

The distribution of quantifiers in Seediq*

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1 Introduction

This paper describes certain interesting restrictions on the distribution of indefinite quantification in the Austronesian language Seediq, spoken in northern Taiwan. While the reader is referred to works such as Holmer 1996, 2002 and Zhang 2000 for more detailed information on the language, it is necessary for our purposes here to present certain typological facts. First, Seediq is a VOS language (1a), where the nominative subject is optionally marked by the nominative marker *ka* (1b). Seediq also displays topicalization (1c), which can be distinguished from nominal predication (1d) by the (albeit optional) presence of either topicalization marker *ge* or the nominative marker *ka*. Note that (1c) and (1d) are also distinguished by intonation, so the optionality of the two particles does not result in ambiguity.

- 1 a. Q<m>n-iyuc Pawan huling.
<ActF>PST-bite Pawan dog
'The dog bit Pawan.'
- b. Q<m>n-ita rodux ka huling.
<ActF>PST-see chicken NOM dog
'The dog saw a chicken.'
- c. Huling (ge), q<m>n-iyuc rodux.
dog TOP <ActF>PST-bite chicken
'As for the dog, it bit a chicken.'

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- d. Huling paru (ka) q<m>n-iyuc Pawan.
 dog big NOM <ActF>PST-bite Pawan.
 'It was a big dog that bit Pawan.'

Further, Seediq shares with other Austronesian languages of the Formosan / Philippine type the phenomenon often referred to as 'focus', which can perhaps best be described as a split-ergative pattern triggered by information structural concerns such as definiteness and realized as a kind of diathetic variation (2a, b).¹ While the syntactic relation between argument marking and verbal marking still behaves like typical Austronesian focus, the function of focus in Seediq is being increasingly harnessed to express aspectual and temporal information (for example, PatF is regularly used to refer to future events, cf. 2c).

- 2 a. M-n-ekan bunga ka qolic.
 ActF-PST-eat sweet.potato NOM rat
 'The rat ate sweet potatoes.'
- b. P<n>uq-an qolic ka bunga.
 <PST>eat-LocF rat NOM sweet potato
 'A rat ate the sweet potatoes.'
- c. Mah-un =mu ka sino nii.
 drink-PatF =1SG.ERG NOM wine.this
 'I will drink this wine.'

Verbal morphology also includes relative past tense marking expressed by an *-n*-infix. This can be replaced by the periphrastic construction using the past tense auxiliary *wada* 'PST' (3a, b).

- 3 a. Wada =ku m-imah sino.
 PST =1SG.NOM ActF-drink wine
 'I drank wine.'
- b. Wada =mu mah-un ka sino.
 PST =1SG.ERG drink-PatF NOM wine
 'I drank the wine.'

¹In this paper, the argument presented by *qolic* 'rat' in example (2b) will be referred to as 'ergative Agent', while the argument represented by *bunga* 'sweet potato' in (2b) will be referred to as 'nominative Subject'. While we are aware that the terminology with respect to subjects in Austronesian is debatable and problematic, nothing hinges on the choice of terminology in this case. Likewise, genitive clitic pronouns will be glossed as ERG when occurring as clause-level arguments, but as GEN when occurring as possessors within an NP.

Finally, one relevant point is that certain syntactic categories (4a-c) trigger the realization of special morphology on the following verb. This morphology is referred to here as connegative.

- 4 a. Ini eyah sapah ka laqi =mu.
 NEG come.ActF.CONNEG house NOM child =1SG.GEN
 'My child hasn't come home.'
- b. Asi =daha sliq-i ka babuy.
 just =3PL.ERG slaughter-PatF.CONNEG NOM pig
 'They just slaughter the pig.'
- c. Ini =daha sliq-i ka babuy.
 NEG =3PL.ERG slaughter-PatF.CONNEG NOM pig.
 'They don't slaughter the pig.'

From the semantic function of the focus system, it seems clear that Seediq uses clause-level hierarchical mechanisms such as mapping to nominative subject position to express information which in a language like English is realized at the level of the NP (i.e. definiteness). In what follows we shall see further examples of this with respect to the phenomenon of quantification.

