactly the same picture. That is, a bare flip sentence like (25) could be semantically equivalent to any of the overtly modalized sentences in (26), as long as the context is clear about which

priority modal flavor and strength are at play. Similar to what suggested for Mandarin and Vietnamese, it is reasonable to assume (25) also involves an implicit priority modal auxiliary which allows for V to raise to M from its usual clause-final position. In 3.2 we will demonstrate that implicit priority modals are also attested in subordinate environments.

- (25) *Rót k^{han} nùŋ nâŋ hâ: k^{on}.*
 car CL one sit five CL.person
 ‘A car seats five people.’

- (26) a. *Rót k^{han} nùŋ ?àat.cà/nâa.cà nâŋ hâ: k^{on}.*
 car CL one may sit five CL.person
 ‘A car may seat five people.’
 b. *Rót k^{han} nùŋ k^{uan} nâŋ hâ: k^{on}.*
 car CL one should sit five CL.person
 ‘A car should seat five people.’
 c. *Rót k^{han} nùŋ tōŋ nâŋ hâ: k^{on}.*
 car CL one must sit five CL.person
 ‘A car must seat five people.’

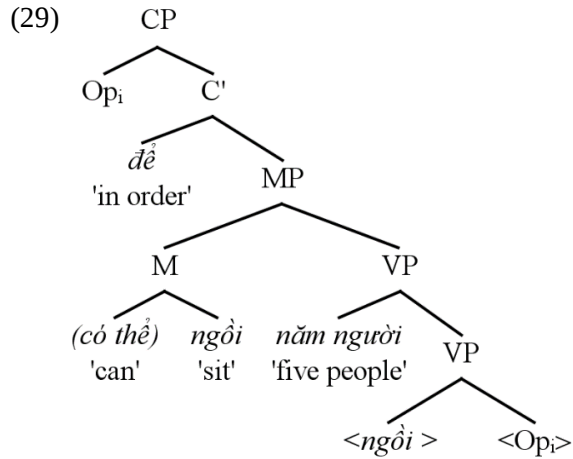
3. COVERT MODALS IN SUBORDINATE CLAUSES

3.1 Covert dynamic patterns in *để*-clauses

T&P argue that even when V is confined to a subordinate environment, V-to-M raising is still possible. It amounts to saying that a *để*-clause as in (8) contains a modal auxiliary, be it overt or covert. Such a position helps explain why (27) allows the displacement of *ngồi* ‘sit’ from its clause-final position. This line of thinking is backed by the overt realization of modal *có thể* ‘can’ between *để* and the raised verb in (28), with virtually no change in semantics compared to (27).

- (27) *Một chiếc xe đủ để ngồi năm người.* .
 one CL car enough for sit five person
 ‘A car is enough to seat five people.’

- (28) *Một chiếc xe đủ để có thể ngồi năm người.*
 one CL car enough for can sit five person
 ‘A car is enough to be able to seat five people.’



When V appears to stay *in situ* as in (30), such a raising still cannot be ruled out. That is, we could assume that *ngồi* ‘sit’ still raises to modal, and the NP in the subordinate clause is simply merged higher than MP. This proposal is supported by the possibility to have *có thể* ‘can’ inserted between the NP and the verb in (31). We assume further that the NP *năm người* ‘five people’ is introduced by the applicative head *cho* in (30-31), and not by V as in (27-28). In the former case, the external argument of V is a null operator co-indexed with this NP.

- (30) *Một chiếc xe đủ cho năm người ngồi.* (= (8b))
 one CL car enough APPL five person sit
 ‘A car is enough for five people to sit in.’

- (31) *Một chiếc xe đủ cho năm người có thể ngồi.*
 one CL car enough APPL five person can sit
 ‘A car is enough for five people to be able to sit in.’

A similar situation is observed for Thai. In (32), the overt modal *sǎː.mâːt* precedes the verb but succeeds the NP introduced by *hâj* (as head of ApplP). Note that Thai native speakers might opt to omit *sǎː.mâːt*, but this is only because *dâːj* is more commonly used in colloquial Thai, and the inclusion of *sǎː.mâːt* leads to wordiness. That being said, (32) are grammatical. In addition, even if *sǎː.mâːt* is omitted, the presence of post-verbal *dâːj* is assumed to always guarantee the presence of a higher MP that licenses it.

- (32) *Rót kʰan nùŋ pʰɔː hâj hâː kʰon (sǎː.mâːt) nâŋ (dâːj).*
 car CL one enough APPL five people can sit can
 ‘A car is enough for five people to (be able to) sit in.’

It is instructive to note that infinitival purpose clauses are in fact typically associated with modal interpretation cross-linguistically. As Bhatt (2006) points out, the *to*-clause in (33a) can be paraphrased with an explicitly modalized expression featuring *can*. The same is observed for Italian and Romania by Coniglio & Zegrean (2012), see (33b,c).

- (33) a. *Sue went to Torino to buy a violin.*
 (≈ ‘Sue went to Torino so that she could buy a violin.’)
 (English, Bhatt 2006:2)
 b. *Gianni è andato a Torino per/a comprare un violin.*
 Gianni is gone to Turin for/to to.buy a violin
 ‘Gianni went to Turin to buy a violin.’
 (Italian, Coniglio & Zegrean 2012:95)
 (≈ ‘Gianni went to Turin so that he could buy a violin.’)
 c. *Ion a sunat pentru a afla noutățile.*
 Ion has called for to find.out news-the
 ‘Ion called so that he could find out the news.’
 (Romania, Coniglio & Zegrean 2012:95)

Interestingly, Grosz (2011, 2014) also argues that German infinitival clauses like the *um*-clause in (34) contain a possibility modal operator. This is evidenced by the presence of modal particle *ruhig*, which as a modal modifier functions to increase the degree of possibility expressed

in a modalized utterance, and is thus a diagnosis of the existence of a modal operator.

- (34) Diese australische Kannenpflanze ist groß genug, **um** {**ruhig**
 this Australian pitcher.plant is big enough for ruhig
 auchmal/ auch mal **ruhig**} eine Ratte zu verschlingen.
 also once also once ruhig a rat to devour
 ‘This Australian pitcher plant is big enough in order to [ruhig] devour
 a rat every now and then.’ (Grosz 2014:277)

3.2. Covert priority patterns in subordinate clauses of mandative/directive verbs

Recall in 2.2 that we can express various priority modal meanings through a flip main clause in its bare form as long as the context is clear. Priority modal auxiliaries also appear to have a special affinity with a class of predicates expressing anything from order and request to prohibition and permission. This class goes by many names, including *directive verbs* (Comrie 1974), *desideratives* (Wurmbrand 2001; Landau 2013), and *mandatives* (Barrie and Pittman 2010). Burukina (2020) analyzes Russian mandative verbs like *velet* ‘order’ or *razrešit* ‘allow’ as the lexical realizations of a verb of communication embedding a silent deontic modal head. In Vietnamese, these verbs guarantee the presence of embedded (overt or covert) priority modals. For example, the modal is taken to be covert MUST in (35a) but is explicitly pronounced in (35b) by *phải* ‘must’. In the same vein, the embedded clause in (36a) is assumed to contain an implicit SHOULD, whose explicit counterpart *nên* ‘should’ is attested in (36b).

- (35) a. *Tí yêu cầu (là) một chiếc xe ngồi năm người.*
 Tí demand that one CL car sit five person
 ‘Tí demands that one car seat five people.’
 b. *Tí yêu cầu (là) một chiếc xe phải ngồi năm người.*
 Tí demand that one CL car must sit five person
 ‘Tí demands that one car must seat five people.’

- (36) a. *Tí gợi ý (là) một chiếc xe ngồi năm người.*
 Tí suggest that one CL car sit five person
 ‘Tí suggests that one car seat five people.’
 b. *Tí gợi ý (là) một chiếc xe nên ngồi năm người.*
 Tí suggest that one CL car should sit five person
 ‘Tí suggests that one car should seat five people.’

Again, the same pattern is attested for Thai, as exemplified in (37). That is, Thai priority modal *kʰuan* ‘should’ and *tɔŋ* ‘must’ are optional in the clauses respectively selected by mandative verbs *neʔ.nam* ‘suggest’ and *kʰɔː* ‘demand’.

- (37) a. *Tí neʔ.nam wàa rɔt kʰan nùŋ (kʰuan) nâŋ hâ: kʰon.*
 Tí suggest that car CL one should sit five CL.person
 ‘Tí suggests that one car (should) seat five people.’
 b. *Tí kʰɔː wàa rɔt kʰan nùŋ (tɔŋ) nâŋ hâ: kʰon.*
 Tí demand that one CL car must sit five person
 ‘Tí demands that one car (must) seat five people.’

The phenomenon exemplified in (35-36) fits the description of Trinh’s (2017) ‘pleonastic modals’ in Vietnamese, as shown in (38-39). Here it is claimed that the embedded modals are semantically transparent as sentences featuring them (e.g. (38a) and (39a)) are semantically equivalent to the ones without them (e.g. (38b) and (39b)).

