

FLOATING QUANTIFIERS IN BURMESE AND THAI

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Abstract

This paper considers patterns of floating quantifiers in Thai and Burmese and attempts to provide answers to three general questions. First, syntactically how are nouns and floating quantifiers displaced from each other? Second, what pragmatic/functional motivations underlie the optional use of floating quantifier structures? Third, are patterns of Q-float uniform across languages, or are there differences, and how might these be accounted for? It is argued that Q-float differences found in Thai and Burmese are due to the interaction of universal principles shaping linear word order (information structure) and language particular syntactic organisation (the head-initial/final parameter).

Keywords: quantifiers, topicalization, numerals

1. Introduction

In many languages certain elements which quantify over noun-phrases/NPs, such as numerals and quantifiers equivalent to English ‘all’ and ‘both’, may most frequently occur adjacent to the NP they modify, but at other times occur separated from the NP they relate to, when they are commonly referred to as ‘floating quantifiers’. Typical alternations between the NP-adjacent and floating occurrences of nominal quantifiers are illustrated in examples (2-4) from English, Thai and Burmese following the linear schematization in (1) (Q = quantifier):¹

- (1) non-floated patterns: NP Q..... or Q NP....’
 common floated pattern: NP Q.....
 less common floated pattern: Q NP....

- (2) ENGLISH
 a. **All the students** have arrived. *non-floated*
 b. **The students** have **all** arrived. *floated*
 NP = [the students]
 Q = [all]

¹ The Thai and Burmese data presented in the paper was mostly gathered in a series of interviews carried out in 2004 with multiple native speakers of Thai and Burmese who were journalists regularly writing/broadcasting in Thai and Burmese, or teachers of one of the two languages. A preliminary version of the paper was subsequently presented at the SEALS conference in Chulalongkorn University in 2005. Sincere thanks are due to the language consultants who have helped with clarification of the patterns reported in the paper, and to two anonymous reviewers of the paper.

- THAI
- (3) a. nāksùksáa thūk-khon maa lēew *non-floated*
 student every-CL come ASP
 ‘All the students have arrived.’
- b. nāksùksáa maa lēew thūk-khon *floated*
 student come ASP every-CL
 NP = [nāksùksáa] ‘student’
 Q = [thūk-khon] ‘every’
- BURMESE
- (4) a. cāun-ko sīqthāa avāuq hnavaa laa-thwāa-te *non-floated*
 school-to soldier CL 200 come-ASP-REAL
 ‘200 soldiers came to the school.’
- b. sīqthāa cāun-ko avāuq hnavaa laa-thwāa-te *floated*
 soldier school-to CL 200 come-ASP-REAL
 NP = [sīqthāa] ‘soldier’
 Q = [avāuq hnavaa] ‘200’

Floating quantifier patterns are linguistically interesting because they appear to show that it is possible to pull apart and separate two parts of a single grammatical unit (for example, a subject or object) into a discontinuous sequence of elements which are nevertheless still interpreted together, the quantifier being understood as modifying the reference of the NP. This gives rise to three important, general questions. First, how does this syntactic separation occur - what is the structure of non-floated NP/Q constituents, and how does it allow for the NP and the quantifier to be separated? Second, why are the NP and quantifier sometimes separated from each other? When elements are distanced from the position they would otherwise normally occur in, this may make sentences more difficult for hearers to parse and process. What functional purpose and benefit might there be in sometimes splitting apart NP and quantifier constituents? Third, there is a general typological question of whether floating quantifier patterns are indeed the same across different languages, and if not, what are the relevant differences and how might these be accounted for? Is it possible to identify any cross-linguistically shared properties in floating quantifier constructions?

This comparative study of floating quantifiers in Burmese and Thai sets out to investigate these issues and provide initial answers to these three questions which will hopefully be of use in the continued study of floating quantifiers. Concerning the particular choice of languages focused on in the present the study, it is interesting and potentially revealing to compare floating quantifier phenomena in Burmese and Thai because although the structure of NPs is similar in many ways in the two languages, the basic word order of Burmese and Thai is fundamentally different, Burmese being an SOV head-final language, while Thai is a language with very typical SVO patterns. In the course of the paper, it will be suggested that differences in basic word order may indeed impact on the way that the phenomenon of floating quantifiers occurs in a language. In addition to Burmese and Thai, the paper will also make comparative reference to certain other languages in which significant work on floating quantifiers has been carried out, in particular English, and also Japanese and Korean.

2. Previous syntactic characterizations of floating quantifiers: the ‘movement’ analysis

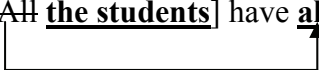
Within generative grammar approaches to linguistics, it has been common to analyse floating quantifiers as being transformationally derived from non-floating structures via an operation of constituent displacement/movement. It is posited that quantifiers and their associated NPs are regularly formed as single continuous syntactic units, and then in certain instances separated from each other resulting in discontinuous sequences of quantifier and NP. Such a hypothesis is argued to provide a principled account of various properties of floating quantifier constructions, for example the observation that a quantifier can frequently only occur in a floated position if it can also optionally be positioned adjacent to its NP associate, as illustrated in (5) and (6)

- (5) [both] [the students] → ✓[the students].....[both]...
Both the students left → *The students have both left.*
 [all] [the students] → ✓[the students]....[all]...
All the students left. → *The students have all left.*

Where a quantifier cannot be inserted directly adjacent to an associated NP (without other supporting words), a floating form also seems to be unavailable, as shown in (6), suggesting a systematic relation between floated and non-floated forms that can be described in terms of a movement transformation converting non-floated sequences into forms with NP and quantifier separated from each other.

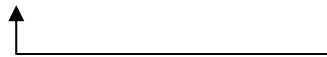
- (6) *[few] [the students] → *[the students]....[few]...
 **Few the students left.* → **The students have few left.*
 *[some] [the students] → *[the students]....[some]...
 **Some the students left.* → **The students have some left.*

With regard to the question of which of the two elements NP/quantifier is understood to be displaced and moved away from the other, there are two logical possibilities. First, it might be hypothesized that the quantifier floats rightward away from an NP in subject position, as schematized in (7) (with strike-through representing the original, underlying posited position of the quantifier):

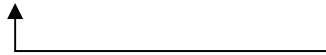
- (7) [All the students] have arrived. → [~~All~~ the students] have all arrived.
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This possibility is commonly rejected as an analysis of floating quantifiers in English for theory-internal reasons, as the hypothesized movement would have to be analyzed as repositioning the quantifier in some structurally lower position in the syntactic configuration. Movement transformations are otherwise uniformly assumed to reposition elements in higher structural positions (which “c-command” the position moved from – Radford 1988, Haegeman 1991). A second possible analysis of quantifier float in languages such as English is the quantifier itself is optionally left behind or “stranded” when an NP moves from a lower VP-internal position to the regular, surface subject position preceding auxiliary verbs, as represented in (8):

(8) a. [**All the students**] have [~~all the students~~] arrived.



b. [**The students**] have [**all** [~~the students~~]] arrived.



As there is other cross-linguistic evidence suggesting that subjects may originate in lower VP-internal positions (Ouhalla 1994), and the hypothesized movement in (8) is to a higher position in the syntactic structure, the analysis of quantifier floating in (8) has been widely adopted in transformational approaches to language. Such an analysis can be used to account for a range of phenomena, for example the observation that a quantifier such as ‘all’ can only occur floating between auxiliary verbs if there has been movement of the object to subject position, as in passive sentences such as (9), and ‘all’ may not simply be inserted in a floating position if no object-to-subject movement has occurred, as in parallel active transitive forms such as (10b). In (9), it is suggested that passive movement of the patient argument of the verb from object to subject position transits through an intermediate position between the auxiliary verbs, where the quantifier ‘all’ can be optionally stranded, giving rise to the floating pattern. This is schematized in representation (11):

(9) **The criminals** have **all** been arrested.

(10) a. ✓He has arrested **all the criminals**.
 b. *He has **all** arrested the criminals.

(11) [**The criminals**] have [**all** ~~the criminals~~] been arrested [~~all the criminals~~].



The fuller documentation of floating quantifier patterns in English has also noted certain other regular properties constraining the distribution of NP/quantifier separation (Bobaljik 2003). First, although passive structures permit quantifier float, as seen in example (9), other constructions which are regularly analyzed as involving movement transformations in English such as topicalization and relative clause formation do not appear to permit the stranding of quantifiers associated with topicalized and relativized NPs, as shown in (12) and (13):

(12) a. ***The students**, I took **all** to the show.
 (cf. All the students, I took to the show).

b. ***The reports**, I recently **both** responded to.
 (cf. Both the reports, I recently responded to.)

(13) ***The students** (who) I have **all** met today are very nice.
 (cf. All the students (who) I have met today are very nice.)

Second, there is a definiteness restriction which applies to the NP in floating quantifier constructions in English – stranding and floating of a quantifier may only occur if its associated NP in subject position is definite (marked by ‘the’/‘those’):

- (14) a. All/Both participants have now arrived.
 b. *Participants have both/all now arrived.
 c. The/Those participants have now both/all arrived.

Such a restriction may account for the fact that numerals may not be stranded as floating quantifiers in English, as in cases such as (15) because the associated NP is indefinite:

- (15) a. Three students have now arrived.
 b. *Students have three now arrived.