2 Quantification

Traditionally two kinds of quantifiers have been distinguished, universal quantifiers (e.g. 'all', 'every') and existential quantifiers (e.g. 'some'). Also other quantifiers have been studied (e.g. 'many', 'few'). If more than one quantifier or negation is present in a sentence, different scopal orderings are possible. This could give rise to ambiguities.

Scopal orderings or dependencies can be connected to grammatical structure. Milsark 1977 argued that not all quantifiers are possible in existential sentences in English. He made a distinction between weak and strong determiners, i.e. between those that can occur in existential sentences, like *many* in (5a) and those that cannot, like *every* in (5b), which is acceptable outside the existential context (5c).

Milsark suggested that only quantifier words used as strong determiners are quantifiers in the logical sense, while quantifier words used as weak determiners rather should be called cardinality words since they give numerical information without any indication of a particular set of individuals. In this article we will continue to use *quantifier* to mean quantifier words, whether they are used as logical quantifiers or not.

When more than one entity is involved in a predication, they may be involved distributively (5d) or collectively (5e). In many cases the predicate itself permits only one interpretation, but sometimes different interpretations are possible (5f). If different quantifiers are available they can be used to disambiguate these senses (5g).

Distributive quantification concerns different individuals, but not all quantification concerns individuals that can be counted. Also mass can be quantified. Space and time can be quantified in this way. Adverbial quantifiers that may signify time or cases have been discussed by Lewis 1975 and others.

- 5 a. There are many people here.
 b. *There is every participant here.
 c. Every participant is here.
 d. They were all smiling.
 e. All the team members gathered in a circle.
 f. They were all carrying a table.
 g. Each one of them was carrying a table.

In English, quantification is generally realized as an independent property of a noun phrase. Thus, regardless of the external function of the NP, it can readily be modified by a quantifier (6a-d). This can hold independently of more than one NP in a clause (6e), although some combinations admittedly can cause interpretation problems depending on which quantifier is accorded wider scope (6f).

- 6 a. I saw many students.
 b. Many students bought books.
 c. I was seen by many students.
 d. I gave books to many students.
 e. Many students bought many books.
 f. Few students bought many books.

The same pattern obtains for other kinds of quantifiers as well (subject to the same scopal ambiguities), cf the examples in (7a-c).

- 7 a. Two students bought each book.
 b. Every student bought few books.
 c. Some students bought every book.

Indefinite, but not universal, quantifiers in English can also be realized predicatively (8a-c). In this respect the behaviour of indefinite quantifiers is similar to that of adjectives (8d), cf. (8e), and differs sharply from that of

universal (8f) or distributive (8g) quantifiers. Also in this case quantifier words are used to give numerical information.

- 8 a. Many were the students that I saw.
 b. The books that I bought were three.
 c. The students that attended my lecture were few.
 d. The book I bought is interesting.
 e. I bought an interesting book.
 f. *The students who bought the book were all.
 g. *The student who bought the book was every.

A quantifier can be separated from the NP it is connected to also in another way, as a floated quantifier (9b).

- 9 a. All the children were at home.
 b. The children were all at home.

3 Seediq quantification

3.1 Weak quantifiers

In Seediq, the distinction between strong and weak quantifiers is not upheld primarily by their interpretation, but rather by their distributional restrictions. Weak quantifiers (exemplified here by *egu* 'many, much') can be used to quantify an object (10a) but never a nominative subject (10b) or an ergative agent (10c).

- 10 a. M-n-ari =ku egu blebul.
 ActF-PST-buy =1SG.NOM much banana
 'I bought many bananas.'
- b. *M-n-eyah hini egu preko.
 ActF-PST-come here much mosquito
 ('Many mosquitoes came here.')
- c. *Wada =ku qyut-un na egu preko.
 PST =1SG.NOM bite-PatF ERG much mosquito
 ('I was beaten by many mosquitoes.')

If the quantifier is intended to refer to the (semantic) agent of an action, it must be realized clause-initially, typically in a construction where the apparent nominative subject precedes the predicate (11a). That this is not subject topicalization is evident from the fact that the topicalization marker *ge* may not be inserted after the subject (11b). Instead, the nominative marker *ka* can be inserted either after the quantifier or after the entire NP (cf. 11c), indicating that the quantifier is either a predicate in its own right (in the order

Egu ka preko ...) or located within the predicate (in the order *Egu preko ka ...*). Given that the nominative particle is optional, both orders in (11c) can be realized linearly as (11a). However, even if the nominative particle is omitted, intonation generally allows us to disambiguate which structure is involved (the word immediately preceding the slot corresponding to the omitted *ka* is accentuated with a rising tonal gesture).