- (38) a. *Mary bắt John phải đọc sách*
 Mary require John must read books
 ‘Mary required John to have the obligation to read books’/
 ‘Mary required John to read books’ (Trinh 2017:429)
 b. *Mary bắt John đọc sách*
 Mary require John read books
 ‘Mary required John to read books’ (Trinh 2017:429)

- (39) a. *Mary cho phép John được đọc sách*
 Mary allow John may read books (Trinh 2017:431)
 b. *Mary cho phép John đọc sách*
 Mary allow John read books (Trinh 2017:431)

Taken together, sections 2 and 3 argue for the presence of modal auxiliaries, both covert and overt, in main and subordinate clauses in Vietnamese, and further show that a similar phenomenon is attested for Thai. We propose that it is these modal elements which induce the V-to-M raising in flip-flop constructions. The movement of V to M is taken to be both obligatory and local.

4. MONO/BI-CLAUSALITY AND THE FLIP ALTERNATIVE

We claim in section 1, following T&P, that when the main verb of a flip sentence appears to stay in its clause-final position instead of surfacing immediately after *đủ* ‘enough’, V-to-M raising does take place, although it is constrained to the local domain which is a purpose-like clause. This clause is introduced by either the left-peripheral element *để* ‘for, in order’ or its implicit equivalent. The postulation of such a bi-clausal configuration receives empirical support from Thai data. (40a) illustrates a Thai flip sentence with no overt modal marking. This sentence is semantically equivalent to (40b) which is explicitly modalized with *p^hɔː* ‘enough’. When the main verb *nâɲ* ‘sit’ surfaces clause-finally to form the flip alternative, the Thai pattern of grammaticality is the same as the Vietnamese one in (7), see (41).

- (40) a. *Rót k^han nùɲ nâɲ hâː k^hon.*
 car CL one sit five CL.person
 ‘A car seats five people.’
 b. *Rót k^han nùɲ p^hɔː nâɲ hâː k^hon.*
 car CL one enough sit five CL.person
 ‘A car is enough to seat five people.’

- (41) a. %*Rót kʰan nùŋ hâ: kʰon nâŋ.*
 car CL one five CL.person sit
 ‘A car seats five people.’
 b. **Rót kʰan nùŋ pʰɔ: hâ: kʰon nâŋ.*
 car CL one enough five CL.person sit
 Intended: ‘A car is enough to seat five people.’

More interestingly, (41) can be salvaged by the insertion of the purpose-like C-element *sămràp* ‘for, in order’ and/or an applicative *hâj* ‘for’ (which incidentally also means ‘give’ or ‘allow’ as a lexical verb, similar to the Vietnamese *cho*), see (42). This is also the pattern observed for Vietnamese in (8). Given the configurational similarity between the two languages in this respect, the syntactic analysis sketched out in (9) for Vietnamese bi-clausal construction is extended to the Thai data in (42).

- (42) a. *Rót kʰan nùŋ pʰɔ: sămràp hâ: kʰon nâŋ.*
 car CL one enough for five CL.person sit
 ‘A car is enough to seat five people.’
 b. *Rót kʰan nùŋ pʰɔ: hâj hâ: kʰon nâŋ.*
 car CL one enough APPL five CL.person sit
 ‘A car is enough for five people to sit in.’
 c. *Rót kʰan nùŋ pʰɔ: sămràp hâj hâ: kʰon nâŋ.*
 car CL one enough for APPL five CL.person sit
 ‘A car is enough for five people to sit in.’

Note that in both Vietnamese and Thai, the order of the C-element and the applicative head is fixed, as the former must always precede the latter, see (8c) for Vietnamese and (42c) for Thai. When the applicative head surfaces higher than the C-element, ungrammaticality ensues, as shown in (43).

- (43) a. **Một chiếc xe đủ cho để năm người ngồi.*
 one CL car enough APPL for five person sit
 Intended: ‘A car is enough for five people to sit in.’

- b. **Rót k^{han} nùŋ p^{hɔː} hâj sǎmràp hâ: k^{hon} nâŋ.*
 car CL one enough APPL for five CL.person sit
 Intended: ‘A car is enough for five people to sit in.’

Furthermore, if the main verb of the embedded clause appears between the applicative head and the second NP, the resulting sentence is also ill-formed, see (44). This ungrammaticality is straightforward if the second NP is indeed introduced by the applicatives *cho* in Vietnamese and *hâj* in Thai.

- (44) a. **Một chiếc xe đủ cho ngồi năm người.*
 one CL car enough APPL sit five person
 Intended: ‘A car is enough for five people to sit in.’
 b. **Rót k^{han} nùŋ p^{hɔː} hâj nâŋ hâ: k^{hon}*
 car CL one enough APPL sit five CL.person
 Intended: ‘A car is enough for five people to sit in.’

Our proposal of a bi-clausal configuration for the flip alternative also has the advantage of explaining a number of syntactic facts otherwise obscure with a mono-clausal analysis. First, for the incompleteness of flip alternatives in (45), our position is as follows. While these flip alternatives are widely acknowledged to be able to contain an implicit capacity modal ENO as covert modal, it is unmotivated to assume that a proper lexical verb *đủ* ‘enough’ could somehow be implicit in the construction. It is therefore reasonable to take (45) as instances of mono-clausal construction featuring an implicit modal (not a bi-clausal sentence with a covert lexical verb). If it is the case, then the raising of the verb over the second NP is expected (as it must raise to attach to the modal, which is syntactically higher than this second NP). The clause-final position of the main verbs thus should logically lead to ungrammaticality. These sentences are however not straightforwardly out, as they appear to be salvageable once construed with a right configuration, thus the incompleteness effect.

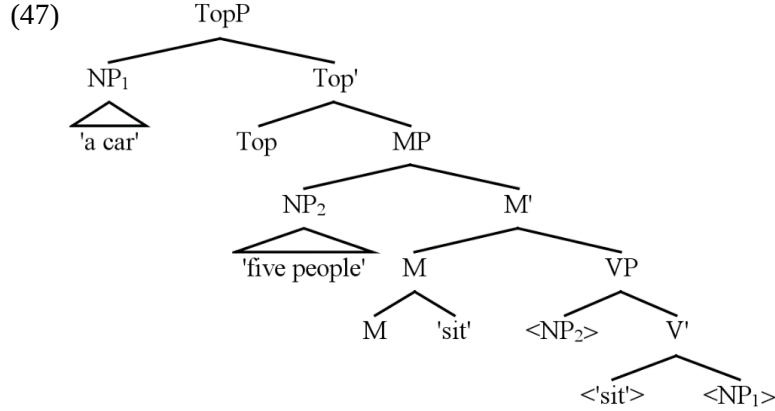
- (45) a. %*Một chiếc xe năm người ngồi.* (Vietnamese)
 one CL car five person sit
 ‘A car seats five people.’

- b. %*Yi-bu che wu-ge ren zuo.* (Mandarin)
 one-CL car five-CL person sit
 ‘A car seats five people.’
- c. %*Rót kʰan nùŋ hâ: kʰon nâŋ.* (Thai)
 car CL one five CL.person sit
 ‘A car seats five people.’

Specifically, the sentences in (45) become fully grammatical once NP₁ is marked for topicalization, see (46). Note that this topicalization needs to be overtly marked (with a topic marker, a pause, or both) for the feeling of incompleteness to disappear. We propose that (45) are derivationally unrelated to the flip construction, albeit their linear resemblance to one. The derivation yielding (45) goes as follows: the main verb first raises to MP, then NP₂ is moved to [Spec, MP]; NP₁ is subsequently raised to a higher functional projection, which we identify as TopP (Topic Phrase). Because the topic-comment configuration is not sufficiently marked in (45), in contrast to (46), it leads to a possible confusion with some variant of the flip sentence where the verb stays *in situ*. Now note how these former two movements in the aforementioned derivation, as claimed in T&P, essentially derive a flop construction. This amounts to saying that (46) are instances of flop sentences with a twist of topicalization. The derivation for (46) is illustrated in (47).³

- (46) a. *Một chiếc xe thì năm người ngồi.* (Vietnamese)
 one CL car TOP five person sit
 ‘A car, it seats five people.’
- b. *Yi-bu che a, wu-ge ren zuo.* (Mandarin)
 one-CL car TOP five-CL person sit
 ‘A car, it seats five people.’
- c. *Rót kʰan nùŋ, hâ: kʰon nâŋ.* (Thai)
 car CL one five CL.person sit
 ‘A car, it seats five people.’

³ We thank an anonymous reviewer for urging us to clarify how topicalization can eradicate the incompleteness effect in (45).



Second, in the presence of explicit priority modals, see (48), the clause-final position of the verb leads to ungrammaticality. Unlike the case of (8) where the existence of verbal *đủ* ‘enough’ guarantees the presence of a subordinate clause, there is no evidence for the bi-clausality of the sentences in (48). One way to salvage these sentences is to make them bi-clausal via the addition of, for example, the verbal *cho* ‘allow’. This way, the inability of the verb to move (to the main clause) is justified. Note that *cho* as a verb is distinct from *cho* as an applicative head: verbal *cho* can be replaced by *cho phép* ‘allow’, see (49). On the contrary, *cho phép* ‘allow’ cannot replace the applicative *cho* in (30-31) as evidenced in (50).