In summary, floating quantifiers in English are assumed to be stranded by movement of an NP to the subject position of a sentence, and NPs raised to such a position must be definite in reference (preceded by ‘the’ or a demonstrative).

3. Burmese

Turning now to consider floating quantifier patterns in the southeast Asian language Burmese (Tibeto-Burman), it can be observed that there are two common differences between quantifier-float/Q-float in English and Burmese, as well as other similarities. The first clear difference between the two languages is that floated quantifiers in Burmese are very frequently *numerals* (coupled with classifiers). As noted above (example 15b), numerals do not occur as floating quantifiers in English. Secondly, the NPs which occur separated from their modifying quantifiers in Burmese frequently do not occur in the subject position of the sentence as in English, and are instead often located in sentence-initial topic positions. Both such properties are illustrated in example (16):²

- (16) a. Daw Khin-Khin-kā khētān ngāa-caun wε-tε *non-floated*
 Daw Khin-Khin-NOM pencil 5-CL buy-REAL
 ‘Daw Khin-Khin bought 5 pencils.’
- b. khētān canaw ngāa-sε-daun wε-tε *floated*
 pencil I 50-even buy-REAL
 ‘I bought as many as 50 pencils.’

Separation of the NP and quantifier elements in Burmese can be naturally analyzed as occurring via stranding of the quantifier when there is movement of the NP to a higher (topic-like) position. The quantifier element is naturally located in the position that the NP would occur in if there were to be no splitting and separation of the NP and quantifier. The alternation in (16) can be schematized as in (17). (16a) and (17a) are neutral S-O-V-Aux word orders. The sequences in (16b) and (17b) can be analysed as arising when the NP raises out of the neutral object position to the pre-subject topic position, stranding its associated quantifier Q in the object position:

² Here and in subsequent examples, CL stands for classifier, and REAL for realis.

- (17) a. [Subject Daw Khin-Khin-ka] [Object [NP **khētān**] [Q **ngāa-caun**]] wε-tε
 b. [NP **khētān**] [Subject Daw Khin-Khin-ka] [Object [NP ~~khētān~~] [Q **ngāa-caun**]] wε-tε
-

An analysis of movement of the NP stranding the quantifier is supported by other patterns and restrictions in Burmese. A first restriction is that an NP separated from its associated quantifier must structurally “c-command” the quantifier.³ Example (18) below is ungrammatical because the NP *meet-swee* ‘friend’ inside the subject *meet-swee ye seq-bein* ‘friend’s bicycle’ does not c-command the quantifier it relates to. This indicates that floating quantifiers cannot simply be inserted into a sentence in a random way but are subject to clear syntactic restrictions. The ungrammaticality of examples such as (17) can be simply explained if floating quantifiers can only result from the movement of an NP to a position which c-commands the quantifier.

- (17) *[mēet-swee-yε sēqbēin]-ka thōun-yāuq akhōo-khan-ya-tε
 friend-GEN bicycle-NOM 3-CL were-stolen
 Intended interpretation: ‘Three friends’ bicycles were stolen.’

A second, movement-related restriction is that an NP cannot be associated with a floating quantifier that occurs inside a syntactic “island” (constituents such as relative clauses, embedded questions, adjunct clauses – Ross 1967). As syntactic islands regularly disallow movement of a constituent from within the island to a position external to the island, this restriction on NP–quantifier relations in Burmese is again simply explained if the NP moves away from the position of the quantifier in sentences with floating quantifiers. Example (17) illustrates the ungrammaticality of a floating quantifier inside a relative clause island when its associated NP is external to the relative clause:

- (18) ***wiisakii-ayēq** canaw [manε-ka **thōun-palīn** wε tε meinmā-ko] thī-pa-tε
 whisky I yesterday 3-CL bought woman-ACC know
 *‘Whisky, I know the woman who bought three bottles yesterday.’

A third restriction found in Burmese is that a subject NP cannot relate to a quantifier which follows the object in a sentence, as schematized in (19) and illustrated in example (20):

- (19) *NP_{subject-k} NP_{object} Q_k V

- (20). ***cāun-thāa(-ka)** htamīn-caw **hna-yāuq** hmāa-tε
 student(-NOM) fried-rice 2-CL ordered
 Intended meaning: ‘Two students ordered fried rice.’

³ The structural notion of c-command as it applies in syntactic tree structures is defined as follows: ‘A node X c-commands a node Y if the first branching node dominating X dominates Y, and X itself does not dominate Y.’ (adapted from Radford 1988 p.115).

The ungrammaticality of examples such as (20) can be accounted for if floating quantifiers arise when there is a movement of the associated NP away from the position of the quantifier. In (20) it can be suggested that the subject NP will never have occupied any position to the right of the object (given the SOV base word order of Burmese), and so will not be able to strand a quantifier in such a position. Such patterns therefore again support a movement and stranding analysis of floating quantifiers in Burmese. Note that other adverbs can occur to the right of the object, as shown in (21), which provides an argument against treating floating quantifiers as simple adverbial elements, and favors the movement-stranding account:

- (21) canaw htamīn-caw khaṅ-khaṅ sāa-tɛ
 I fried-rice often eat
 ‘I often eat fried rice.’

A final restriction which can be noted here is that NPs cannot relate to floating quantifiers located inside postpositional phrases/Ps. Similarly, it is not possible for an NP contained within a PP to relate to a quantifier outside that PP. The generalization is therefore that if an NP and a quantifier occur together inside a PP, there is no way that such elements can be separated from each other. This follows from an analysis in which NPs relate to floating quantifiers via separation and movement of the NP from a position adjacent to the quantifier. Examples (22-24) illustrate such patterns with a range of different postpositions and PPs:

PP_{LOCATION}

- (23) a. turīt-twee-kə [PP[**hotɛ** **thōun-khu**]] hmaa] tē-ne-tɛ
 tourist-PL-NOM hotel 3-CL in stay- ASP-REAL
 ‘The tourists were staying in 3 hotels.’
 b. ***hotɛ** turīt-twee-kə [PP**thōun-khu** hmaa] tē-ne-tɛ
 hotel tourist-PL-NOM 3-CL in stay-ASP-REAL
 c. ***[PPhotɛ hmaa]** turīt-twee-kə **thōun-khu** tē-ne-tɛ
 hotel in tourist-PL-NOM 3-CL stay-ASP-REAL

PP_{COMITATIVE}

- (24) a. canaw Suulee-payāa-ko [PP[**pōunjii** **thōun-paa**]]nɛ] thwāa-tɛ
 I Sulee-temple-ACC monk 3-CL with go-REAL
 ‘I went to Sulee Temple with 3 monks.’
 b. ***pōunjii** canaw Suulee-payāa-ko [PP[**thōun-paa**]] nɛ] thwāa-tɛ
 monk I Sulee-temple-ACC 3-CL with go-REAL
 c. ***pōunjii** **nɛ** canaw Suulee-payāa-ko **thōun-paa** thwāa-tɛ
 monk with I Sulee-temple-ACC 3-CL go-REAL

PP_{BENEFACTIVE}

- (25) a. sayaa-kə [PP[**lēe-tān-cāunthāa** **hna-vāuq**]] atwɛq] saa
 teacher-NOM 4-year-student 2-CL for letter
 ta-saun yēe-pēe-tɛ
 1-CL write-give-REAL
 ‘The teacher wrote a letter to/for 2 fourth-year students.’

- b. * lĕe-tān-cāunthāa sayaa-kə [pp[hna-vāuq] atwɛq] saa
 4-year-student teacher-NOM 2-CL for letter
 ta-saun yĕe-pĕe-te
 1-CL write-give-REAL

As PPs are known to be constituents which disallow extraction in many languages, the restriction here can again be suggested to support an analysis of floating quantifiers as being derived by stranding and movement.

Summarizing what has been presented in this section, it can be noted that the distribution of floating quantifiers in Burmese is highly compatible with an analysis of stranding as the result of movement of an NP, which is commonly to a topic-like position, and that floating quantifiers in Burmese are frequently comprised of a numeral and an appropriate classifier.

4. Thai

Standard Thai (Tai-Kadai) is the second southeast Asian language to be considered in detail in this paper. As noted earlier, the internal linear organisation of nominal expressions in Thai is similar to Burmese, with nouns/NPs being followed by numerals/other quantifiers and classifiers: [NP Numeral/Quantifier Classifier]. However, the neutral ordering of clause-level constituents in Thai is significantly different to Burmese, with Thai being an [S Aux V O] language and Burmese having neutral [S O V Aux] order. It is therefore interesting to consider whether issues of basic clausal word order might possibly affect the way floating quantifiers are distributed in the two languages.

4.1 A movement analysis of quantifier float in Thai?

In section 4 above, it was argued that floating quantifiers in Burmese arise via the stranding of a quantifier following movement of an NP to a higher position, as is frequently assumed for English. Shifting our focus to examine Thai, now, a natural comparative question is whether the basic mechanisms of movement and stranding are also responsible for creating floating quantifiers in this language? Consider first the occurrence of floating quantifiers in passive sentences in Thai, such as (26):

- (26) rōt-Mercedes thūuk khəmóoy siisiphāa-khan
 car-Mercedes PASS steal 45-CL
 ‘45 Mercedes were stolen.’