- 11 a. Egu preko m-n-eyah q<m>iyuc.
 much mosquito ActF-PST-come <ActF>bite
 'Many mosquitoes have come to bite.'
- b. *Egu preko ge m-n-eyah q<m>iyuc.
 much mosquito TOP ActF-PST-come <ActF>bite
 ('Many mosquitoes have come to bite.')
- c. Egu (ka) preko (ka) m-n-eyah q<m>iyuc.
 much NOM mosquito NOM ActF-PST-come <ActF>bite
 'The mosquitoes which have come to bite are many.'

In some cases the quantifier may be linearly separated from the NP it primarily refers to (12a, b). However, this is presumably also an instance of predication, the difference with respect to (11c) above being the exact identity of the head of the subject NP. Zhang 2000 analyses examples such as these as internally headed relative clauses. While the exact nature of this type of relativization merits further study, the data in (12c), where cliticization to a head preceding the quantifier is ungrammatical, confirms that the quantifier is followed by a clause boundary. Further, this kind of quantification is not subject to any cooccurrence restrictions with preposed topics (12d), and can in fact be straightforwardly conjoined with adjectival predication (12e). Therefore, the predicative status of the quantifier is hardly questionable. As (12f) shows, the weak quantifier *hbaro* 'many (ANIM)' can serve as a clitic host.

- 12 a. Egu wada =mu mah-un sino.
 much PST =1SG.ERG drink-PatF wine
 'I drank a lot of wine.'
- b. Egu riyung wada =na puq-un ido laqi.
 much very PST 3SG.ERG eat-PatF rice child
 'The child ate a lot of rice.' (Zhang 2000:137, ex 11b)
- c. Ye (=daha) egu [psa-an *(=daha) geluq kiya]?
 INTERR =3PL.ERG much put-LocF =3PL.ERG wax there
 'Do they put a lot of wax on it?'

- d. Seediq saya ge, egu n-angan =daha qruli ciida...
 person today TOP much PatF.PRF-take =3PL.ERG qruli then
 'People of today, when they have caught many *qruli* fish...'
- e. Keguy runge ge, egu riyung phepah ttanah bhege ma
 ramie monkey TOP much very flower reddish white and
 rqing ka qmuru =na uri.
 thin NOM stem 3SG.GEN also
 'As for the "monkey ramie" plant, it has many pink and white
 flowers and its stem is thin.'
- f. hbaro =mian m-usa lmiqu ciida ...
 many.ANIM =1PL.EXCL ActF-go forest then
 'when many of us when to the forest...'

Naturally, the quantifier can also be used with no corresponding NP, serving as a predicate which takes a VP or headless relative as its subject (13).

- 13 Egu wada m-huqin m-narux rumun uri.
 much PST ActF-die ActF-ill liver also
 'Many also died of liver disease.'

The net result of this is that a weak quantifier may never be used in a position which is prototypically definite (recall that objects are prototypically indefinite in Seediq).

3.2 Strong quantifiers

In contrast, a strong quantifier such as *kana* 'all' or *duma* 'some / certain' can not be realized in object position (14a, b). If the corresponding thematic relation is required, the diathetic system is harnessed to place the corresponding argument in nominative subject position (14c, d). Another option is to replace the quantifier with the completive verb *hmedu / hdeun* 'finish' (14e).

- 14 a. *Mnekan =ku kana bunga di.
 ActF-PST-eat =1SG.NOM all sweet.potato PRF
 ('I ate all the sweet potatoes.')
- b. *M-n-ari =ku duma patis.
 ActF-PST-buy =1SG.NOM some book
 ('I bought some of the books.')
- c. Wada =mu puq-un kana bunga di.
 PST =1SG.ERG eat-PatF all sweet.potato PRF
 'I ate all the sweet potatoes.'

- d. B<n>ari =mu duma patis.
 <Patf.PST>buy =1SG.ERG some book
 'I bought some of the books.'
- e. ma h<m>edu m-ekan damac laqi nii!
 but <ActF>finish ActF-eat food child this
 'But this child ate up all the food!'