- (48) a. **Một chiếc xe có thể năm người ngồi.*
 one CL car may five person sit
 ‘A car may seat five people.’
- b. **Một chiếc xe nên năm người ngồi.*
 one CL car should five person sit
 ‘A car should seat five people.’
- c. **Một chiếc xe phải năm người ngồi.*
 one CL car must five person sit
 ‘A car must seat five people.’

- (49) a. *Một chiếc xe có thể cho/ cho phép năm người ngồi.*
 one CL car may allow five person sit
 ‘A car may allow five people to sit in.’
 b. *Một chiếc xe nên cho/ cho phép năm người ngồi.*
 one CL car should allow five person sit
 ‘A car should allow five people to sit in.’
 c. *Một chiếc xe phải cho/ cho phép năm người ngồi.*
 one CL car must allow five person sit
 ‘A car must allow five people to sit in.’
- (50) a. *Một chiếc xe đủ cho/ *cho phép năm người ngồi.*
 one CL car enough APPL allow five person sit
 ‘A car is enough for five people to sit in.’
 b. *Một chiếc xe đủ cho/ *cho phép năm người có thể ngồi.*
 one CL car enough APPL allow five person can sit
 ‘A car is enough for five people to be able to sit in.’

The same pattern is observed for Thai. The three sentences in (51) are ungrammatical as the verb appears to stay *in situ* instead of raising to attach to the modal auxiliaries. To salvage these sentences, we again could turn them into bi-clausal constructions. The addition of verbal *hâj* ‘allow’ (to be distinguished from applicative *hâj*) significantly improves the grammaticality of these sentences, as shown in (52).

- (51) a. **Rót kʰan nùŋ kʰuan hâ: kʰon nâŋ.*
 car CL one should five CL.person sit
 ‘A car should seat five people.’
 b. **Rót kʰan nùŋ ʔàat.cà/nâa.cà hâ: kʰon nâŋ.*
 car CL one may five CL.person sit
 ‘A car may seat five people.’
 c. **Rót kʰan nùŋ tɔŋ hâ: kʰon nâŋ.*
 car CL one must five CL.person sit
 ‘A car must seat five people.’

- (52) a. *Rót kʰan nùŋ kʰuan hâj hâ: kʰon nân.*
 car CL one should allow five CL.person sit
 ‘A car should allow five people to sit in.’
 b. *Rót kʰan nùŋ ?àat.cà/nâa.cà hâj hâ: kʰon nân.*
 car CL one may allow five CL.person sit
 ‘A car may allow five people to sit in.’
 c. *Rót kʰan nùŋ tŋ hâj hâ: kʰon nân.*
 car CL one must allow five CL.person sit
 ‘A car must allow five people to sit in.’

5. DIRECTIONALITY OF HEAD MOVEMENT

It is established in T&P that head movement in Vietnamese and Mandarin flip-flop sentences results in V adjoining rightwards to M. This direction of adjunction is apparently problematic in view of Kayne’s (1994) Antisymmetry, which requires that the moving head adjoins to the left of the head hosting it. Adopting Chomsky (2001), Tsai (2020) suggests that the verb raising we are dealing with is a PF-movement, thus considerations normally applied to narrow syntax are not of concern. The notion of Late Insertion (Marantz 1997) is instead appealed to, by which the M-V order is established after syntax (during the process of Spell-Out) from a language-specific Vocabulary List.

For Mandarin, rightward adjunction is in fact the only option. To wit, only the M-V order (5b), and not the V-M order (53), is allowed. At first blush, a similar claim for Vietnamese and Thai seems to meet with obvious counterexamples, however. That is, the main verb appears to be found preceding *đủ* (54a) and *pʰɔ:* (54b) as well.

- (53) a. **Yi-bu che zuo gou wu-ge ren.*
 one-CL car sit enough five-CL person
 b. *Yi-bu che gou zuo wu-ge ren. (= (5b))*
 one-CL car enough sit five-CL person
 ‘A car seats five people.’

- (54) a. *Một chiếc xe ngồi đủ năm người.*
a CL car sit enough five person
‘A car seats as many as (= up to) five people.’
(= The greatest capacity a car reaches is five people.)
- b. *Rót k’han nùŋ nâŋ pʰɔː hâː kʰon.*
car CL one sit enough five CL.person
‘A car seats as many as (= up to) five people.’
(= The greatest capacity a car reaches is five people.)

Despite an apparent similarity in the capacity reading, we suggest that the sequence [*sit enough*] in (54) resembles a Resultative Verbal compound with a potential modal reading (cf. Wu 2004): Vietnamese *đủ* and Thai *pʰɔː* realize the Result component to be potentially achieved by the activity the Verb denotes. *Đủ* and *pʰɔː* in this context are therefore still non-modal, and we can maintain that no rightward adjunction of V to M occurs. Further evidence to dismiss a leftward adjunction of V to *đủ* comes from the potential presence of an element like the negative marker *không* ‘no(t)’ in (55) which scopes over *đủ*. In such a configuration, *không* legitimately intervenes between *đủ* and the preceding V *ngồi* ‘sit’, which shows that V does not attach to *đủ* in the manner of V-to-M raising. To compare, no intervening element is permitted between *đủ* and the verb to its right in the mono-clausal flip sentence (5a).

- (55) *Một chiếc xe ngồi không đủ năm người.*
a CL car sit NEG enough five person
‘A car seats not as many as five people.’
(= The greatest capacity a car reaches is less than five people.)

Note that V also never appears to the left of other modal verbs such as *có thể* ‘can’, *phải* ‘must’, and *nên* ‘should’, see (56). This is straightforward if all modal verbs behave alike when it comes to verb raising, and instances of *đủ* following the verb are indeed non-modal in nature.

- (56) **Một chiếc xe ngồi có thể/nên / phải năm người.*
 a CL car sit can should must five person
 Intended: ‘A car can/should/must seat five people.’

The last piece of evidence concerns the height of modal interpretation. That is, while *có thể* ‘can’ has both an epistemic and a capacity reading if V precedes *đủ* (57a), only the epistemic reading survives if V follows it (57b). The prohibition of a capacity reading in (57b) is straightforward if *đủ* in the pre-verbal position is already a root modal, and the preceding *có thể* is simply too high in the functional spine to be interpreted with a capacity reading. Conversely, *đủ* in the post-verbal position is lexical, which explains why *có thể* can be interpreted as low as a root modal.

- (57) a. *Một chiếc xe có thể ngồi đủ năm người.*
 a CL car can sit enough five person
 ‘A car can seat as many as (= up to) five people.’
 (*có thể*: epistemic/capacity)
 b. *Một chiếc xe có thể đủ ngồi năm người.*
 a CL car can enough sit five person
 ‘A car can seat five people.’
 (*có thể*: epistemic/*capacity)

All in all, we maintain that V-to-M raising in Vietnamese flip-flop sentences results in rightward adjunction only. In the presence of a modal auxiliary (both overt and covert), V invariably attaches to its right.

6. CONCLUSION

This paper draws the insights from T&P, and provides a fine-grained analysis based upon the interaction between verb movement and covert modals from the vantage point of comparative syntax. We offer a rationale for postulating covert modals to motivate the V-to-M analysis of Vietnamese flip-flop sentences. It is further argued that the mono/bi-clausal distinction between flip sentences is a necessity when apparent verb-raising is observed, and that rightward adjunction is the sole option

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for V-to-M raising. Finally, we explore the cross-linguistic aspect of this study, and present evidence from Thai to support our syntactic treatments of flip-flop constructions across languages.

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越南語中的動詞提升，隱性模態詞及乾坤挪移句——
一個比較句法的觀點

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本文從比較句法的角度切入，來研究越南語中乾坤挪移句的動詞提升及隱性模態詞。我們發現動詞移位跟此類結構的模態性有密切的關連，主句、從句皆然。此外，證據顯示某些乾句的變體其實是由雙層句構組成，而動詞到模態詞的移位則屬右向加接。最後在實證層次上，我們也從泰語找到了平行現象來支持本文的句法分析。

關鍵字：動詞移位、隱性模態詞、乾坤挪移句、比較句法、越南語

**VIETNAMESE MODAL SYSTEM OF
DYNAMIC POSSIBILITY:
A DIACHRONIC PERSPECTIVE***

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ABSTRACT

This preliminary work examines the Vietnamese diachronic data to first attempt a glimpse into the inventory of specialized dynamic modal elements in Vietnamese, and to adumbrate a rough chronology of this modal system. It further traces back the syntacto-semantic changes resulting in two distinct instances of the dynamic modal *được*. I argue that post-verbal *được* is immediately derived from a resultative marker, and there once existed a pre-verbal *được* with a pure opportunity reading, which was later reanalyzed as *được* with a benefactive interpretation. The paper thus provides an explanation to the long-held puzzle regarding the sole post-verbal position of dynamic modal *được* in Present-Day Vietnamese.

Keywords: dynamic possibility, modality, *được*, syntactic/semantic reanalysis, diachronic syntax, Vietnamese

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1. INTRODUCTION

Pre-verbal *có thể* and post-verbal *được* are standard means to express dynamic possibility, both jointly and individually, in Present-Day Vietnamese (PDV). See (1) for an example. A diachronic investigation into surviving texts going furthest back to the 12th century, or the late Archaic period in T.C. Nguyễn's (2001) periodization, however suggests that a distinct group of pre-verbal modal auxiliaries once dominated this role until the conclusion of the Ancient period.¹ Post-verbal *được* gained in importance towards the end of this stretch, and *có thể* became regularly used only quite recently.