Such examples would appear to be compatible with the assumption that the numeral and classifier sequence *seesiphāa-khan* is stranded by movement of the theme NP *rot-Mercedes* from object to subject position during the derivation of the passive sentence, which in turn might support the conclusion that Thai floating quantifier constructions are fundamentally similar to those in Burmese and English. However, further data involving floating quantifiers in Thai show that there are clear differences between Thai, Burmese and English which indicate that floating quantifiers in Thai do not have the same syntactic derivation as those in Burmese and English.

A first difference with regard to English is that, despite sharing a similar SVO word order, Thai does not permit the occurrence of floating quantifiers in positions between auxiliary and main verbs, unlike patterns common in English:

- (27) a. **The children** will **all** have arrived by now.
 b. **The children** will have **all** arrived by now.
- (28) ***phuak-dək** aat-ca **thuk-khon** maa læw
 children may every-CL come ASP
- (29) **The cars** were **all** stolen.
- (30) ***rōt-Mercedes** thùuk **sìisìphàa-khan** khəmóoy
 car-Mercedes PASS 45-CL steal

A second comparative difference is that in English floating quantifiers actually do not occur in post-verbal object position, unlike Thai (as illustrated in (26)):

- (31) ***The cars** were stolen **all**.

Thirdly, and very importantly, when the position of floating quantifiers is considered more closely in Thai, it actually does not correspond to a potential “stranding” position which an associated NP could have moved from. This can be seen in a closer examination of passive sentences with floating quantifiers such as (32) below. Here the floating quantifier does not occur in the object-of-verb position following the verb ‘steal’ *khəmóoy*, and is instead located in sentence-final position following the adjunct of location ‘from a factory in Stuttgart’. The floating quantifier is therefore not located in a position from which the associated NP *rot-Mercedes* might have been moved, arguing against a simple movement-and-stranding analysis in Thai:

- (32) **rōt-Mercedes** thùuk khəmóoy càak rōong-ngaam
 car-Mercedes PASS steal from factory
 nay mæng Stuttgart **sìisìphàa-khan**
 in town Stuttgart 45-CL
 ‘45 Mercedes were stolen from a factory in Stuttgart.’

Floating quantifiers in Thai also occur sentence-finally when relating to subject NPs in (active) sentences where the subject cannot be suggested to have raised from sentence-final position under any standard (transformational) analysis:

- (33) mii **phùuyíng** maa háa khun **khon-nəng**
 be woman come find you 1-CL
 ‘A woman came looking for you.’
- (34) **nāksùksáa** àan bòt-nīi læw **kùəp thuk-khon**
 student read chapter-this ASP almost every-CL
 ‘Almost every student has read this chapter.’

Similarly, floating quantifiers associated with objects can occur clause-finally distanced from the latter in positions which could never be occupied by direct object NPs:

- (35) a. kháw hày ngən kǎp phóm sóongrɔ̌ɔv-bàat
 he give money to me 200-Baht
 ‘He gave me 200 Baht.’
 b. *kháw hày kǎp phóm ngən
 he give to me money

This occurrence of floating quantifiers in positions that are not possible positions for object NPs can also clearly be seen when the object is separated from the floating quantifier by aspect-marking elements such as *yùu*, *maa*, *pai*, *sèt* and *lɛ̃ɛw*. In none of the examples in (36-39) below could the object NP occur in the position occupied by the associated floating quantifier.

- (36) phóm mii kaangkeng dii-dii yùu khɛ̃ɛ tua-diaw
 I have trouser good-good ASP only CL-single
 ‘I only have one really good pair of trousers.’

- (37) kháw sūu nāngsúu maa sóong-lèm
 he buy book ASP 2-CL
 ‘He bought two books.’


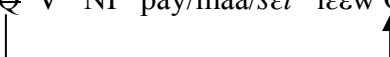
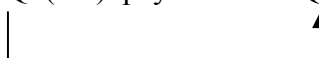
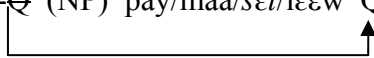
- (38) m̀̀awāannī tamr̀̀uat jǎp nāksùksàa pay sóong-khon nay t̀̀làat
 yesterday police arrest student ASP 2-CL in market
 ‘Yesterday the police arrested two students in the market.’

- (39) kháw kin khàaw s̀̀t sóong-vàang lɛ̃ɛw
 he eat food ASP 2-CL ASP
 ‘He finished eating two of the dishes.’

The general observation resulting from such data is that floating quantifiers in Thai very frequently occur in positions which their associated NPs could not have previously occupied or have been moved from under any standard transformational analysis incorporating the notion of syntactic movement/displacement. This results in the conclusion that floating quantifiers in Thai, unlike English and Burmese, cannot be analysed as resulting from stranding following the movement/displacement of an associated NP.

This being so, the question remains as to how floating quantifiers in Thai may occur in different types of positions to those in English and Burmese? If it is supposed that some form of movement/displacement operation is still potentially involved in separating quantifiers from NPs in Thai, as assumed in other languages, the question then becomes what kind of rather different movement/displacement operation could apply to create the structures found in Thai? Arguably, the only obvious way to analyse the data in Thai in terms of movement is to assume that in Thai separation of NPs and their quantifiers is achieved by movement of the quantifier-element rather than movement of the NP, and that

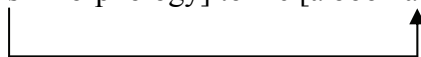
the quantifier-element is displaced to some rightward position in the clause, most commonly following other argument NPs and the aspect markers *pay/maa/sèt/yùu* and either preceding or following the aspect marker *l̄εw*, as schematized in (40):

- (40) a. NP-Q V NP *pay/maa/sèt* Q *l̄εw*

 b. NP-Q V NP *pay/maa/sèt* *l̄εw* Q

 c. NP V NP-Q (NP) *pay/maa/sèt* Q *l̄εw*

 d. NP V NP-Q (NP) *pay/maa/sèt/l̄εw* Q


The movement hypothesized above is quite different from the movement assumed in English and Burmese floating quantifier constructions. In English and Burmese the movement of the NP is leftward and can be suggested to occur for reasons of case (English) or topicalization (Burmese). In Thai the movement of the quantifier is to the right, and for (as yet) unclear reasons/motivations.

Such a working hypothesis naturally leads to the question of whether cross-linguistically it is possible to identify other instances of ‘rightward movement’ which might support a rightward movement analysis of floating quantifiers in Thai? The answer to this question is certainly ‘yes’, with instances of extraposition and ‘Heavy NP Shift’ being two common occurrences of the apparent displacement of syntactic constituents to the right of a clause, as illustrated with English (41) and (42) below.⁴

- (41) Someone [~~who would change our lives forever~~] then entered the room [~~who would~~
 *change our lives forever*].


- (42) John recently sent [~~a book about Polish morphology~~] to me [~~a book about Polish~~
 *morphology*]

Note that similar to NP/floating quantifier pairs, in cases of extraposition such as (41) there is a syntactic constituent (a relative clause) which would normally occur attached to an NP, but is here separated from that NP. Furthermore, as with Thai floating quantifier structures, the NP in sentences with extraposition such as (41) cannot itself occur in the position where the associated relative clause is found (as in: *Then entered the room someone.’), forcing the conclusion that the relative clause has not been stranded by movement of the NP from some clause-final position but has been moved rightwards away from the NP in subject position.

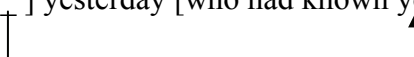
⁴ Heavy NP Shift characteristically involves the rightward displacement of heavy/long objects in double object constructions, as in (42). Instances of extraposition include (but are not limited to) the rightward displacement of PPs and relative clauses from subjects in English, as in (41).

A further restriction found to characterize occurrences of extraposition is that the NP which relates to an extraposed relative clause must be interpreted as non-specific and indefinite.⁵ The NPs which are associated with floating quantifiers also commonly have the property of being non-specific, which suggests a further parallel between extraposition and Thai rightward floating quantifiers. In analyses of extraposition, the specificity constraint is understood to be a restriction on movement and extraction (barring extraction from specific NPs). If a similar restriction holds of NP-floating quantifier relations, this may add further support for a movement analysis of floating quantifiers in Thai. Additionally, and potentially relating to the issue of non-specificity, functionally the rightward extraposition of PPs and relative clauses in English is commonly used when an NP is introduced for the first time into the action described in a discourse situation, as for example in (43) and (44):

(43) [A review] appeared in the Times [of a new book about Roosevelt].



(44) I met [a man] yesterday [who had known your father in the 1960s]



As will later be discussed, floating quantifiers in Thai are also used frequently in presentational situations, increasing the parallels between extraposition and floating quantifier constructions.