A strong quantifier cannot be realized predicatively (15a)². Instead, the normal position for a strong quantifier is within a nominative subject (15b, c) or indeed as a topic (15d).

- 15 a. *Duma ka patis bnari =mu.
 some NOM book <Patf.PST>buy =1SG.ERG
 ('*The books I bought are some.')
- b. M-n-ekan bunga kana laqi di.
 ActF-PST-eat sweet.potato all child PRF
 'All the children ate sweet potatoes.'
- c. Wada=daha chngi-an kana gaya nii da.
 PST =3PL.ERG forget-LocF all law this PRF
 'They have forgotten all of the laws.'
- d. Kana rako icin ge, b<n>ari sapah brig-an.
 all colour other TOP <Patf.PST>buy house buy-LocF
 'All other colours were bought in stores.'

Strong quantifiers can also be floated if the NP they refer to is topicalized (16a) or null (16b). In either case, they refer syntactically to the nominative subject of the clause, as defined by the voice of the verb (LocF in (16a), ActF in (16b)). In fact, floating of *kana* is a possibility even if the subject NP is clause-final, but can only be identified linearly by the presence of the nominative marker *ka*. If *kana* precedes *ka*, it is floated (16c), while it can be viewed as being NP-internal when it follows *ka* (16d). There is a corresponding difference in reading: floated *kana* entails universality, so (16c) means that 'all the people were angry / everybody was angry', while NP-internal *kana* emphasizes the group, without necessarily entailing universality: thus (16d) does not necessarily mean that all the villagers spoke, only that a majority spoke as a group. Similarly, NP-internal *kana* can also be used to mean 'whole' (16e). These data are in accordance with the idea suggested by Henningsson 1986, that a floated quantifier occurs separately

²Note the contrast with Tsou, where even distributive quantifiers behave like verbs – indeed, the quantifier *achi / aciha* 'all' can even bear verbal morphology (Chang 2003).

from the NP it is connected to, and gives more precise information about how many individuals out of the group referred to by the NP are actually involved in the predication.

- 16 a. Ani dheran ma sapah, lix-an =daha kana.
 even land and house leave-LocF =3PL.GEN all
 'Both the land and the house, they abandon all of it.'
- b. asi qada parih ma m-eyah sapah kana di
 just throw.ActF.IMP hoe and ActF-come house all PRF
 '(they) all just throw aside their hoes and come home'
- c. M-seang kana ka seediq tnalang di.
 ActF-angry all NOM person villager PRF
 'All the villagers got angry.'
- d. "Paq-e =ta kusun da!"
 kill-LocF.HORT =1PL.INCL tomorrow PRF
 mesa ka kana tnalang ki si.
 say NOM all villager that QUOT
 'The group of villagers said: "Let's kill him tomorrow!", so it's said.'
- e. so hari mtlux ka kana heyi =mu
 like a.bit hot NOM all body =1SG.GEN
 'It's like my body got hot all over.'

From the above, it would appear that strong and weak quantifiers are in complementary distribution. This is, however, not necessarily the case. While it appears that weak quantifiers are totally excluded from subject position, there are contexts where strong quantifiers can appear in object position (17a), cf. the contrast with (17b). The interesting point about (17a) is that it is a cleft between a predicative *yaku* 'I' and a headless relative clause. Given that relativization in Seediq is subject-oriented (i.e. nominative-oriented) it follows that the natural alternative to (17b), i.e. the escape route of using diathetic alternation to place the quantified NP in nominative subject position as in (17c), would not be applicable in a relative construction (since the gap corresponding to the null head of the relative clause must fill the role of nominative subject).

- 17 a. yaku wada m-ekan kana rodux di
 1SG.NOM PST ActF-eat all chicken PRF
 'I'm the one who ate all the chicken.'
- b. *m-n-ekan =ku kana rodux di
 ActF-PST-eat =1SG.NOM all chicken PRF
 ('I ate all the chicken.')

- c. wada =mu puq-un kana rodux di
 PST =1SG.ERG eat-PatF all chicken PRF
 'I ate all the chicken.'

It follows that the distributional restrictions on strong quantifiers involve their preference for positions which are prototypically definite and non-predicative, while the restrictions on weak quantifiers are more absolute, prohibiting their realization in non-predicative positions. This is summarized in table form in (18).