- (1) *Tí có thể đi được.*
Tí can go DUOC²
'Tí can go/walk.'

Dynamic modality is understood in this paper as covering ability, opportunity, and dispositional readings. This term partially overlaps with Portner's (2009) category of dynamic (volitional) modality: I view dispositional modality as referring to inner dispositions/attributions of a non-volitional (inanimate) subject. It is different minimally from ability modality, which concerns the stable properties of a volitional subject. An opportunity reading is then associated with "accidental or stable properties of the utterance situation" (Hackl 1998:26). The modal elements exhibiting this set of readings are taken in Hackl (1998) to share a common constraint of having the predicate they select denote a change of state. This change is attributable to properties inherent to the subject and/or the utterance context they are in.

¹ T.C. Nguyễn (2001) divides the history of Vietnamese into six periods: Proto Viet (8th to 9th century), Archaic Vietnamese (10th to 12th century), Ancient Vietnamese (13th to 16th century), Middle Vietnamese (17th century to first half of 19th century), Modern Vietnamese (1881 to 1945), Contemporary Vietnamese (1946 to present).

² The abbreviations are glossed as follows: CL: classifier; COMP: complementizer; CONJ: conjunction; COP: copula; HON: honorific term; NEG: negative marker; PERF: perfect marker; PRT: particle; SG/PL: singular/plural. Due to its extreme polyfunctionality, all instances of *được* are glossed as DUOC for simplicity's sake.

Regarding the scholarship on the Vietnamese modal system, the literature up to this point, which are predominantly synchronic in nature, has laid disproportionate emphasis on the acquisitive modal *được*.³ This is mainly because this modal has multiple functions and curiously appears after the main verb, whereas other modal elements generally surface pre-verbally. (A substantial amount of attention is also given to related forms in other Southeast Asian languages and Chinese varieties for a similar reason.) The first aim of this work is to provide a coherent and diachrony-informed picture of the many grammatical means communicating dynamic possibility in the language, and call attention to an inventory of forgotten pre-verbal dynamic modal verbs. Among which is the pre-verbal *được*, which I will argue to have once existed with a standard opportunity reading. This modal use will be viewed as the missing link in the development of lexical verb *được* into pre-verbal benefactive circumstantial and deontic modal *được*. The second aim concerns the study of post-verbal modal *được* itself, a subject of intensive synchronic research for more than 25 years (see Simpson 1997; Duffield 1998 *et seq.*; Enfield 2003; Sybesma 2008 (to a lesser extent), and Thepkanjana and Ruangmanee 2015, among others). Specifically, I will offer a diachronic look that leads to an alternative proposal on the syntacto-semantic mechanism whereby this post-verbal modal evolved. The findings of this research are therefore expected to shed more light on how modality is configured syntactically in the language.

The paper is organized as follows. Section 2 introduces the three classes of dynamic possibility-denoting means in Vietnamese and sketches out the rough historical development of this modal system. Section 3 focuses specifically on the two paths of syntactic/semantic reanalysis which result in the dynamic *được* in both post-verbal and pre-verbal positions. Section 4 concludes the paper.

³ The term “acquisitive modal” is adopted from van der Auwera *et al.* 2009. An acquisitive modal is understood as “an expression of modality that goes back to a predicate meaning ‘acquire, get’” (van der Auwera *et al.* 2009:271). Typical with these modal readings are ‘get’ etymons, of which an example is shown in (i).

(i) *I get to watch TV tonight/at night.* (van der Auwera *et al.* 2009:271)

2. MODALS OF DYNAMIC POSSIBILITY: A DIACHRONY

For the purpose of this paper, I propose that the development of Vietnamese modal expressions of dynamic possibility be divided into three stages. Stage I is characterized by a set of canonical pre-verbal modal verbs already dominant during the Archaic and remained so during the Ancient period. Stage II features the post-verbal modal *được*. This modal gradually rose in prominence starting in the late Ancient period and continuing into the early Middle Vietnamese period. Stage III began no later than the early 19th century (the start of the Modern Vietnamese), with the rise of *có thể*, first as a reinforcer but later as an alternative to *được*.

2.1 Stage I: pre-verbal modal verbs

The list of pre-verbal modal verbs of dynamic possibility should include at least *hay*, *khá/khả*, and *kham*.^{4,5} They are all obsolete in PDV, a fact which will become important in the later discussion. Note that many of the following examples display a co-existence of these modals and a post-verbal *được* (with most likely a resultative reading). This co-occurrence will be addressed in sec. 2.2.

Hay is first attested in the 12th-century *Phật thuyết đại báo phụ mẫu ân trọng kinh* (*Sutra on the Profundity of Filial Love*), the oldest surviving text written in the Nôm script, see (2). It continues to show up fairly often throughout the 16th century, as shown in examples (3-6). In contrast, *hay* is only attested sporadically during the later two centuries, and its modal reading is not listed in de Rhodes's (1651) dictionary. This might suggest that its dynamic use already started decreasing in popularity by the 17th century at the latest. From the 19th century onwards, the dynamic use of *hay* is mostly absent from the linguistic record.

⁴ The negative modal *khôn* 'cannot, hardly able to' is excluded to keep the discussion more focused.

⁵ For the reason that will be clear in sec. 3.2, this inventory should also include pre-verbal *được*.

- (2) **Hay** tu bao nhiêu nét khổ
 can observe many ascetic.practice
 ‘can observe various ascetic practices’⁶ (*Phật thuyết*, 12th c.)
- (3) Ai **hay** cốt **được**, mới ốc là đã.
 who can understand DUOC only say COP complete
 ‘Only those who can successfully understand it are said to be complete.’ (*Cư trần*, 13th c.)
- (4) Chí đàn bà nhòn chung mình tốt đẹp **hay** nghiêng
 will woman rely.on PRT self beautiful can overturn
được quốc thành.
 DUOC state
 ‘Women, aware of their own beauty, can cause the downfall of a state.’ (*Khóa hư*, 14th c.)
- (5) Đất nào **hay** cãi ngược người ta?
 land which can argue against people
 ‘What sort of land could argue against people?’ (*Thập giới*, 15th c.)
- (6) Người chín **hay** nói
 2SG essentially can speak
 ‘You essentially can speak’ (*Nam Xương*, 16th c.)

Although *hay* typically occurs with a volitional subject, it is sometimes found with non-volitional subjects, see (7).

- (7) a. *Tứ mùa nước chảy chẳng hay mòn*
 four season water flow NEG can worn
 ‘Water flows all four seasons but it cannot be worn’ (*Hồng Đức*, 15th c.)

⁶ Glossing and translations of the diachronic data are mine.

- b. *Kim cương [...] lại **hay** hoại **được** muôn vật.*
 diamond but can destroy DUOC all thing
 ‘Diamond [...] however can destroy all things.’ (*Giải Kim cương*, 17th c.)

The modal *khá/khả* has fewer textual attestations compared to *hay*, and is found irregularly in written texts between the 12th and the 17th century. In most cases, *khá/khả* is followed by non-passivized verbs and typically expresses ability, see (8-10). Instances where the verb directly after *khá/khả* is passivized, as in (11), are much less common. When this occurs, *khá/khả* expresses opportunity. These two uses are also attested for the Classical Chinese *kě* 可 ‘can’ (cf. Pulleyblank 1995; Meisterernst 2008). This might suggest that *khá/khả* is a typical case of ‘wholesale’ borrowing from Chinese.

- (8) *Mẹ **dấu** rằng sao **khả** báo **được**.*
 mother dear say how can repay DUOC
 ‘My dear mother, how could I repay [her favor]?’ (*Phật thuyết*, 12th c.)
- (9) *Tham thiền **kén** bạn, nát thân mình mới*
 practice Zen choose friend disintegrate body self only
***khá** hồi ân.*
 can return favor
 ‘When practicing Zen, I choose friends, only until our physical body disintegrates could I return the favor.’ (*Cư trần*, 13th c.)
- (10) *Nghiệp Tiêu Hà làm **khá** kịp*
 achievement Xiao.He do can reach
 ‘The achievement of Xiao He, I can match it.’ (*Quốc âm*, 15th c.)
- (11) *Bụt ấy là lòng, Bụt **khá** cầu.*
 Buddha that COP heart Buddha can seek
 ‘Buddha, that is but your heart, Buddha can be sought.’ (*Quốc âm*, 15th c.)

Already in De Rhodes' (1651) dictionary the dynamic reading of *khá* is not included, although its deontic reading as 'should' is mentioned. If one subscribes to the path of semantic development by Bybee et al. (1994) and van der Auwera and Plungian (1998) in which dynamic ability develops into deontic possibility, it seems that after *khá* took on the deontic meaning, its earlier dynamic use started to fade away gradually.

Instances of *kham* as dynamic modals are exceedingly scarce, with a mere few examples evidenced in the written texts from between the 14th and the 16th century. *Kham* is assumed to be a cognate of the Chinese *kān* 堪 'can'.

- (13) Quay đầu chấp bóng, ắt *kham* cười
 turn head keep shadow necessarily can laugh
Diễn Nhã Đạt Đa.
 Yajiadatta
 'Turning the head to look at his own reflection, laughable was Yajiadatta.' (*Cư trần*, 14th c.)

