FLOATING UNIVERSAL QUANTIFIER AS A BASE-GENERATED HEAD IN THE VP PERIPHERY*

Dong-yi Lin
Ghent University
lindongyi@gmail.com

The universal quantifier *niz* in Kavalan can immediately precede its DP associate or appear in a quantifier-floating construction where it is separated from its DP associate. This paper argues that floating *niz* is not derived from its non-floating counterpart as a result of stranding. They differ morphosyntactically and semantically. First of all, while non-floating *niz* in a negative sentence exhibits scope reconstruction, floating *niz* in a negative sentence induces scope-freezing effect. Secondly, floating *niz* should be analyzed as a full-fledged verb, whereas non-floating *niz* is a nominal modifier. Thirdly, floating *niz* is not sensitive to A/A' distinction. Fourthly, floating and non-floating *niz* can co-occur in a sentence. Finally, floating *niz* can receive interpretations that are not available to non-floating *niz*. The differences between floating and non-floating *niz* indicate that they are derivationally distinct. The fact that floating *niz* is morphosyntactically realized as a verb further suggests that it is base-generated in a functional head in the VP periphery.

1. Introduction

Like English *all* in (1) and French *tous* in (2), the universal quantifier *niz* 'all' in Kavalan, an Austronesian language in eastern Taiwan, can be immediately adjacent to its DP associate (3a, b) or appear in a quantifier-floating construction where it is separated from its DP associate (3c).[1]

(1) a. [All the teachers] have finished grading finals.
    b. [The teachers] have all finished grading finals.

(2) a. [Tous les enfants] ont vu ce film.
       all the children have seen this movie
    b. [Les enfants] ont tous vu ce film.
       the children have all seen this movie

---

[1] Glossing conventions in this paper follow the Leipzig Glossing Rules. Additional glossing conventions are as follows: AT: Actor focus; AT: Actor topic; AV: Agent voice; DM: Discourse marker; LNK: Linker; NCM: Non-common noun marker; PV: Patient voice; TT: Theme topic.

(3) a. m-lizaq   tu   wasu   [ya   m-niz   sunis].
      AV-like   OBL   dog   ABS   AV-all   child
      'All the children like dogs.'[2]

    b. m-lizaq   tu   wasu   [ya   sunis   m-niz].
      AV-like   OBL   dog   ABS   child   AV-all
      'All the children like dogs.'

    c. m-niz   m-lizaq   tu   wasu   [ya   sunis].
      AV-all   AV-like   OBL   dog   ABS   child
      'The children all like dogs.'

There are two major syntactic analyses of quantifier floating: Q(uantifier)-stranding and base-generation. On the Q-stranding approach proposed by Sportiche (1988), quantifier floating results from the stranding of a universal quantifier in an intermediate position where its DP associate passes (Bošković 2004; Giusti 1990; Shlonsky 1991). As depicted in (4), a universal quantifier and its DP associate originally form a QP constituent but the DP can undergo movement on its own. This results in the separation of the quantifier from its DP associate on the surface.

      In contrast, advocates of the base-generation approach argue that a floating quantifier should be analyzed as a base-generated adverbial in the left periphery of VP (Baltin 1995; Doetjes 1997; Torrego 1996; Williams 1982). On this analysis, the QP headed by a floating quantifier is adjoined to VP or other functional projections in the fine-grained IP cartography.
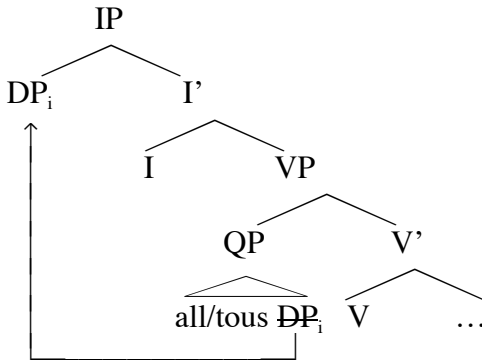
---

[2] The non-floating universal quantifier and its adjacent DP in (3a) and (3b) form a constituent. For example, they can be relativized together, as shown in (ib).

(i) a. m-liyam tu   sudad   [ya   m-niz   pataqsian].
      AV-read OBL   book   ABS   AV-all   student
      'All the students read books.'

    b. [m-niz   pataqsian]   ya   m-liyam=ay   tu   sudad.
      AV-all   student   ABS   AV-read=REL   OBL   book
      'Those who read books are all the children.'