18		NON-PRED	PRED
	STRONG	OK	—
	WEAK	*	OK

3.3 Numerals

The above distributional contrasts are especially clear when it comes to the behaviour of numerals, which are ambiguous as to strong / weak status. Thus, an NP quantified by a numeral can only be realized as nominative subject if it is overtly marked as definite in some way (19a, b, cf. 19c).

- 19 a. p-n-eeyah alang =mu teru rseno kiya / nii
 CAUS-PST-come village =1SG.GEN 3 young.man that / this
 'Those three men come from my village.'
- b. p-n-eeyah alang =mu ka teru rseno
 CAUS-PST-come village =1SG.GEN NOM 3 young.man
 'The three men come from my village.'
- c. *p-n-eeyah alang =mu teru rseno
 CAUS-PST-come village =1SG.GEN 3 young.man
 ('Three men come from my village.')

In contrast, if it is not definite, it must be realized clause-initially (20a, b). Note that this construction involves predication of the numeral, either in its own right (20c) or within a predicative NP (20d). As with *egu* 'much', numerals can also appear fronted as predicates to what appears to be an internally headed relative clause (20e).

- 20 a. Teru laqi m-n-ekan bunga.
 3 child ActF-PST-eat sweet.potato
 'Three children ate sweet potatoes.'
- b. Teru ba huling m-n-ekan qolic.
 3 only dog ActF-PST-eat rat
 'Only three dogs ate rats.'

- c. Teru (ka) qcurux wada puq-un laqi.
 3 NOM fish PST eat-PatF child
 'Three fish were eaten by the children (emphasizing the number).'
- d. Teru qcurux (ka) wada puq-un laqi.
 3 fish NOM PST eat-PatF child
 'Three fish were eaten by the children (emphasizing what was eaten).'
- e. Teru wada puq-un qcurux ka laqi.
 3 PST eat-PatF fish NOM child
 'Three fish were eaten by children.'

One other construction, which appears to be somewhat restricted, is exemplified by the contrast between (21a) and (21b). In (21a), the quantified NP is definite, but in (21b), the NP, despite being quantified by the numeral *in situ*, is indefinite. Clearly, the indefinite reading depends on the scopal relation of the numeral with *ka* 'NOM'. Interestingly, this construction varies from marginal to ungrammatical if the verb does not allow a perception reading (21c, d), cf (21e) where *ka* precedes the numeral. One possible interpretation of this contrast is that the embedded structure in (21b) is in fact a predication (*teru ka ngiyo* – 'the cats are three') and that it is not DP-internal quantification (i.e. that we are dealing with a semi-grammaticalized internally headed quantification construction, on parallel with internally headed relativization).

- 21 a. wada =mu qta-un ka teru ngiyo
 PST =1SG.ERG see-PatF NOM 3 cat
 'I saw the three cats.'
- b. wada =mu qta-un [teru ka ngiyo]
 PST =1SG.ERG see-PatF 3 NOM cat
 'I saw three cats.'
- c. %wada puq-un laqi [teru ka qcurux]
 PST eat-PatF child 3 NOM fish
 ('Three fish were eaten by (the) children.')
- d. *m-n-ekan qolic teru ka huling
 ActF-PST-eat rat 3 NOM dog
 ('Three dogs ate rats.')
- e. wada puq-un laqi ka teru qcurux
 PST eat-PatF child NOM 3 fish
 'The three fish were eaten by (the) children.'

While this should be tested more systematically, we tentatively suggest that the data lends support to Kim's (forthc.) claim that the structure of internally headed relative clauses is identical to that of direct perception complements, where Seediq would be a language in which an intermediate stage is in evidence: grammaticalized for internally headed relativization, but only partially grammaticalized for quantification.

4 Distributivity

The type of quantifier most commonly discussed in the literature is the distributive quantifier *each* and corresponding elements. These differ from universal *all* in that *each* refers to every referred element separately rather than as a group. Prototypically, true distributives also take singular reference. However, as noted in Chang 2003:7ff. for Tsou, these two properties are not necessarily interdependent (Tsou distributives obey the first criterion, not the second).

Seediq does have a corresponding quantifier *knkingal* 'each' which is etymologically a reduplicated form of the numeral *kingal* 'one'. This quantifier occurs in normal distributive contexts (22a), but binds a plural variable (22b). Furthermore, the same form can be used as an emphatic form of the numeral 'one' (22c).