- (14) Quân tử *kham* khuôn được thừa danh
 person.of.noble.character can follow DUOC its name
 'Persons of noble character can model themselves on my name.'
 (*Quốc âm*, 15th c.)

- (15) chẳng *kham* lại lên non Vọng Phu vậy.
 NEG can again go.up mountain await husband PRT
 '[I] can no longer return to the Husband-Awaiting Rock.'
 (*Nam Xương*, 16th c.)

Among the three modals, *hay* appears to be the most commonly employed. It also enjoyed the longest life span compared to the others. *Khá/khả* and *kham* were much less frequently attested and appeared mainly in literary works. *Hay* is also the only modal of this class which appears not to have a Sinitic origin. It is largely plausible that the remarkable continuation of *hay* is attributable to its native origin. Indeed, the Nôm character 哈 representing *hay* is generally taken to denote a native sound or concept,

although there is a disagreement on whether the character is borrowed (Wen 1933; Wang 1948) or a native invention (Hoàng 1999).

2.2 Stage II: post-verbal *được*

Vietnamese acquisitive *được* is cognate with the Sinitic *dé* 得 which is assumed to be borrowed from Chinese into the Common Viet-Muong vocabulary (Trần 2014). Note that post-verbal *được* single-handedly yielding a clear dynamic reading is an extremely rare sight in Ancient Vietnamese. First, *được* is more often found along with modal verbs (see sec. 2.1). With this configuration, the yielded modal reading is understandably attributable to the modal verbs (although it is unclear if or how much *được* also contributes to this construal). Second, in the absence of a pre-verbal modal, *được* is usually understood as a resultative marker meaning ‘be successful’ and only occasionally allows for a modal reading.

Some of the earliest cases of seeming ambiguity in fact lean towards the resultative reading under a closer look. For example, (16) does not bring about a modal reading for *được*. This is because *muốn* ‘want’ as a (desirative) control predicate only allows for a vP/VP complement (Grano 2015) and not a larger projection like Mod(al)P(hrase).

- (16) *Đệ tử* *nhược* *muốn* *trả* *được* *ơn* *ấy* *thời* *vì* *chúng*
disciple if want repay DUOC favor that then for PRT
áng *nạ* *viết* *lục* *kinh* *này*
parents write sutra this
(i) ‘If the followers want to repay successfully that favor, write this sutra for their parents’ sake.’
(ii) #‘If the followers want to be able to repay that favor, write this sutra for their parents’ sake.’ (*Phật thuyết*, 12th c.)

This syntactic constraint is manifested in the ungrammaticality of (17), where the pre-verbal modal *có thể* ‘can’ is explicitly realized. As will be made clear in sec. 3.1, I assume that *được* in a lower ModP enters an Agree relation with a ModP above VP to jointly express a dynamic modal reading. Since a higher ModP is impossible as the complement of *muốn*,

post-verbal *được* in (16) cannot be interpreted as a modal verb, but rather as a resultative marker.

- (17) **Tí muốn có thể bơi được.*
 Tí want can swim DUOC
 Int: Tí wants to have the ability to swim.'

One of the early attestations of *được* with a clear modal interpretation might be one from the 14th-century translated work *Thiền tông khóa hư ngữ lục* (*Zen Lessons on Emptiness*), see (18). *Được* in this case translates the Chinese modal *néng* 能 'can' in the original work,⁷ and is intended to parallel *khá* of the following clause. These clear cases of modal interpretation are rarely attested prior to the 16th century.

- (18) *Cái chết đến ai ưa được, hạn lại đó*
 CL death come who love DUOC time come challenge
ai khá ngăn đấy.
 who can stop PRT
 'When death arrives no one could love it, when the time comes no one could stop it.' (*Khóa hư*, 14th c.)

But how did the dynamic reading of post-verbal *được* come into existence? I venture to hypothesize that the decline in use of the original pre-verbal modals may highly correlate with the emergence of *được*. That is, through the frequent co-occurrence of pre-verbal modals and post-verbal resultative *được* in modalized environments, the latter gradually took on the dynamic reading. This way, *được* was over time reanalyzed as a modal element proper and started to function as an alternative way to express what canonical modals were originally responsible for, rendering them redundant. I will return to this process of reanalysis in sec. 3.1.

⁷ The original text is as follow:

(i) 死 至 誰 能 戀 (quoted in Nguyễn 1972:154)
sǐ zhì shuí néng liàn
 death come who can love
 'When death arrives no one could love it.'

2.3 Stage III: pre-verbal modal expression *có thể*

Although *có thể* ‘can’ is the standard means to signal dynamic possibility in PDV, it seems to have gained popularity only from the 19th century onwards. One of the earliest attestations of *có thể* is in (19) whereby a dispositional construal is confirmed.

- (19) *Trên đầu ngó lên thấy thạch nhũ như là màn treo*
 above head look up see stalactite like curtain
có thể bỏ xuống
 can drop down
 ‘Looking up I saw above my head a stalactite looking like a curtain that can drop down.’ (*Chuyến đi*, 1875)

Note that *có thể* at the time still behaved more or less like (part of) a periphrastic construction instead of a fully lexicalized adverbial phrase it is assumed today. That is, the string appears to consist of *có* ‘have, exist’ and *thể* ‘potential, ability’. This view is reasonable as *có thể* is sometimes accompanied by *mà*, an overtly realized C-element, see (20).

- (20) *Đồ thắt bằng tre mây có thể*
 object weave by bamboo rattan have potential
mà đựng bát chén
 to hold bowl
 ‘bamboo- or rattan-weaved object which can (= has the potential to) hold bowls’ (Huỳnh-Tĩnh 1895:253)

More interestingly, *có thể* seems to have *có lẽ* (lit. ‘have reason/logic’) as its predecessor, see (21). Here, the string is also followed by *mà*, revealing its periphrastic nature. In PDV, *có lẽ* is however restricted to an epistemic reading of ‘might’ or ‘maybe’.

- (21) *việc này tôi phải cứ sự thật, chẳng có lẽ*
 issue this 1SG must depend truth NEG have reason
mà bình bên dòng được
 to defend side congregation DUOC

‘As for this issue, I must act in accordance with the truth, I cannot (= have no reason to) just take our congregation’s side’ (*Thư № 20*, 1759)

All in all, I hypothesize in this section that *có thể* as a periphrastic construction first came to reinforce or emphasize the modal reading of post-verbal *được*. It was then reanalyzed as a modal element independent of the presence of *được*. Syntactically, *có thể* in PDV is most likely base-generated under ModP above VP, the same projection hosting the three archaic pre-verbal modals.

3. PATHS TO THE DYNAMIC ĐƯỢC

Được and its Southern alternative *đặng* are highly polyfunctional. I assume *được* started out as a transitive verb carrying the prototypical reading ‘acquire’ or ‘come to have/possess’ (cf. Enfield 2003) when it selects for an object DP, see (22-23).⁸ Aspectually, *được* is a typical achievement verb which describes a non-agentive punctual event leading to the beginning of a state. Modal extensions of *được* in both pre- and post-verbal positions are taken to derive from this lexical verb.

- (22) *Miễn được lòng rồi, chẳng còn pháp khác.*
as.long.as DUOC mind zen NEG have dharma other
‘As long as one acquires a Zen mind, there is no other dharma.’
(*Cư trần*, 13th c.)

- (23) *Của ấy nào ai từng được chầy.*
wealth that which who used.to DUOC long
‘That kind of wealth no one has ever had for long.’ (*Quốc âm*, 15th c.)

⁸ The claim that various modal readings go back to a verbal meaning of acquisitive verbs like *được* is also proposed for other languages where acquisitive modality is prominent (van der Auwera et al. 2009).

3.1 Post-verbal *được*

In a post-verbal position, *được* can function as a resultative marker meaning roughly ‘be successful, with success’ (Trần 2014; Hoàng 2006), see (24).

- (24) a. *Thầy Hoa Lâm tu đạo cảm được hai*
master Hoa Lam practice way influence DUOC two
hùm đến châu gần.
tiger come gather near
‘Master Hoa Lam by practicing Zen successfully influenced two tigers to attend his audience.’ (*Khóa hư*, 14th c.)
- b. *Cốc được tính ta nên Bụt thực*
understand DUOC nature self become Buddha true
‘Once one successfully understands one’s own nature, one becomes a true Buddha.’ (*Vịnh Vân Yên*, 14th c.)

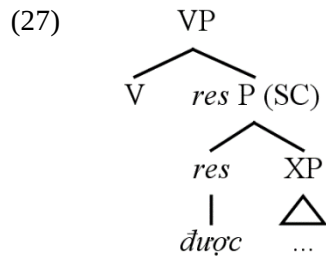
I hypothesize that this resultative marker is derived from transitive verb *được* as V2 of a V1-V2 configuration. In this position *được* still retains its lexical meaning, and must share with V1 the same argument structure. This transitive V2 then gradually takes on a more functional meaning when referring to the endpoint of the event denoted by the preceding verb. Adopting Cao’s (1999) path of grammaticalization for Chinese V2 *để*, I assume *được* first developed its intransitive use before turning into a fully functional category that is a resultative marker, a process closely tied to the loss of argument structure (Roberts and Roussou 2003). As a point of illustration, *được* in (25-26) can in principle be interpreted as either a transitive verb or a resultative marker.