Finally, the hypothesis that rightward syntactic *movement* is involved in the distribution of floating quantifiers in Thai is supported by the interaction of quantifier float and standard configurational restrictions on movement, i.e. ‘island phenomena’. As in Burmese, there are patterns indicating that the relation between an NP and a floating quantifier in Thai is regularly restricted by the occurrence of ‘island’ constituents, and it is not possible for an NP inside a constituent such as a relative clause, adjunct clause or other island type to relate to a floating quantifier located outside such a constituent in clause-final position, as illustrated in (45). This example is only acceptable with the continuation in (a) in which the floating quantifier is associated with the noun ‘man’ which is external to the relative clause island, and is not acceptable if relating to the noun ‘Rolls Royce’ inside the relative clause as in (b) (where the switch in classifier from the classifier for people *khon* to the classifier for vehicles *khan* makes the intended meaning clear, though unacceptable):

(45) phómkhəy jəə [phùuchaaythii mii rōt Rolls-Royce maa lēəw]
 I ASP meet man REL have car Rolls-Royce ASP ASP
 a. ✓thúng sǐp-kwää-khon
 as-many-as 10-above-CL_[people]
 b. ...*??thúng sǐp-kwää-khan_[vehicles]
 as-many-as 10-above CL

ONLY: a. ‘I have met more than 10 men who have owned a Rolls Royce.’

NOT: b. ‘I have met a man who has owned more than 10 Rolls Royce cars.’

⁵ An NP is non-specific if its identity is unknown by both the hearer and the speaker prior to the action described in the sentence.

If the sensitivity of a syntactic dependency to island phenomena is an indication that such a dependency is the result of movement, then the presence of island restrictions in floating quantifier constructions in Thai clearly suggests that movement of the floating quantifier occurs, separating it from the NP.

4.2 Consideration of a non-movement analysis: floating quantifiers as adverbs

While the distribution of floating quantifiers in Thai seems highly compatible with a rightward movement analysis similar to extraposition, this being supported by island phenomena and other parallels with extraposition, one might also consider an alternative potential analysis of floating quantifiers, that they are not moved to their surface position from any other underlying location but are inserted directly into their clause-final position as (or, rather, like) adverbs.⁶ Such a non-movement approach to floating quantifiers might be supported by the following range of observations.

First, VP-level adverbs occur in similar clause-final positions to those occupied by floating quantifiers in Thai:

- (46) *kháw tǎp khamtháam yàangchalàat*
he answer question cleverly
'He answered the question cleverly.'

Second, there are modifiers constructed from classifier bases which do occur in adverb-like ways in clause-final position. In examples (47-48), the bolded, underlined elements containing classifiers are not floating quantifiers as they either do not contain a quantifier or do not relate to any overt NP in the sentence, and yet they are licensed to occur in similar positions to other floating quantifiers.

⁶ A reviewer of the paper notes that there are patterns in both Thai and Burmese which might suggest that even when a numeral-classifier pair are adjacent to a noun/NP, the numeral-classifier pair might not be part of the DP nominal constituent, hence might always be adverbial in nature. Specifically, it is observed that pronouns in Thai and Burmese can be followed by numeral-classifier pairs, as illustrated in (i) and (ii). If it were to be assumed that the pronoun replaces the full DP, one might have to conclude that numeral-classifier pairs are, at least in some instances of adjacency, not necessarily part of a DP:

- (i) *kháw sǒng-khon* (Thai) (ii) *thu-tō hna-yāuq* (Burmese)
they 2-CL they 2-CL
'the two of them' 'the two of them'

Parallel forms also occur in Mandarin Chinese, as shown in (iii) from Li (1999):

- (iii) *tāmen liang-ge* (Mandarin)
they 2-CL
'the two of them'

Li (1999:83) argues convincingly that the pronoun in such sequences is in the D^0 position (actually a fairly common syntactic assumption about pronominal elements), and that the numeral and classifier occur in the same post- D^0 DP-internal positions that they occupy in other instances. There is consequently no need to conclude that the post-pronominal occurrence of numeral classifier pairs in examples such as (i-iii) indicates that such elements are DP-external and adverbial in nature. Furthermore, Simpson (2005) shows that elements which close off DPs, such as case-markers in Burmese, and demonstratives in Thai, can occur following post-nominal numeral-classifier pairs, confirming that such sequences are DP-internal elements, at least in certain occurrences, and hence would not be naturally analyzed as adverbial elements in all instances.

(47) a. khrāng-thiilēw kháw maa [**khon-diaw**]
 time-last he come CL-single
 ‘Last time he came alone.’

b. khóo pay dùay [**khon**] nā
 request go together CL PRT
 ‘Can I go too?’

(48) lōn klāay pen thiiprüksáa khóng kháw pay **thūk-rùəng** lēw
 she change be advisor of he ASP every-CL ASP
 ‘She became his advisor in everything.’

Third, there may be some final floating quantifiers which can *not* occur adjacent to the NP they modify, hence which do not alternate with a non-floated form. For example, in (49) below, it is not possible for the floating quantifier sequence *sáam-sòp* to occur adjacent to its NP associate *phùak-nān* as shown in (49b). The absence of such an adjacent NP quantifier sequence may suggest that the floated form is not derived from an NP quantifier unit via movement of the quantifier.⁷

(49) a. kháw yīng **phùak-nān** taay lēw **sáam-sòp**
 they shoot group-that die ASP 3-CL
 ‘They shot three of them dead.’

b. ??*kháw yīng **phùak-nān** **sáam-sòp** taay lēw
 they shoot group-that 3-CL die ASP

It can also be noted that Thai floating quantifier patterns are different to those in Burmese (and Japanese, Korean; Kang 2002) in the patterning of sentences with prepositional phrases/Ps. In Thai it appears to be quite possible for a clause-final floating quantifier to relate to an NP located inside a PP. In other languages such as Korean, Japanese and Bengali (Simpson and Bhattacharya 2008) where floating quantifiers may not relate to an NP inside a PP this has been suggested to be because PPs in many languages may disallow extraction/movement. If this is the correct interpretation of PP-related data, it might weaken the case for a movement analysis of floating quantifiers in Thai. Examples (50-52) show that quantifier units floated in clause-final position are free to associate with NPs contained in a range of PP types:

(50) kháw kəp ngən [_{pp}**càak nāksùksáa**] maa lēw **küəp thūk-khon**
 he collect money from student ASP ASP almost every-CL
 ‘He has collected money from almost all of the students.’

(51) chán khuy [_{pp}**kàp khèek**] maa lēw **sóng-sáam-khon**
 I chat with guest ASP ASP 2-3-CL
 ‘I’ve talked with about 2 or 3 guests already.’

⁷ The complication in this example is that *sòp* is the classifier for dead bodies and only seems to allow for use in counting corpses once it has been established that the relevant people are dead – hence in floated clause-final position after ‘died’ *taay lēw*.

- (52) kháw són-nāngsǔu [ppsii-kwàa hēeng
 he teach in university ASP ASP 4-over-CL
 ‘He has taught in more than 4 universities.’

4.3 The partitivity issue

Data relating to interpretations of partitivity provide further potential clues as to the derivation of floating quantifier structures. Sentences with floating quantifiers sometimes have different interpretations from those where numeral-classifier pairs are not floated. Consider examples (53) and (54), where quantifier float occurs in (54) (but not (53)):

- (53) dèk sám-khon taay lēew
 child 3-CL die ASP
 ‘The three children have died.’
- (54) dèk taay (pay) sám-khon lēew (or: dèk taay lēew sám-khon)
 child die ASP 3-CL ASP child die ASP 3-CL
 ‘Three of the children have died (so far/already)’

(53) is commonly described (by speakers of Thai) as having the meaning that some group of three children known to the speaker and hearer (i.e. a definite group of three children) had died. (54), by way of contrast, is suggested to mean that three children from some group known to the speaker and hearer have died, and to imply that there are still other children from that group who may be in danger. This corresponds to a “partitive” interpretation in which the numeral+classifier quantifies over a definite set.

A similar difference in interpretation is found to occur when the NP is located in object position as in (55) and (56) (quantifier float takes place in (56)):

- (55) kháw kin kàpkhàaw sóong-vàang sèt lēew
 he eat dishes 2-CL ASP ASP
 ‘He has finished eating the two dishes.’
- (56) kháw kin kàpkhàaw sèt sóong-vàang lēew
 he eat dishes ASP 2-CL ASP
 ‘He has finished eating two of the dishes.’

(55) is characterized as meaning that there are only two dishes in total (and they are now consumed), whereas (56) implies that there is more food on the table and has the partitive-like interpretation ‘two of the dishes’.

The potential significance of this data is the following. If clause-final floating quantifiers are supposed to be derived by movement of a numeral+classifier from a position adjacent to the NP, it might not be expected that this movement would affect the meaning/interpretation of the numeral+classifier in such a clear way. In other words, why would a partitive interpretation be present with floating quantifiers but not non-floated numeral+classifier sequences if the former are simply derived from the latter? This difference in interpretation could be taken as an argument against analyzing floating

quantifiers as the result of a movement transformation, as syntactic movement is regularly understood to preserve rather than alter meaning.

In trying to make sense of the alternations here, it is useful to reflect on how partitive interpretations generally may arise from syntactic structures. In English and many other languages, partitive interpretations occur when a numeral (or a universal quantifier such as ‘all’) is positioned external to the “DP” unit created by the addition of a determiner to an NP, as represented in (57):

(57) [_{QP} two/all of [_{DP} the [_{NP} students]]]

This contrasts with the interpretation which arises when a numeral occurs inside the DP, following ‘the’:

(58) [_{DP} the two students]

The sequence in (57) implies there are more students who are part of a group familiar to both speaker and hearer, while (58) refers to a group composed of just two students known to speaker and hearer, and there is no implication that other students belong to this particular group. This allows for the statement of a simple partitive generalization relating to the syntactic structuring of partitive phrases:

(59) PARTITIVE GENERALIZATION

A numeral which is external to and quantifies over a definite DP/NP gives rise to a partitive interpretation.