- 22 a. Niqan knkingal alang ka m-sapuh mnarux seediq.
 exist-LocF each village NOM ActF-heal ill person
 'There was a healer in every village.'
- b. Q<m>n-ita =ku knkingal_i seediq gaga
 <ActF>-PST-see =1SG.NOM each person be
 sapah daha_i/*na_i.
 house 3PL/SG.GEN
 'I saw every person_i in their_i house.'
- c. Ma asi knkingal bale ka rudan p-n-eeyah kingal
 and must each? really NOM elder CAUS-PST-come one
 alang skgul-an =daha musa theyaq msseli rdrudan Paran.
 village send-LocF =3PL.ERG go visit gather elders Paran
 'Every village had to send an elder to the elders' gathering at Paran.'
 lit. 'There really had to be one elder sent by one village...'

Thus it appears that *knkingal* is not an unambiguous distributive. In fact, there are other means of expressing distributivity. One is verbal, using the causative form of the numeral *kingal* 'one' (23a). Another uses the reduplicated form *kkingal* (23b). Note that in the latter case, both the

quantifier and the variable are realized as *kkingal*, i.e. there is no asymmetric binding relation involved. Example (23b) could possibly more accurately be translated as 'For just one child there was just one tray...'. Further, *kkingal* is also used in cases where the distributive reading is doubtful (23c) or even non-existent (23d).

- 23 a. Da-an =daha ma-asu p-n-kingal
 pass-LocF =3PL.ERG ActF-distribute CAUS-PRF-one
 k<n>ret-an kana.
 <PST>-cut-LocF all
 'They distributed one cut piece each.'
- b. Niq-an k-kingal gepuk so ririh pngerah ka
 exist-LocF RED-one tray like replace plate NOM
 k-kingal laqi tn-sapah.
 RED-one child of-house
 'Each child had a tray serving as a plate.'
- c. Ini qita ani ima seediq ma,
 NEG see.ActF.CONNEG even who person &
 m-urux nanaq k-kingal tn-sapah.
 ActF-only just RED-one of-house
 'Nobody else could look, just the people of one house.'
- d. Kika qya-an =daha macu ka k-kingal qhuni.
 thus hang-LocF =3PL.ERG millet NOM RED-one wood
 'They hung the millet on the (one piece of) wood.'

When presented with a visual stimulus³ showing the sharing out of fruit one each to a group of people, different consultants use entirely different strategies (24a-e). Of these, none uses an NP quantifier: two use adverbial constructions to express distributivity (24a, b), one makes use of reduplication of the numeral (24c), and two choose not to express distributivity at all (24d-e).

- 24 a. Wada =na biq-un tikuh heyi qhuni,
 PST =3SG.ERG give-PatF little fruit tree
 knkingan wada =na pdes-un hiya.
 each PST 3.SG.ERG send-PatF there
 'He gave some fruit, he gave one each.'

³*Pear Story*. Originally designed by Wallace Chafe (cf. Chafe 1980), this 5-minute wordless film clip, depicting a boy stealing pears and falling off his bike, can be found at www.pearstories.org.

- b. Wada biq-un pnkingan ka heyi qhuni,
 PST give-PatF one.each NOM fruit tree,
 biq-an =na teru, wada... knkingan ka laqi teru.
 give-LocF =3SG.ERG 3 PST each NOM child 3
 'he gave the fruit, one each, he gave three, one each to the three children'
- c. Wada =na biq-un t-teru quti rodux di, teru naq,
 PST =3SG.ERG give-PatF RED-3 guava PRF 3 just
 teru naq, wada =na biq-un quti rodux di.
 3 just PST =3SG.ERG give-PatF guava PRF
 'He gave three distributed guavas, just three, he gave guavas.'
- d. teru nasi, wada =na s-bege hiya
 3 pear PST =3SG.ERG InsF-give there
 'he gave three pears'
- e. kiya ka mege teru nasi, heyi qhuni,
 thus ActF-give 3 pear fruit tree
 ka riso tnaapa rulu tmediq
 NOM youth <PST>ride bike
 'so the youth who had been biking gave three pears, fruit'

From the above it would appear that unambiguous distributivity is not a category which comes naturally in Seediq. Instead, different strategies are resorted to, generally involving either symmetric marking or clause-level strategies. It is tempting to derive this from a supposed lack of asymmetric binding in the language, cf. the fact that Seediq lacks pronominal reflexives (25a, b), instead using an adverbial construction.