- (25) *Nghề võ mạnh chưng thu được công trăm*
career military strong PRT claim DUOC credit hundred
trận đánh.
battle fight
(i) ‘A strong military career is reflected in collecting and acquiring credit of hundreds of battles.’

(ii) ‘A strong military career is reflected in collecting successfully credit of hundreds of battles.’ (*Khóa hư*, 14th c.)

- (26) Năm hồ chiếm **được** chốn câu chày
 five lake seize DUOC place fish net.cast
 (i) ‘In the Five Lakes appropriating and acquiring a place for fishing and net casting’
 (ii) ‘In the Five Lakes occupying successfully a place for fishing and net casting’ (*Hồng Đức*, 15th c.)

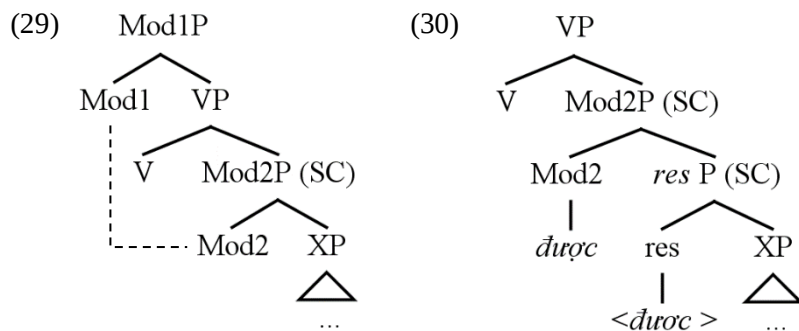
Syntactically, I propose that the resultative marker heads a small clause selected by V (cf. Meisterernst 2022). Inspired by Ramchand 2008, this projection is referred to as *resP*.



I further suggest that the dynamic reading of post-verbal *được* is derived directly from its resultative reading. This is unsurprising as a semantic extension from resultativity to ability/potentiality is observed cross-linguistically (Enfield 2003; Mari and Martin 2007; Lien 2011). In (28), *được* can no longer be interpreted as a transitive verb, but ambiguity remains as to whether it has a resultative or a dynamic reading.

- (28) Nợ quân thân chưa báo **được**
 debt king father not.yet repay DUOC
 (i) ‘The debt towards my king and my father I have yet to pay back successfully.’
 (ii) ‘The debt towards my king and my father I have yet to be able to pay back.’ (*Quốc âm*, 15th c.)

To account for the post-verbal dynamic *được* syntactically, I adopt Cheng and Sybesma's (2003, 2004) analysis of Cantonese post-verbal *dak* 得 'can' where not one but two structural positions for dynamic modality are postulated. Accordingly, the pre-verbal Mod1P and the post-verbal Mod2P wrap around VP, the former licensing the latter, see (29). I propose that resultative *được* is at first moved to Mod2P before it is finally reanalyzed as base-generated there, see (30). The pre-verbal modal position, once occupied by the archaic modal verbs, is then filled with *có thể*, and the two modals form a kind of *doubling* via Agree.⁹ This line of thinking is well-aligned with Duffield's (1999) proposal to treat *có thể* as an abilitative/alethic modal and post-verbal *được* as being parasitic on the position it occupies. Syntactically, adopting the reanalysis of *được* from a (lower) resultative head to a (higher) secondary modal head is also a less costly solution than assuming the movement of the entire verb phrase over a pre-verbal modal head *được* to achieve the right surface order (as proposed in Simpson 1997 and Duffield 1998).



3.2 Pre-verbal *được*

Previously I have shown that dynamic modal verbs predominantly occupy a pre-verbal position throughout the development of the Vietnamese modal system. An immediate question that arises is: why does Vietnamese not have a pre-verbal dynamic *được*? The situation is even

⁹ See Phan (2023) for more evidence in support of this configuration.

more peculiar given *được*, besides its post-verbal position, also appears pre-verbally as a benefactive circumstantial modal and a deontic modal, see (31).¹⁰

- (31) *Tí được đi bơi.*
 Tí DUOC go swim
 (i) ‘Tí gets to (= to have a chance to) go swimming.’ (*benefactive*)
 (ii) ‘Tí is allowed to go swimming.’ (*permissive*)

A deeper look into the diachronic data however suggests that such a pre-verbal *được*, although already obsolete in PDV, was once in existence. (32-34), extracted from written texts dating from the 17th to the 19th centuries, clearly exemplify an evaluation-neutral dynamic modal use of *được*. That is, *được* in these examples is infelicitous with a permissive or a benefactive circumstantial reading. It is noteworthy that while both instances of dynamic *được* realize opportunity modals linking the actions denoted by its complement VP to the outside circumstance, only the benefactive *được* necessarily communicates that the said actions take place to the advantage of the subject. Such a notion of subject benefit is not warranted in these examples. I take the benefactive *được* to be distinct from a pure dynamic *được* essentially in this additional component of benefactivity. This point will be returned to shortly.

- (32) a. *Mà Đức Chúa Giê-su lấy hình ấy cho được*
 CONJ HON lord Jesus take image that for DUOC
vào lòng chúng tôi
 enter heart 1PL
 ‘Then Lord Jesus Christ assumed that form to be able to find a way into our heart’ (*Những điều ngấm*, 17th c.)
 b. *Bấy giờ người chẳng biết làm sao, xin đợi ba*
 that.time 2SG NEG know do what ask wait three

¹⁰ For the lack of better term, the label *benefactive* is chosen here to reflect the advantage generated by the external circumstances which is evaluated as beneficial to the subject. By invoking this label, I do not make reference to syntactic constructions featuring something like a verb of giving or a dative marker. I thank a synonymous reviewer for their comment on this terminological issue.

ngày cho được đem Phê-rô đến trước
day for DUOC bring Peter to in.front.of
mặt vua làm chứng sự ấy.
face king bear.witness affair that

‘At that time, he did not know what to do, so he asked the king to wait for three days so that he could bring Peter to the court to bear witness to that affair.’ (Thiên Chúa, 17th c.)

- c. Đến ngày thứ năm, là ngày các Giu-dêu ăn thịt
to day order five be day PL Jew eat meat
thịt chiên [...], cho được nhớ nghĩa thuở xưa Đức
meat sheep for DUOC remember grace time past HON
Chúa Trời cho khỏi làm tôi nước I-chi-tô
lord sky make avoid be slave country Egypt
‘On the fifth day, the day the Jews eat lamb [...] so that they could remember how in the past the Lord saved them from becoming slaves in Egypt’ (Đức Chúa, 17th c.)

- (33) a. song le đến sau cũng một năm ấy đức thầy cả Vítvô
but later also one year that HON priest Bishop
Berita sang nước chúng tôi cho được làm
Berita come country 1PL for DUOC create
Concilium để mà sửa mọi sự về việc đạo
council in.order PRTfix every thing about affair religion
‘but later that year Bishop Berita came over to our country so that he could create a council aiming at resolving all the faith-related affairs’ (Thư № 6, 1702)

- b. người nghe tin ấy liền sai bốn ông
3SG hear news that immediately dispatch four CL
chính đội trưởng và năm mươi quân cho được
principle captain CONJ fifty soldier for DUOC
tìm Phatêrê ấy trong xứ nhiều nơi
search father that in region many place
‘upon hearing the news, he immediately dispatched four warrant officers and fifty soldiers in order to be able to search for that Father in many parts of the region’ (Thư № 6, 1702)

- c. *cho nên chúng tôi phải làm tờ này cho được*
 therefore 1PL have.to make sheet this for DUOC
làm chứng sự thật cho danh cha cả sáng
 testify truth for name Father Glory
 ‘we therefore had to compose this letter so that we could testify
 the truth for the glory of our Father’s name’ (*Thư № 7*, 1703)
- d. *thằng bé đi cùng tôi nó đã chạy đến kẻ*
 CL little go with 1SG 3SG PERF run arrive place
Hầu cho được báo bốn đạo làng ấy cho biết
 Hầu for DUOC tell this religion village that for know
những sự trái lẽ làm vậy
 PL NOM against moral do so
 ‘the boy travelling with me ran to Hầu village so that he could tell
 the Christians there about those immoral deeds’ (*Thư № 10*, 1706)
- e. *những kẻ đã lên chức thầy cả cũng phải làm*
 PL CL PERF rise rank priest also must do
hết sức cho được nên muối đất và
 exhaust effort for DUOC become salt earth and
sự sáng soi thiên hạ
 NOM light world
 ‘those who were ordained to the priesthood also must strive their
 best so that they could become the Salt of the Earth and the Light
 of the World’ (*Thư № 11*, 1732)
- (34) a. *Nói rồi thì thầy ấy nhắm mắt lại cho đặng*
 speak already then friar that shut eye back for DUOC
nhớ mọi sự trước sau cho đủ
 remember every affair before after so.that enough
 ‘After saying it, the friar closed his eyes so that he could recall
 everything’ (*Lazaro Phiền*, 1887)
- b. *Xin quan lớn cho tôi quân lính và*
 ask mandarin great give 1SG soldier CONJ
thuốc đạn cù túc cho được chống trả phi đảng
 ammunition enough for DUOC fight.against bandit
thì tôi dám đi.
 CONJ 1SG dare go

‘Sir, if you could provide me with enough soldiers and ammunition so that I could fight against the bandits then I will go.’
(Lazaro Phien, 1887)

- c. *liệu phương thế cho dựng gạt người.*
calculate method for DUOC deceive person
‘looking for ways to be able to deceive others’ (Taberd 1838:136)

Keen readers may notice that the examples in (32-34) all feature the purposive marker *cho* ‘for, in order’, which introduces an infinitival clause with a connotation of purpose. The possibility denoted by *được* is not inherently internal to the subject but is made available through a precursory conscious effort (primarily by the subject). The clause preceding the purposive marker denotes these enabling actions. Examples like (35) show that the sequence [*cho được*] cannot be a single lexical element, i.e. a lexical variant of *cho*. In the absence of an overt DP, I assume *pro* as the subject of the subordinate clause.