A numeral which is internal to a definite DP/NP does not give rise to a partitive interpretation.

Now, if adjacent sequences of NP + numeral-classifier in Thai such as *dek saam-khon* (ex. 53) and *kap-khaaw soong-yaang* (ex. 55) do not give rise to partitive interpretations, this suggests that the numeral+classifier in such sequences has to be interpreted as being ‘internal’ to any definite DP and that Thai does not have a second possible position for numeral+classifiers equivalent to the position of the ‘outer’, DP-external numeral in English (57). Linearly adjacent NP + numeral-classifier sequences would therefore be assumed to always have the structure [_{DP} NP quantifier.classifier] and not the structure [[_{DP} NP] quantifier classifier] (which would be expected to license partitive interpretations). Finally, as movement operations are assumed to conserve fundamental aspects of meaning, if Thai only makes available a DP-internal non-partitive position for numeral+classifier pairs, it might be concluded that clause-final floating quantifiers associated with partitive interpretations cannot be moved from positions adjacent to the NPs they modify.

However, the fuller patterning of partitivity with nominal expressions is actually more complex still than the patterns seen above, and there is clear evidence that Thai in fact allows for two different positions of NP-adjacent numeral+classifier pairs, one of which appears to be an ‘outer’ position which can give rise to partitive readings. This is seen in examples (59) and (60) when possessor-phrases and relative clauses co-occur with numeral-classifier pairs in two alternating orders. In the first (a) order, the numeral and classifier are directly adjacent to the noun and there is no partitive interpretation, whereas

in the second (b) order the numeral-classifier pair occurs further to the right, separated from the noun by the possessor phrase/relative clause, and partitive interpretations naturally arise:

- (60) a. [bàan **sáam-láng** không phóm]
house 3-CL of I
‘my three houses‘
- b. [bàan không phóm **sáam-láng**]
house of I 3-CL
‘three of my houses‘
- (61) a. [bàan **sóng-láng** [thì phóm sū̄ nay Amerikaa]]
house 2-CL which I buy in America
‘(the) two houses which I bought in America‘
- b. [bàan [thì phóm sū̄ nai Amerikaa] **sóng-láng**]
house which I buy in America 2-CL
‘two (of the) houses which I bought in America‘

If the (b) forms do show that there is a second ‘outer’ position for numeral+classifier pairs in nominal expressions and this position can give rise to partitive interpretations, it should clearly be possible for a clause-final floating quantifier to move from such an outer position, maintaining the partitive interpretation which is made available by its initial occurrence in the outer position. Considered further, therefore, the availability of partitive interpretations with floated numeral+classifier pairs ultimately does not provide a clear argument against the assumption that they are moved to their surface position from a position adjacent to the NP associate.

What does still require some explanation, however, is why partitive interpretations of linearly adjacent NP numeral+classifier sequences do not appear not to be possible, i.e. why (53) and (55) do not seem to easily allow a partitive reading. If there is indeed a second structural NP-adjacent position for numeral+classifier pairs which will allow for a partitive interpretation (given the patterns in (60b) and (61b)), why is it the case that the numeral+classifier pairs in (53) and (55) cannot be interpreted in such a position, giving rise to partitive meanings? A possible explanation for the lack of a (now) expected partitive interpretation in (53) and (55) may be to attribute this to parsing preferences and the cross-linguistic phenomenon of ‘Local Association’ (aka ‘Late Closure’ Frazier 1979). Local Association is a preference in parsing to keep adjacent words analyzed as being close together in the underlying syntactic structure constructed by hearers, and such a preference principle may restrict the analyses and associated interpretations that hearers find it easy to mentally construct. For example, both of the English sentences in (62) and (63) below are ambiguous, but Local Association strongly leads hearers to make the interpretation in (a), as this involves mentally analysing the adverb ‘yesterday’ and the relative clause ‘who was on the balcony’ as modifying the nearest available unit:

- (62) John said that Mary left yesterday.
 (a) strong parsing preference: ‘yesterday’ modifies ‘left’
 (b) less naturally available: ‘yesterday’ modifies ‘said’
- (63) Someone shot the servant of the actress who was on the balcony.
 (a) strong parsing preference: ‘who was on the balcony’ modifies ‘the actress’
 (b) less naturally available: ‘who was on the balcony’ modifies ‘the servant’

Applied to the apparent lack of a natural partitive interpretation in examples such as (53) and (55), it could be suggested that Local Association enforces the parsing attachment of the numeral+classifier in the first mentally available position - the syntactically lower internal position of numeral+classifier pairs - and that hearers are only able to make a higher attachment (in the outer position) when there is material intervening between the NP and the numeral classifier as in (60b) and (61b), which enforces high attachment of the numeral+classifier in the outer position and the ensuing partitive interpretation.

4.4 Mid-way conclusions and partial summary

Although it has been seen that there are two potential analyses of the derivation of clause-final floating quantifiers in Thai, it can be suggested that the balance of the evidence may favor an analysis of movement, with repositioning of floating quantifiers from a position adjacent to an associated NP to some clause/VP-final location. While an adverbial analysis of floating quantifiers is theoretically possible, it is perhaps not strongly supported, and is clearly challenged by the occurrence of island restrictions. Moving forward with such assumptions, we can now partially summarize the differences which seem to exist in floating quantifier patterns in Burmese, Thai and English, as established by the answers to five questions probing significant parameters of variation in floating quantifier phenomena.

QUESTION 1: *Where does the NP associated with the floating quantifier occur?*

In English, the NP occurs in subject position. In Thai, the NP associate occurs in regular subject, object, indirect object, or object of preposition positions (hence the NP itself is not moved to any special position). In Burmese, the NP commonly appears in a topic-like position and often seems to have been displaced from a regular subject or object position.

QUESTION 2: *Where does the floating quantifier/FQ occur?*

In English, the FQ commonly occurs between auxiliary verbs and the main verb, before the VP. In Burmese, FQs commonly occur in the regular position of the associated NP (e.g. in regular subject or object position). In Thai, FQs occur in clause/VP-final positions which often do not correspond to the regular position of the associated NP, nor any position which the NP would have moved through.

QUESTION 3: *What is the definite/indefinite status of the “NP”?*

In English, the “NP” has to be definite (and is therefore actually a DP; e.g. ‘the students’, and cannot be a bare indefinite NP e.g. ‘students’). In Burmese, the NP is commonly a bare indefinite NP (e.g. *khetan* ‘pencil’). In Thai, the NP is often a bare indefinite NP (e.g. *phuuying* ‘woman’), but can also be more complex and definite (e.g. *pheuan khoong phom* ‘my friend(s)’).

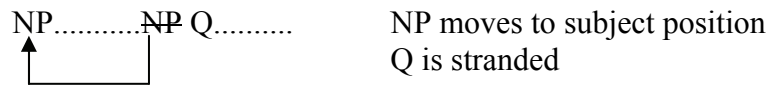
QUESTION 4: *How does the floating quantifier structure seem to be syntactically created?*
 In English, stranding appears to occur - the NP leaves behind the FQ when it moves to a higher position (the subject position). In Burmese, stranding also appears to occur - the NP leaves behind the FQ when it moves to a higher topic position. In Thai, it may appear that rightward movement takes place - the FQ appears to be moved away from the NP to a position to the right of the clause, similar to extraposition movement in English.

QUESTION 5: *What elements occur as floating quantifiers?*

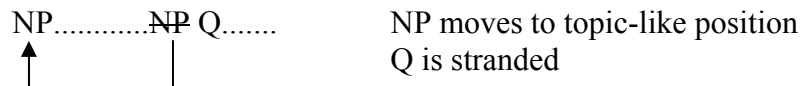
In English, only quantifiers such as ‘all’ and ‘both’, and not numerals occur as FQs. In Burmese, numerals (combined with classifiers) and other quantifiers (not combined with classifiers, e.g. ‘aa-loun’ ‘all’) appear as FQs. In Thai, numerals (combined with classifiers) and other quantifiers combined with classifiers (e.g. *thuk* ‘every’, *laai* ‘several’, *baang* ‘some’) function as FQs.

Generally, then, floating quantifier patterns are not fully uniform across different languages and may vary according to a range of distinct properties. The hypotheses developed here concerning the syntactic mechanisms which result in separation of NP and FQ (i.e. question 4) are schematized below in (64). In section 5, we go on to consider what may functionally be responsible for this separation of NP and FQ.