- 25 a. S<m>kuxun naq heya ka Dakis.
 <ActF>like self 3SG NOM Dakis
 'Dakis likes himself.'
- b. kuxun =mu naq [ka laqi =mu].
 like-PatF =1SG.ERG self NOM child =1SG.GEN
 'I like my own child.'

However, this is not a viable solution, since Seediq does have negative polarity items which are bound by negation: these are derived from either *wh*-words (26a-c) or adverbs of degree (26d).

- 26 a. Ini =mu qta-i ani ima.
 NEG =1SG.ERG see-PatF.CONNEG even who
 'I haven't seen anybody.'

- b. Ini =mu puq-i ani maanu.
 NEG =1SG.ERG eat-PatF.CONNEG even what
 'I haven't eaten anything.'
- c. Ini =ku usa ani inu.
 NEG =1SG.NOM go-ActF.CONNEG even where
 'I didn't go anywhere.'
- d. Ini p-gaya ani tikuh.
 NEG CAUS-law even a.bit
 '(They) do not follow the traditions at all.'

Thus, the facts in Seediq do not seem to derive from a generalized lack of asymmetric binding. Rather, we intend to show that the clause-level strategies preferred by Seediq reflect, more accurately than their English counterparts, the semantic relations actually involved.

5 Adverbial quantification

In this context, it becomes particularly interesting to compare adverbial quantification in English with its corresponding constructions in Seediq. One example of this is the group {*everywhere* – *somewhere* – *anywhere* – *nowhere*}, which quantifies over location. A corresponding group does not exist in Seediq. However, let it be noted that *somewhere* does not really affect the truth conditions of a proposition. It simply fills a paradigmatic gap referring to an indefinite location, and Seediq does not express indefiniteness overtly otherwise either. In contrast, *everywhere* is ambiguous, and the two readings are differentiated in Seediq (27a, b). The second meaning can also be expressed by the predicate *ani knkana* 'a lot' (27c, d) which, however is not strictly locational (27e).

- 27 a. Ani inu hre-an =na.
 even where grow-LocF =3SG.GEN
 'It grows everywhere (i.e. it can grow anywhere).'
- b. kari be ka qolic wada s<m>eeliq macu sa
 business really NOM rat PST <ActF>destroy millet QUOT
 'the rats were everywhere (i.e. all over the place) destroying the millet'
- c. ani knkana qcurux d<n>engu =na
 everywhere fish <PatF.PRF>dry =3SG.ERG
 'there was fish everywhere which had been dried by her'
- d. rwah-un de, ani knkana kuy =na da
 open-PatF TOP everywhere worm =3SG.GEN PRF
 'when they opened it, there were worms everywhere'

- e. Ani knkana imah =daha sino.
 everywhere drink.√ =3SG.ERG wine
 'They drink enormously.' (lit. Their drinking is everywhere.)

Thus, Seediq differentiates two categories, one of strictly locational distribution (anywhere) and one which simply emphasizes "muchness" but is vague as to location. This vagueness seldom results in any informational loss in any case.

Equally illustrative is the case of temporal quantification. Whereas English uses the group {*always* – *often* – *sometimes* – *never*}, these only have corresponding temporal adverbs in Seediq when *never* has a clear temporal meaning. Thus, English *never* is generally used as an emphatic negation, except when referring to future action. For atemporal (emphatic negative) reading, Seediq uses the negation emphasized by *bale* / *ba* 'truly', (28a, b). Only for a true temporal reading is a temporal adverbial used, the NPI *ani betaq knuwan* 'until anytime' (28c).

- 28 a. ini bale qberiq qbheni sisin.
 NEG truly lie bird *sisin*
 'The oracle bird (*sisin*) never lies.'
- b. iya bale ngal-i
 PROHIB truly take-PatF.CONNEG
 lukus q<n>ada =daha
 clothes <PatF.PRF>discard =3PL.ERG
 'Never take clothes which they have discarded!'
- c. uxe =mu chngi-un ani betaq knuwan
 NEG =1SG.ERG forget-PatF even until when
 'I will never forget it.'