- (35) *song le tôi ra sức mà lên bờ cho người ta được*
but 1SG exert CONJ go.up bank for people DUOC
xem thấy mà cứu lấy kẻ tôi chết đấy chẳng
see see CONJ save take lest 1SG die PRT PRT
‘but I exerted myself to climb up the bank so that others could see
and save me lest I might have perished’ (*Thư № 10*, 1706)

Why are there many instances of pre-verbal *được* in this purposive configuration? The answer may lie in the typical association of purpose clauses with a modal interpretation cross-linguistically. See (36) for examples from English, Italian and Romanian: subordinate (purposive) infinitivals normally contain a covert possibility modal element (Bhatt 2006). That the dynamic modality is explicitly spelled out with *được* in (32-34) is thus unremarkable.

- (36) a. *Sue went to Torino to buy a violin.* (English)
(≈ Sue went to Torino so that she could buy a violin.) (Bhatt 2006:2)

- b. *Gianni è andato a Torino per/a comprare*
 Gianni is gone to Turin for/to to.buy
un violin. (Italian)
 a violin
 ‘Gianni went to Turin to buy a violin.’ (Coniglio and Zegrean 2012:95)
 (≈ ‘Gianni went to Turin so that he could buy a violin.’)
- c. *Ion a sunat pentru a afla noutățile. (Romania)*
 Ion has called for to find.out news-the
 ‘Ion called so that he could find out the news.’ (Coniglio and Zegrean 2012:95)

It is important to note that pre-verbal *được* with a non-biased dynamic reading is also attested in the absence of *cho*, so its occurrence is in fact not restricted to the purposive configuration. See (37).

- (37) a. *lòng đầy đức mến, cho nên chẳng được phạm*
 heart full virtue love CONJ NEG DUOC commit
một tội gì trọng hèn
 one sin what serious trivial
 ‘[their] heart is full of love [for God], because of that they are unable to commit any sin, serious or trivial’ (*Thiên Chúa*, 17th c.)
- b. *đã hỏi Thầy giảng Jacobê Vĩnh có được phê tên*
 PERF ask catechist Jacob Vĩnh PRT DUOC write name
vào nhưng mà đã thưa rằng không được
 in but PERF say COMP NEG DUOC
bởi mù con mắt đã 6 năm nay
 because blind CL eye PERF 6 year this
 ‘[we] already asked if Mr. Jacob Vĩnh the catechist could sign his name but he answered that he could not because his eyes have been impaired for six years’ (*Thư № 8*, 1703)
- c. *tôi [...] thấy thầy Thiêm đọc một tờ lý đoán*
 1SG see catechist Thiêm read one CL judgment
phạt Đức Cự trong ấy nói nhiều lời tôi
 punish HON elderly in there say many word 1SG

- chẳng được thuộc hết*
 NEG DUOC memorize exhaust
 ‘I [...] saw Mr. Thiêm the catechist read a judgment specifying the punishment of the Honorable in which it mentioned many things I could not memorize in their entirety’ (*Thư № 18*, 1759)
- d. *may đâu lúc đó trăng lại tỏ hơn,*
 lucky where time that moon then bright more
nên tôi đứng xem thầy ấy rõ ràng
 CONJ 1SG DUOC see friar that clear
 ‘luckily the moonlight was brighter at the time, so I was able to see that friar clearly’ (*Lazaro Phiền*, 1887)
- e. *Sự tôi chịu cực mười năm nay thì đã*
 thing 1SG endure hardship ten year this then PERF
đủ mà đền tội tôi rồi. Bây giờ tôi
 enough CONJ redeem sin 1SG already now 1SG
đứng chết bằng an.
 DUOC die peace
 ‘My enduring hardship in the past ten years is already enough for me to redeem my sin. Now I can die peacefully.’ (*Lazaro Phiền*, 1887)

Further, the dynamic modality status of pre-verbal *được* is indisputable in cases where *được* alternates between a pre-verbal and a post-verbal position without a change in its reading. (38a) and (38b) belong to two consecutive sentences; here *được* can precede or follow the main verb *giúp* ‘help’. In (39) *được* can appear on either side of *tra* ‘investigate, find’ in the same sentence.

- (38) a. *Vì vậy kẻ ở xa mà ta chẳng biết mặt,*
 thus person at far REL 1PL NEG know face
thì người ấy nguyện làm lễ, cùng làm mọi
 CONJ person that wish do service CONJ do every
phúc khác, thì cũng được giúp ta
 good.deed other gain also DUOC help 1PL

‘Thus for someone living afar whom I do not know about, if that person wishes to celebrate Mass and do other good deeds, then he could also help us’ (*Thiên Chúa*, 17th c.)

- b. và kẻ ở trên thiên đàng cũng giúp được ta
 CONJ person at on heaven also help gain 1PL
 và kẻ đã sinh thì
 CONJ person PERF die
 ‘and those who are in Heaven could also help us and those who passed away’ (*Thiên Chúa*, 17th c.)

- (39) song le chưa tra được chứng nào cho thật,
 but yet investigate DUOC evidence which PRT true
 vậy con xin ở lại đây năm ba ngày nữa
 thus 1SG request stay at here five three day more
 hoặc được tra chứng nào chẳng
 perhaps DUOC investigate evidence which PRT
 ‘but I have yet to be able to find any real evidence, thus I am asking to remain here for a few more days so that I perhaps will be able to find some evidence’ (*Thư № 22*, 1759)

The examples above strongly argue for the case of a forgotten pre-verbal *được* with an evaluation-neutral dynamic interpretation. I assume *được* here is derived from the lexical verb *được* and venture to hypothesize that *được* acquired a pre-verbal auxiliary status, and thus a modal reading, when it started to allow predicates to act as its complement. When *được* is a lexical verb of acquisition, it selects for a nominal phrase. Contexts in which both a predication interpretation and a nominal interpretation are plausible for the complement of *được* most likely pave the way for its reanalysis from a lexical verb into an auxiliary verb marking opportunity (see also Meisterernst 2019). Purely as a point of illustration, see (40). *Thanh nhàn* here can be understood as either a nominal meaning ‘leisure’ or a predication adjective meaning ‘leisurely’; the former reading matches the lexical interpretation of *được*, while the latter reading facilitates its modal use. Conceptually, it is not unreasonable to think that the core meaning “come to have” (Enfield 2003) of the lexical *được* is largely preserved for the auxiliary *được*; the difference between the two

fundamentally lies in what the subject of *được* is presented with: for lexical *được* what the subject comes to obtain is a physical or abstract entity, for auxiliary *được* it is an opportunity (enabled by some external circumstance) to realize the event denoted by its complement.^{11, 12}

- (40) *Ta được thanh nhàn ta sá yêu*
 1SG DUOC leisure(ly) 1SG should love
 ‘If one gains leisure/ can be leisurely, one should appreciate it’ (*Quốc âm*, 15th c.)

The evaluation-neutral modal *được* is distinguishable from the contemporary benefactive *được*, which biases towards an opportunity the subject appreciates and considers fortunate to experience. For Vietnamese, I claim that this added benefactivity component is in nature not pragmatic but semantically encoded. This goes against Enfield’s (2003:301) claim that pre-verbal *được* does not carry any inherent positive evaluation, citing that it is “compatible with opposite and contrasting value judgments”, as shown in (41). Native speakers of Vietnamese have no problem confirming that while (41a) is unproblematic, *được* must be replaced by the malefactive *phải* ‘have to’ for (41b) to be grammatical. Predictively, having *phải* in lieu of *được* in (41a) also leads to ungrammaticality. As such, the sense of positivity for *được* (or that of negativity for *phải*) is not a mere implicature that is contextually determined.

- (41) a. *Tôi rất tiếc, ngày mai tôi không được hát*
 I very sorry tomorrow I neg rslt.prr.evnt sing
bài hát này.
 clf song that
 ‘What a shame, tomorrow I will not (get to) sing that song.’
 (Enfield 2003:301)
- b. *Tôi rất mừng, ngày mai tôi không được*
 I very cheerful tomorrow I Neg rslt.prr.evnt

¹¹ I thank an anonymous reviewer for reminding me to clarify the mechanism through which pre-verbal modal *được* is derived from lexical *được*.