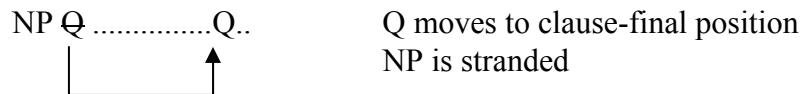
(64) a. ENGLISH



b. BURMESE



c. THAI



5. Why does separation of the NP and quantifier take place?

Having considered some of the structural properties and differences in floating quantifier constructions in Burmese and Thai (and English), we should now ask why this kind of splitting and separation of NP and quantifier ever occurs. The splitting of a constituent into two separate, distanced parts imposes considerable extra processing costs, as the reference value of a subject or object or other event participant can only be computed fully once both NP and quantifier are encountered in the processing of a sentence, and in instances where there is separation of an NP and an associated quantifier, hearers have to mentally ‘store’ the partial information provided by the NP until it can be combined with that of the associated quantifier and a full referential value for the subject/object etc can be arrived at. Given such extra processing costs, it is natural to ask what benefits may result

from the use of floating quantifiers as compensation for the processing burden. In addition to such a functional question, one might also wonder whether there is any principled way to explain the syntactic differences observed above, or does it have to be concluded that the cross-linguistic variation found in floating quantifier constructions is simply random and fully unpredictable? In the remainder of the paper, it will be suggested that, in employing floating quantifier constructions, languages may frequently be trying to achieve the same basic effects in terms of information structure, but are constrained by differently configured local resources, and it is language-specific properties and restrictions which result in the range of differences noted above. FQ constructions will therefore be suggested to potentially contain elements of the universal interacting with elements of the language-specific, the universal here being the linear ordering of elements in information structure, and the language-specific being variation in basic word order type: V-O vs. O-V (i.e. head-initial vs. head-final). As a way to approach these issues, we will begin by considering how and when floating quantifier constructions are commonly made use of.

5.1 The functional use of FQs in Thai

In Thai, there are two particularly common contexts which give rise to the use of FQ constructions. The first of these is presentational sentences - floating quantifiers frequently occur when new referents are being introduced in a discourse, often with the existential verb *mii* or as the object of a verb, as illustrated in (65-66):

(65) *mii* **dèk** *maa ngaanpaatii* **raw** **sìisìp-kwàa-khon**
 be child come party about 40-above-CL
 ‘More than forty children/young people came to the party.’

(66) *phómphèng* *sāw* **nángsúu** *maa* **sóng-lèem**
 I just buy book ASP 2-CL
 ‘I just bought two books.’

The second context where FQs occur with significant regularity in Thai is in instances of ‘re-presentation’ and partitivity. Splitting and separation of NP and quantifier occurs in instances where the NP is not new information – the NP is definite in reference and already familiar to hearer and speaker – and splitting results in partitive interpretations with a frequent focus on what characterizes a certain number of the set represented by the NP, as seen in (67-68):

(67) **lùuk khóng phùæn phóm** *taay lēew* **sóng khon**
 child of friend I die ASP 2-CL
 ‘Two of my friend’s children have died.’

(68) **bangalo** *kò wàng yùu* **sóng-sáam-láng**
 bungalow PRT vacant ASP 2/3-CL
 ‘Two or three of the bungalows are free.’

The main difference between the two common contexts for FQs cases is the referential familiarity of the NP - the NP is either old-familiar information being re-presented in a

sentence, or is new information being presented for the first time. A generalization which unites the two contexts is that in both cases the quantifier itself represents important, new information.

(69) GENERALIZATION ONE (Thai)

The quantifier in FQ constructions represents important, new information.

Because of (69), it is quite unnatural for demonstratives to occur floated in final position, as demonstratives regularly do not encode new information:

- (70) *kháw sǎu nángsǔu maa ✓ sóong-lè̄m/*??lè̄m-nī* lɛ̄ɛw
 he buy book ASP 2-CL/CL-this ASP
 ‘He has bought two books/this book.’

The unacceptability of ‘floating demonstratives’ here is similar to the unnaturalness of repositioning a demonstrative-marked NP to the right of a clause in English Heavy NP Shift constructions:

- (71) I gave _ to Mary ✓[a book about elves]/*??[this book].

A second functional generalization which characterizes FQ patterns in Thai is that use of floating quantifiers is often felt to sound more natural when the quantifier is accompanied by some other qualifying/focus particle such as the following: *khæ* ‘only’, *tang* ‘as many as’, *thawnan* ‘only’, *keuap* ‘almost’, *raaw* ‘approximately’. FQs are also judged to be natural-sounding when the numeral which occurs has a remarkable or high value:

- (72) *mii khon maa tàng-hàa-sǐp-khon*
 be people come as-many-as-50-CL
 ‘As many as 50 people came.’

(73) GENERALIZATION TWO (Thai)

FQ constructions often involve the occurrence of an additional focus or qualifying particle or remarkable/high-valued numerals.

These two observations in (69) and (73) support the view that floating quantifiers instantiate *focused information*. It can therefore be suggested that when there is natural pressure to stress the focal salience of new information represented by a quantifier, this may be achieved by positioning the quantifier away from its associated NP in clause-final position, where new information is most naturally positioned in a very wide range of languages.⁸

⁸ In many languages, the cross-linguistic tendency for new information to be introduced in sentence/clause-final location causes the occurrence of non-canonical word order patterns, sometimes with the re-ordering of major argument constituents. For example, the neutral SV(O) word order in languages such as Italian is regularly reordered as VS if the subject encodes new information, as in (i):
 (i) *É arrivato Gianni.*

Continuing to examine such a functional view of floating quantifiers, in Thai in the frequent instances where there is presentation of a fully new quantified referent, it can be noted that there are actually two pieces of new, important information which occur in floating quantifier structures: (a) the noun/NP - i.e. the identity of the type of the referent: 'student', 'book' etc, and (b) the quantifier - the amount of the N: 'two books', 'fifty students' etc. In such instances it can be hypothesized that the splitting and separation of a constituent into two components (NP and FQ) may serve to highlight the two, separate parts of the constituent, and splitting may be a particularly useful solution, where syntactically available, to situations in which there are two pieces of adjacent information both of which are informationally new and in focus. If the two components are separated and certain linear space is created between them, this may potentially serve to increase the salience/prominence of both items. Elsewhere in studies of language there is much evidence that perceptual salience may be at a maximum at the beginnings and ends (the edges) of units. For example, it is known that the beginnings and ends of words and syllables are perceptually more salient than the internal parts of such units. In a similar way, it can be suggested that the splitting of an adjacent NP Q sequence (in which both NP and Q are new information) into a spatially separated NP.....Q order may serve to create a structure in which the perceptual salience of both parts is usefully heightened. In this regard, there may be similarities with other common splitting/separation constructions. As noted earlier, extraposition structures such as (74) are naturally used in presentational situations, where a new referent is introduced. Here the noun 'man' encodes information about the basic type of the new referent, and the extraposed relative clause adds further new information about this basic type. In such cases, splitting of the NP into two parts may functionally occur to enhance focal salience on both pieces of new information:

(74) **A man** entered the room **who was wearing a black hat**.

A key property of separation and splitting may therefore be to establish a certain distance between two new units of information, both of which are in need of emphasis. Whereas some languages have considerably flexibility in stress placement and the manipulation of stress for informational purposes, other languages (in particular tone languages, such as Thai and Burmese) have less flexibility, and may need to make use of special syntactic structures and movement/repositioning of elements to achieve similar functional ends. The occurrence of split, floating quantifier structures may consequently be the result of situations in which adjacent focal elements cannot both be naturally stressed and so constituents are split in two to allow for both parts to maximize their focal prominence.

5.2 The functional use of FQs in Burmese

When Burmese floating quantifier constructions are considered from a pragmatic, functional point of view, they are interestingly found to show similar focus properties to those observable in Thai, and floating quantifiers in Burmese occur very naturally with focus-type particles (e.g. *-taun* 'as many as'). Indeed, various configurations involving

has arrived Gianni

'Gianni has arrived' (a natural answer to the question: 'Who has arrived?')

The use of FQ constructions can therefore be seen as another manifestation of non-canonical word order to highlight new information in clause-final position.

floating quantifiers which speakers categorize as unacceptable/highly unnatural or even ungrammatical can be ‘rescued’ and made perfectly acceptable by the appropriate use of focus particles. This is an observation which has also been made about similar patterns in Japanese and Korean floating quantifier constructions (Kang 2002, Miyagawa and Arikawa 2007). In various earlier works on Japanese and Korean (e.g. Miyagawa 1989) the linear sequencing of a floating quantifier associated with a subject but following an object, as schematized in (75) and illustrated with Korean (76) was categorized as ungrammatical. However, if a focus particle is added to the floating quantifier, and/or a numeral quantifier is made into a large ‘remarkable’ number (hence inherently focused) as in (77), it has been noticed that the configuration in fact becomes perfectly acceptable (Kang 2002, Miyagawa and Arikawa 2007):

(75) NP_{Subject-k} NP_{Object} Q-k V

(76) ***hakseyng-i** khempywuthe-lul **twu-myeng** sassta
 student-NOM computer-ACC 2-CL bought
 ‘2 students bought a computer.’ (Kang 2002)

(77) **hakseyng-i** khempywuthe-lul **twu-myeng-ina/-man** sassta
 student-NOM computer-ACC 2-CL-as-many-as/only bought
 ‘As many as/only two students bought computers.’ (Kang 2002)

Alternatively, if it is ensured that the object NP in sequences such as (75) is not interpreted as new information (which might potentially distract attention away from the intended focus on the new information of the floated quantifier), such a strategy will also ‘save’ structures with the form in (75). Again, this confirms the required focal properties of floating quantifiers. While (78) is regularly judged as deviant in Japanese, if the object *sake-o* ‘wine’ is pronominalized as *sore-o* ‘that’ and so encodes old/given information as in (79), the sentence is accepted as well-formed and natural (Nakanishi 2008):

(78) ?*gakusei-ga sake-o san-nin non-da
 student-NOM wine-ACC 3-CL drank
 ‘3 students drank wine.’