In contrast, Seediq *klaali* 'always' seems to share the ambiguity of its English paraphrase, referring both to repetition (29a) and constancy (29b). Interestingly enough, it generally has unambiguous wide scope over the negation *ini* (29c), but not over the negation *uxe* (29d), cf. the fact that *uxe* always has scope over *ini* when both cooccur (29e).

- 29 a. Payenii puq-un =daha klaali, mgrebu ma cekanaali,bbiyan.
 rice thiseat-PatF =3PL.GENalways morning & midday evening
 'They always eat this rice, for breakfast, lunch and dinner.'

- b. Ini eyah kbberih alang Plmukan di ma,
 NEG come.ActF.CONNEG back village Taiwanese PRF &
 m-enaq naq lmiqk klaali di sa.
 ActF-stay just forest always PRF QUOT
 'She never returned to the Taiwanese village, but stayed forever in the woods, it's said.'
- c. Ini sburo klaali, ani rees-un =daha dheral.
 NEG rot always even bury-PatF =3PL.GEN earth
 'It never rots, even if the bury it under the ground.'
- d. Uxe kes-un klaali ta-an utux nii.
 NEG thus-PatF always see-LocF spirit this
 'it's not always that one sees this spirit'
- e. Uxe =ku ini kela.
 NEG =1SG.NOM NEG know.ActF.CONNEG
 'It's not that I don't know (I just don't want to tell you).'

Varying degrees of frequency, on the other hand, are expressed by verbs, cf. Holmer 2006.

A more general adverb used to indicate degree is *riyung* 'very'. Its most prototypical use is for modifying adjectives (30a), but can also modify a whole clause, with primary reference to the object (30b). While it refers to the semantic core of the predicate, it is placed linearly after the first element of the predicate, even when this element is a negation (30c, d). However, as opposed to clitic pronouns, *riyung* cannot attach to subordinators (30e). Note that *riyung* in such a case neither receives nor blocks connegative morphology (30d).

- 30 a. Malu riyung mah-un sino s<n>lma-an =su.
 good very drink-PatF wine <PST>make-LocF =2SG.ERG
 'The wine you made is delicious.'
- b. M-imah riyung sino ka dame doriq.
 ActF-drink very wine NOM watery eye
 '(White) foreigners (lit. pale-eyes) drink very much wine.'
- c. Anisa ini riyung kbsukan,
 but NEG very drunkenness
 seengun =daha naq m-imah sino.
 measure-PatF =3PL.ERG just ActF-drink wine
 'But there's not much drunkenness, they are moderate in their drinking.'

- d. Ini riyung ta-i tyaqung nii.
 NEG very see-PatF.CONNEG crow this
 'The crow isn't seen all that often.'
- e. Ado (*riyung) msibus *(riyung) heyi =na...
 because very sweet very fruit =3SG.GEN
 'Because its fruit is very sweet...'

Another case of a clause-level element doubling as a quantifier is *ani kana*. In (31a) it translates as 'anything', but (31b) shows its predicative nature more clearly.

- 31 a. Ani kana geeguy =na.
 like.anything steal.√ =3SG.GEN
 'She would steal anything.'
- b. Ani kana beyax =na sndurak rgenux ka
 like.anything strength =3SG.GEN hunt deer NOM
 riso kiya si.
 youth that QUOT
 'That man, he was great at hunting deer, it's said.'

We see thus that both NP-quantifiers and locational and temporal quantifiers are realized in Seediq as clause-level elements, either adverbial or verbal. This is even more the case in Tsou than in Seediq (cf. Chang 2003), but not entirely excluded in English either, if one takes floated quantifiers into account. These occur typically in adverbial positions and have functions comparable to those of secondary predicates (cf. Henningsson 1986).

6 Summary

In this paper we have surveyed different kinds of quantification in Seediq, and noted that their distribution and behaviour is entirely different from that in e.g. English. Since they are either restricted to certain types of NP, either definite or indefinite, or indeed realized as clause-level elements, there are configurations which would be possible in English but which can not be realized in Seediq. In part, however, these configurations are artefacts of the paradigmatic nature of the quantifier system in English and do not represent underlyingly important semantic categories. The quantifier system in Seediq appears to reflect Milsark's distinctions of quantifier types not only semantically, but directly, in syntactic distribution.

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