¹² I disagree with Thepkanjana and Ruangmanee’s (2015:125) characterization of pre-verbal *được* as a lexical verb in a serial verb construction.

hát bài hát này.
sing clf song that
'I'm glad, tomorrow I will not (have to) sing that song.' (Enfield
2003:301)

Enfield's (2003) claim for Vietnamese appears to be carried over from Lao and some other mainland Southeast Asian languages whose respective equivalents to *được* (all derived from acquisitive verbs) simply entail a prior clause to the event predicated without specifying that the event is preferential to the subject. A similar scenario seems to be attested for some North Germanic languages. For example, Norwegian modal *få* selecting a VP means that the event denoted by predicate takes place to either the advantage or the disadvantage of the subject, although the latter might be more marked (Lødrup 1996; Askedal 2012; see also Viberg 2012 for Swedish *få*). In addition, the acquisitive modals in these languages allow both (participant-external) possibility and necessity readings. It appears that Vietnamese stands out as a language whose acquisitive modal can be unambiguously benefactive and has only an existential force.

It is postulated here that the contemporary benefactive *được* is derived from the obsolete 'pure' circumstantial *được* via a *semantic reanalysis* in the sense of Eckardt (2012). The process started out with the standard dynamic *được* which more often than not implies a positive nature of the happening in its VP complement. This benefactivity implication was at first strictly contextually conditioned, but is later reinterpreted as a proper component of the core semantics of *được*, that is an inherent, context-independent meaning of the modal. Eckardt (2012:2688) attributes this kind of change to an "urge to *Avoid Pragmatic Overload*." Pragmatic overload is understood to occur when certain presuppositions needed for the understanding of an element become unwarranted and therefore cannot be accommodated by the addressee without a proper context. Faced with this risk, the addressee might resort to reanalyzing the meaning of the said element so that its semantics becomes aligned with the prominent contexts in which it is found.

As a working hypothesis, I assume that this reclassification of information is facilitated by the tendency for *được* to increasingly associated with contexts of beneficial opportunity. This follows from the

emergence of the malefactive *phải* ‘have to’ which is tied to contexts of disadvantage. The presence of *phải* as a modal allows for a neat division of labor between *phải* ([+malefactivity, +necessity]) and *được* ([+benefactivity, +possibility]), a display of stark contrast in both inherent evaluation and modal strength. This division carries over to the realm of deontic modality: while deontic *được* means ‘be allowed to’, deontic *phải* is interpreted as ‘must’.¹³ I further hypothesize that after *được* acquired its benefactivity component, pure opportunity modal *được* as its diachronic predecessor gradually ceased to exist. Much research is needed to substantiate the claims nevertheless.¹⁴

If the discussion so far is on the right track, then we have reasons to believe that this pure possibility use of pre-verbal *được* could be traced back to even the earliest surviving texts. For example, the sentences in (42) are at least in principle ambiguous between a pure opportunity reading and a benefactive interpretation.

- (42) a. *Được* *mắng* *tám* *đáng* *tiếng*
 DUOC hear eight kind sound
 ‘Can/get to hear eight kinds of sounds’ (*Phật thuyết*, 12th c.)
- b. *Trăm* *ngàn* *muôn* *kiếp* *ắt* *khôn* *là*
 hundred thousand ten.thousand life CONJ hard CONJ
 được *gặp*
 DUOC meet
 ‘It is hard to be able to/ get to meet in hundreds of thousands of incarnations’ (*Phật thuyết*, 12th c.)

¹³ Note further that *phải* as a lexical verb also has the core meaning of ‘come to have’, but the theme of *phải* is strictly evaluated as negative (leading to meanings like ‘contract’ or ‘suffer from’ (Nguyễn 1997)), while that of *được* is viewed as positive or neutral (i.e. usually, though not necessarily, desirable). Thus, there appears to be a deep-rooted contrast in semantics between these two elements. A further discussion on the matter is however beyond the scope of this work.

¹⁴ By arguing for the existence of pre-verbal *được* as an evaluation-neutral modal auxiliary, it becomes more straightforward as to how other instances of pre-verbal *được* could develop further modal readings. An account like, for example, that in Thepkanjana and Ruangmanee 2015, which proposes a direct reanalysis from the post-verbal dynamic *được* to the pre-verbal deontic *được*, has to answer the question of why the syntactic position of the modal relative to the verb changes when new interpretations develop.

- c. *Thị phi tiếng lặng, được dẫu nghe*
quarrel voice quite DUOC freely listen
yến thốt oanh ngâm.
swift sing robin sing
'Quarrelling voices quiet down, I can/ get to freely listen to birds
singing.' (*Cư trần*, 13th c.)

Consequently, it seems not unreasonable to hypothesize that the opportunity reading of pre-verbal *được* might predate the ability reading of post-verbal *được*. Interestingly enough, Li (2004:228–229) also claims that the Chinese *dé* 得 is attested first with a participant-external (opportunity) reading (3rd century BC to 1st century) and much later with the participant-internal (ability) one. Incidentally, pre-verbal *dé* as a marker of possibility was also common in Middle Chinese but is lost in Present-Day Chinese. This striking parallelism in the development of these two cognates, though deserving further research, seems to reinforce the current hypothesis.

4. CONCLUSION

This work was first tasked with outlining a rough chronicalization for the modal means expressing dynamic possibility throughout the history of Vietnamese. These modal expressions can be divided into three groups corresponding to three stages of development of the possibility system. Group I consists of at least *hay*, *khá/khả*, *kham* and *được*, which are all merged pre-verbally and no longer in use in PDV. Group II has post-verbal *được* as its sole member. Group III features modal phrases *có thể* and the now outdated *có lẽ*. Diachronic data indicate that pre-verbal modals long anteceded post-verbal *được*, while pre-verbal modal phrases only started to surface quite recently.

The second task of the paper concerned the sketching of the two distinct development paths for *được* as a dynamic modal element, both in a post-verbal and in a pre-verbal position. I started out by suggesting that post-verbal *được* as a modal is derived from a resultative marker, and its peculiar position can be accounted for if Cheng and Sybesma's (2003)

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“fork modality” is adopted. I subsequently made a case for the once existence of pre-verbal *được* as a dynamic modal proper, an important missing piece of the puzzle regarding the syntactic representation of modality in Vietnamese.

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Appendix: The list of cited texts with the corresponding abbreviation, English translation, and publication data.

Abbreviation	Title of text	English translation	Publication
Chuyến đi	Chuyến đi Bắc Kỳ năm Ất Hợi 1876	Voyage to Tonkin in 1876	Trương 1881
Cư trần	Cư trần lạc đạo phú	Dwelling in the World with the Joy of Practicing Dharma	H.C. Nguyễn 1988
Đức Chúa	Truyện Đức Chúa Giê-su	The Story of Lord Jesus	H. Nguyễn 2003c
Hồng Đức	Hồng Đức Quốc âm thi tập	Poetry Collection of the National Language from the Hong Duc Period	Bùi 2000
Giải Kim cương	Giải Kim cương kinh lý nghĩa	Understanding the Diamond Sutra	Lê 2000
Khóa hư	Thiền tông khóa hư ngữ lục	Zen Lessons on Emptiness	Trần 2009
Lazaro Phiên	Truyện thầy Lazaro Phiên	The Story of Lazaro Phien	T.Q. Nguyễn 1887
Nam Xương	Người con gái Nam Xương	The Married Woman of Nam Xuong	Q.H. Nguyễn 2001
Những điều ngắm	Những điều ngắm trong các ngày lễ trọng	Contemplations on Major Holidays	H. Nguyễn 2003a
Phật thuyết	Phật thuyết đại báo phụ mẫu ân trọng kinh	Sutra on the Profundity of Filial Love	Hoàng 1999
Quốc âm	Quốc âm thi tập	Poetry Collection in the National Language	Bùi 2000

Thập giới	Thập giới cô hồn quốc ngữ văn	Ten Admonitions to Lonesome Spirits in the National Language	Bùi 2000
Thiên Chúa	Thiên Chúa thánh giáo khai mông	A Primer on Christianity	H. Nguyễn 2003b
Thư	Thư người Việt Công giáo thế kỷ 17-18 (collective name mine)	Letters from Vietnamese Catholics in the 17th-18th c.	Đoàn 2008
Vịnh Vân Yên	Vịnh Vân Yên tự phú	Fu on the Van Yen Temple	H.C. Nguyễn 1988

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從歷時角度探討越南語中表可能性的能願模態詞系統

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本文透過歷時語料探索越南語的能願模態詞（dynamic modals）系統，並大致勾勒出越南語模態詞分佈的時間順序。此外，我們進一步追溯在語料中發現的兩種能願模態詞 *được* 的句法-語意變化（syntacto-semantic changes）。本文認為動後（post-verbal）模態詞 *được* 是由結果標記（resultative marker）發展而來的，而曾經存在的動前（pre-verbal）模態詞 *được* 經過重新分析（reanalysis）由單純的可能性語意（opportunity reading）轉變為受惠性（benefactive）語意。為何在現代越南語中能願模態詞 *được* 僅出現於動詞後是一個長期存在的難題，本文藉由歷時的角度為此提出了一個解釋。

關鍵字：表可能性的能願模態詞、模態詞、*được*、句法/語意重新分析、歷時句法、越南語