(79) kinoo-wa gakusei-ga sore-o san-nin non-da
 yesterday-TOP student-NOM that-ACC 3-CL drank
 ‘3 students drank it.’

Similar patterns occur in Burmese and reinforce the assumption that floating quantifiers are focused information in Burmese, as in Thai, and occur in final pre-verbal position in order to heighten their focal prominence, the pre-verbal position in Burmese being the position that other focused elements naturally occur in, as in many SOV type languages (e.g. Turkish, Hindi, Bangla).

Although the focused interpretation of floating quantifiers can thus be characterized as similar in Burmese and Thai (and Japanese and Korean), it can be noted that there is also a difference in the interpretation of the associate NP which frequently occurs in Burmese but not in Thai. Speakers of Burmese often note that there seems to be a natural sense of *contrast* implied in many cases of splitting and separation of the NP and a

quantifier, and the implication of ‘lists’ in which items are compared and contrasted against each other. This is illustrated in (80). When presented with such sentences, speakers report that there is a natural implication that the subject also bought (different) quantities of other items too

- (80) dāqhkēh-ko candaw lēe-lōun wε-dε
 battery-ACC I 4-CL buy-REAL
 ‘I bought batteries.’
 implication: I bought different quantities of other items too.

The interpretation of the NP in sentences such as (80) is therefore that of a *contrastive topic*. Contrastive topics are frequently both old and new in informational terms: their identity is generally known/familiar, but there is new information present in the fact that they are contrasted with other members of a particular set, as illustrated in (81) (Lee 1999):

- (81) [[These]_{Focus} examples]_{Topic} I found [in Gundel].
 ‘these’=focal/contrastive
 ‘these examples’=old/known information

Burmese separation of NPs and associated quantifiers therefore involves both new information focus on the pre-verbal floating quantifier and frequent contrastive topic-like interpretation of the NP. In this patterning, floating quantifier separation constructions are similar to splitting constructions in languages such as German (also Polish, Russian). In German (Fanselow and Cavar 2001), the two parts of a single NP unit can be split apart as in (82),

- (82) Autos besitzt er (nur) schnelle.
 cars owns he only fast
 ‘He owns only fast cars.’
 ‘As far as cars are concerned, he only has fast ones. As for motorcycles,...’

The same kind of contrastive interpretations that are often felt in Burmese floating quantifier constructions are common in such splitting, and may be a frequent property of many splitting constructions. However, they do not seem to be a common interpretation in Thai floating quantifier constructions, and this accordingly is an instance of some difference in the patterning of floating quantifiers in the two languages (to be returned to below).

Reflecting on the commonalities found with floating quantifiers in Thai and Burmese, and the functional question of why splitting of NPs and quantifiers occurs in the two languages, a general conclusion which it seems plausible to adopt is that splitting takes place in order to focus the quantifier and its new information in a prominent, final focus position as stated in (83).

- (83) Functional generalization on FQ constructions in Thai and Burmese:
 Splitting and distancing of NP and quantifiers coincides with and is appropriate for the encoding of (new information) focus on the quantifier.

We have now attempted to provide at least partial answers to the three questions in (84) we began this paper with, with special reference to Burmese and Thai, and comparisons made with patterns already reported in English, Japanese and Korean:

- (84) i. How are the NP and quantifier related to each other in floating quantifier constructions?
 ii. Why does separation of the NP and quantifier occur?
 iii. Are floating quantifier constructions cross-linguistically uniform?


The answer to question (84iii) has been that there are in fact a number of differences in floating quantifier patterns across languages, even when one considers just the two languages Burmese and Thai. For example, it appears that in FQ constructions in Thai the quantifier is repositioned to the right, stranding its associated NP in situ, while in Burmese the NP is moved to the left, stranding the associated quantifier. An interesting question which we can now ask is whether such differences might in any way be predicted or accounted for by the answer to the other questions (i) and (ii)? The answer here may be ‘yes, quite possibly so’. Specifically, it will be suggested that differences such as those observed with Thai and Burmese may result from the interaction of ‘universal’ and language-specific properties. The ‘universal’ property relevant here is the observation drawn from general studies of information structure that there is a pervasive cross-linguistic tendency for elements representing new information to occur focused in clause-final positions (hence new referents are commonly introduced in object rather than subject positions). The language specific property we will consider here is the difference in basic, neutral word order in Burmese and Thai.

First, looking at patterns in Thai, let us consider the case of a subject which is represented by an NP and a quantifier whose content the speaker wishes to focus. Due to the basic SVO word order in Thai, if the quantifier remains adjacent to the NP, this will result in the linear sequencing in (85):

(85) [NP Q_{focused}]_{Subject} V NP_{Object}

In this neutral word order, the quantifier which is to be focused is located far away from the clause-final position which new information focus most naturally occurs in. In order for the quantifier to occur in such a position, it is regularly moved/relocated to its right, stranding the NP, as in (86):

(86) [NP Q_{focused}]_{Subject} V NP_{Object} Q



The stranded subject NP is not in a position which has a special focal status in the information structure of the sentence and simply receives the regular interpretation of an NP in subject position, hence there is no necessary/common interpretation of the NP as being a contrastive topic (unlike the NP frequently in Burmese FQ constructions). Displacement of the quantifier to the right occurs simply in order to position the quantifier in the clause-final, new information focus position.

Now turning to Burmese, let us consider the case of an object NP with a quantifier whose content a speaker wishes to focus. Given the SOV basic word order in Burmese, in

cases where there is no NP-quantifier separation, and the NP and quantifier remain adjacent to each other, this will result in the linear sequencing depicted in (87):

(87) NP_{Subject} [NP Q_{focused}]Object V

In Burmese, as in many other SOV languages, the ‘clause-final’ position associated with new information focus is actually not fully clause-final, but the position immediately preceding the verb. Hence in the set of constituents which can be re-ordered (this not including the verb), a focused argument or adverbial is commonly placed in final position and preceded by other old and backgrounded information. In the neutral word order configuration in (87), the quantifier associated with the NP already naturally occurs in the pre-verbal focus position, so there is a natural convergence of position and information structure status for the quantifier. Where quantifier float patterns do occur, and result in a further heightened focus effect on the quantifier due to the splitting and separation effect, this results in a splitting away of the NP stranding the quantifier in focus position and placement of the NP further forward in the sentence, in topic position. As the NP which is regularly displaced leftwards to topic position here is a commonly a bare noun, such a bare, indefinite noun/NP is interpreted generically as representing the type of the noun/NP, and this in turn results in its interpretation as a contrastive topic, as non-contrastive topic interpretations are restricted to entities that are definite in reference (hence the oddness of sentences such as: ‘?A book, I bought yesterday.’).

Consequently it can be suggested that the different word orders of Thai and Burmese interacting with cross-linguistic pressures to place focused, new information in final positions conspire to cause the major observable differences between floating quantifier constructions in the languages, namely: (1) in Thai, the quantifier undergoes movement, while in Burmese it is the NP which is regularly moved away stranding the quantifier, and (2) in Burmese: there is frequently a contrastive topic interpretation of the NP, while in Thai: no special interpretation of the NP occurs in floating quantifier constructions.

A further common property of Q-float constructions which appears to be shared widely across languages is the patterning that when NP and quantifier are separated, it is common for the NP to linearly precede the quantifier (...NP.....Q....), and the opposite sequencing of quantifier preceding NP is quite uncommon (...Q.....NP....), though sometimes suggested to be grammatically possible in languages such as Japanese.⁹ This

⁹ A striking illustration of the pressures to conform to a linear NP > Q ordering can be noted from Mandarin Chinese, where the quantifier *dou* ‘all’ has grammaticalized in a fixed pre-verbal position, and is actually never combined with an associated NP in a single syntactic constituent. Whenever *dou* quantifies over an object NP which would normally follow the verb in the basic SVO word order of Mandarin, the object NP is actually forced to undergo repositioning into some position to the left of *dou* resulting in a linear NP>Q sequence. This may result in the NP object being immediately adjacent to *dou* as in (c) below, or further to the left in pre-subject topic position (d). Examples (a) and (b) show that *dou* cannot be combined with the NP object in post-verbal position, and that the object may not remain in situ following the verb if associated with *dou*::

- (a) *wǒ kàn-le dōu shū
I read-ASP all book
- (b) *wǒ dōu kàn-le shū *..Q...NP..
I all read-ASP book
- (c) wǒ shū dōu kàn-le ✓..NP...Q...

common linear distribution of NP and quantifier can arguably also be attributed to aspects of information structure, and the strong cross-linguistic tendency for new information to be sequenced following old information. In instances where an NP and a quantifier are split apart in Q-float constructions/configurations, it is much more likely that the generic reference value of the noun/NP can be assumed to be familiar, contextually retrievable and more available as a topic-like center of interest than the value of the quantifier, which will frequently resist any topic-like licensing in the information structure of a sentence, as illustrated in the contrast in (88):

- (88) a. As for apples, I want three.
 b. ??As for three, I want apples.

General principles of information structure interacting with parametrizable properties of languages therefore results in a range of quite predictable and understandable variation in the distribution of floating quantifiers and their associated NPs.

A final question we will consider here relating to the issue of word order, floating quantifiers and information status is the special occurrence of post-verbal elements in SOV languages and the syntactic status of ‘afterthought information’. Above it was mentioned that the basic word order of languages such as Burmese, Japanese and Korean is SOV, with the verb in clause-final position. In written forms of these languages, subjects, objects, obliques and other adjuncts may occur in a range of different orders preceding the verb, depending on their contextual information status as definite/indefinite, new/old, focused/topical material, but the verb is regularly final in its clause and does not participate in any linear re-ordering with arguments and adjuncts (hence Burmese, Japanese and Korean are often referred to as ‘verb-final’ languages). In spoken forms of these languages, however, certain non-verbal elements such as subject and object NPs are found to optionally occur following the verb. This being the case, an interesting question is whether it is possible for floating quantifiers to be positioned following the verb resulting in a separation and splitting more similar to that in Thai, with floating quantifiers often occurring in sentence-final positions which do not correspond to regular locations of the associated NPs.

In Burmese and Japanese, it is in fact possible for floating quantifiers to occur following the verb in a clause, as illustrated in (89) and (90):

- (89) manɛkə̃ thuu zēe-hmaa **sa-ōuq** wɛ-tɛ, **thōun-ōuq**
 yesterday he market-in book buy-REAL 3-CL
 ‘Yesterday he bought books in the market, ..three to be precise’
- (90) Taroo-wa Kinokuniya-de **hon-o** katta, **san-satsu**
 Taroo-TOP Kinokuniya-in book-ACC bought 3-CL
 ‘Taroo bought books in Kinokuniya, ..three it was.’

I book all read-ASP
 (d)shū wǒ dǒu kàn-le ✓..NP...Q...
 book I all read-ASP
 ‘I read all the books.’

However, such post-verbal elements in Burmese and Japanese are commonly interpreted in a particular way as ‘afterthoughts’ - information which a speaker adds to a sentence often in the way of further clarification – and it is often assumed that, as afterthoughts, post-verbal elements in verb-final languages such as Japanese are not syntactically integrated into the preceding clause (Kuno 1978, Sells 1999, Soshi and Hagiwara. 2004). The existence of such postposed ‘afterthought’ quantifiers in Burmese and Japanese raises a question about Thai where floating quantifiers regularly occur in sentence-final positions. Specifically, we may ask whether the patterns found in Thai are really different from those in (88) and (89) and whether clause/sentence-final floating quantifiers in Thai might be ‘afterthought’ additions to the sentence like post-verbal quantifiers in Burmese and Japanese? The answer to the latter question is ‘no’. Thai floating quantifiers are indeed clearly integrated into the syntactic structure of the sentence and are not just added on as ‘afterthoughts’ in sentence-final position. First, Thai floating quantifiers can in fact (optionally) precede sentence-final particles such as *laew* (see ex.39), showing that they occur within the main syntactic structure of the clause. Second, the prosodic break/intonational pause between verb and floating quantifier which characterizes the occurrence of post-verbal quantifiers in Burmese and Japanese, setting the quantifier off from the rest of preceding clause is not present with clause-final floating quantifiers in Thai, and these are intonationally integrated into the sentence without any separating pause. Third, although Burmese and Japanese post-verbal quantifiers may represent new information in some sense, they are not interpretable as obviously focal new information, unlike the situation in Thai. Because of this, there are clearly different restrictions on what kinds of quantifiers can occur post-verbally in Burmese/Japanese and what may occur clause-finally in Thai. Significantly, in Burmese and Japanese, focused and interrogative quantifiers are unacceptable in post-verbal position:¹⁰

(91) *thuu zēe-hmaa saōuq wε-th-lē, behna-ōuq?
 he market-in book buy-REAL-Q how-many-CL
 Intended interpretation: ‘How many books did he buy in the market?’

(92) a. *kare-wa hon-o katta no, nan-satsu?
 he-TOP book-ACC bought Q how.many-CL
 Intended: ‘How many books did he buy?’
 b. *kare-wa hon-o kawanakatta san-satsu-shika
 he-TOP book-ACC bought-NEG 3-CL-only
 Intended: ‘He only bought three books.’

This contrasts with patterns in Thai, where interrogative and focused quantifiers in final position are natural and frequent in their occurrence:

(93) jon-bāad-nīi mii nāksūksāa maa lēew/thúng kūi-khon?
 up-until-now be student come ASP/arrive how.many-CL
 ‘How many students have arrived so far?’

¹⁰ Note that if the focused and interrogative quantifier-classifier pairs in (91) and (92) are positioned before the verb, these sentences are grammatical. There is just a special restriction on these elements when they occur in the post-verbal ‘afterthought’ position.

- (94) kháw hày ngən Dæəŋ khèε sóŋg-bàat(thàwnān)
 he give money Daeng only 2-Baht (only)
 ‘He gave Daeng only two Baht.’

Thai is therefore clearly distinctive in this patterning, not only from SOV Burmese and Japanese, but also from SVO Chinese which permits ‘afterthought’-type VP-final floating quantifiers, as illustrated in (95), but not focused or interrogative floating quantifiers, as seen in (96):

- (95) yǒu rén lái zhǎo nǐ, sān-ge
 be person come find you 3-CL
 ‘There were some people who came looking for you, three people.’

- (96) *Zhāngsān xiǎng-zhīdào yǒu rén lái zhǎo tā jǐ-ge
 Zhangsan want-to-know be person come find him how-many-CL
 Intended: ‘Zhangsan wanted to know how many people came looking for him.’

The conclusion from such contrasts is that Thai clause-final floating quantifiers are not simple afterthought elements and are integrated into the syntactic structure of the sentence in a way quite different to afterthoughts, which may simply be linear concatenations not syntactically connected to what precedes them as parts of a single sentence (Sells 1999, Soshi and Hagiwara 2004).

Having thus considered how aspects of the functional use of floating quantifier structures may bear on their distribution within the clause, and how certain interpretations are associated with quantifiers floated in various positions, we now close the paper with a brief summary of this exploration of Q-float phenomena in Thai and Burmese.

6. Summary

This paper set out to document and analyze patterns involving displaced, ‘floating’ quantifiers (and classifiers) in two neighboring languages of southeast Asia, Thai and Burmese, as a way to provide further potential insight into three general questions associated with floating quantifier constructions. First, what syntactic mechanisms result in the separation and linear distancing of a noun/NP and its associated quantifier? Second, what pragmatic/functional motivations might underlie the optional use of Q-float forms, licensing their occurrence? Third, from a comparative, typological viewpoint, do the mechanics and triggers of Q-float show signs of patterning in a uniform way across languages, or are there differences, and how might these be accounted for? Thai and Burmese were selected as the two principal languages of this micro-study from southeast Asia as both languages clearly exhibit the phenomenon of Q-float in appropriate contexts and allow for the separation of quantifier-classifier pairs from similar adjacent linear sequences of [NP quantifier classifier], hence seem to display parallel base resources in this regard. With regard to word order patterns at the clausal level, however, Thai and Burmese show significant differences, Thai being S-Aux-V-O and Burmese S-O-V-Aux in neutral sentences. One intended focus of the study was to look at how this difference in basic word order might potentially influence the way Q-float is manifested in a language. As the investigation of Thai and Burmese proceeded, it was concluded that both languages separate nouns/NPs from modifying quantifiers by mechanisms of movement (hence

subject to syntactic restrictions commonly associated with movement, such as island constraints), and that Q-float in both languages regularly appears to be linked to the expression of focused new information. However, Thai and Burmese were seen to differ with regard to the element of the NP/quantifier pair that undergoes movement/displacement in Q-float constructions, in Thai the quantifier shifting rightwards to a clause-final position in a way similar to extraposition or Heavy NP Shift in English, while in Burmese it is the NP which undergoes a leftwards displacement in sentences exhibiting Q-float. This major difference between Thai and Burmese was attributed to a tension between principals determining linear word order - in this instance, information structure - and those regulating hierarchical syntactic structure - here, the syntactic organisation of clauses in a head-initial or head-final way, resulting in SVO and SOV type languages. Both languages attempt to achieve an optimal ordering of separated NP and quantifier for the purposes of information structure and focus, and bring this about through the displacement of different elements in opposite directions in the clause, (new) focused constituents cross-linguistically favoring a rightward, clause-final position. The comparison of Q-float patterns in Thai and Burmese therefore illustrates how linear strings with an important shared property (..NP...Q...) may be produced in distinct ways by languages with different syntactic properties, underlining the fundamental importance of linear sequencing for (certain) aspects of interpretation despite the dominance of hierarchical structure in other areas of syntax and construal. The paper also provides the first substantial description of floating quantifier patterns in Thai and Burmese and so extends the available empirical coverage of this area of syntax in Asian languages, adding it as a resource to previous insightful studies of Japanese and Korean and the issues discussed in these works (Kang 2002, Miyagawa 1989, Miyagawa and Arikawa 2007, Nakanishi 2008, Ko 2007 among others).

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