      In contrast, the universal quantifier in Malagasy and its DP associate (*daholo* + DP) do not form a constituent despite their linear adjacency. As illustrated by the ungrammaticality of (iib), they cannot be topicalized together.

(ii) Malagasy (Potsdam 2009: 769, 770)

    a. [[namaky   ilay   boky]   daholo]   ny   mpianatra.
      read.AT   that   book   all   the   students
      'The students all read that book.'

    b. *daholo ny   mpianatra   dia   namaky   ilay   boky.
      all   the   student   TOPIC   read.AT   that   book
      (Intended for 'All the students, they read that book.')

    c. ny   mpianatra   dia   namaky   ilay   boky   daholo.
      the   student   TOPIC   read.AT   that   book   all
      'The students, they all read that book.'

(4)   Q-stranding

```
                    IP
          ┌─────────┴─────────┐
        DPᵢ                  I'
         ↑          ┌────────┴────────┐
         │          I                VP
         │               ┌───────────┴──────────┐
         │              QP                      V'
         │          ┌────┴────┐            ┌─────┴─────┐
         │       all/tous  D̶P̶ᵢ           V          …
         └──────────────────┘
```

(5)   floating quantifier as a base-generated adverbial

```
                    IP
          ┌─────────┴─────────┐
                              VP
                  ┌───────────┴──────────┐
                 QP                      VP
             ┌────┴────┐            ┌─────┴─────┐
          all/tous   pro          … ec …
```
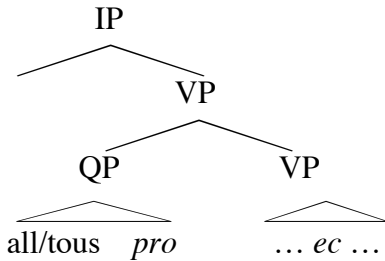
The present paper aims to test the two approaches to quantifier floating against the distributional and morphosyntactic properties of Kavalan *niz*. It will be demonstrated that floating *niz* and non-floating *niz* exhibit semantic and morphosyntactic differences and are thus derivationally distinct. Quantifier floating of *niz* does not result from Q-stranding. Nevertheless, unlike English and French, where floating *all* and *tous* are an adverbial adjunct, floating *niz* is base-generated in a functional head position in the VP periphery.

Section 2 will first show that floating *niz* and non-floating *niz* observe the same restrictions regarding the type of DP/NP they can quantify over. Their similarities can be easily explained by the Q-stranding analysis of floating *niz*. However, section 3 will argue that the merits of the Q-stranding analysis are outweighed by the morphosyntactic and semantic differences between floating *niz* and non-floating *niz*. Another piece of evidence against the Q-stranding analysis concerns the word order derivation of a Q-floating construction. Section 4 concludes the study.

2.   Floating *Niz* as a Stranded Q

On the Q-stranding analysis, floating *niz* is derived from non-floating *niz* and thus the two are expected to observe the same restriction on the type of DP/NP they can quantify over. Specifically, a DP that cannot co-occur with non-floating *niz* should not be able to bind floating *niz* either. This analysis also predicts that a DP that

cannot undergo movement should not be able to bind floating *niz*. These two predictions are borne out.

2.1. Personal Proper Names and *Niz*

The Q-stranding analysis predicts that floating *niz* and non-floating *niz* should observe the same restriction on the type of DP/NP they can quantify over. As indicated by the contrast between (6a) and (6b), personal proper names can co-occur with non-floating *niz* only when they are preceded by *qani-*, which denotes a group of people. Likewise, personal proper names can bind floating *niz* only when they are preceded by *qani-*, as illustrated in (7).

(6) a. *m-qila   tu   sunis [ya m-niz   ti-buya,   ti-imuy,   ti-utay].
      AV-scold OBL child ABS AV-all   NCM-Buya NCM-Imuy NCM-Utay
   b. m-qila   tu   sunis [ya m-niz   qani-buya, ti-imuy,   ti-utay].
      AV-scold OBLchild   ABS AV-all   group-Buya NCM-Imuy NCM-Utay
      'Buya, Imuy, and Utay all scold children.'

(7) a. *m-niz   m-qila   tu   sunis [ti-buya,   ti-imuy,   ti-utay].
      AV-all   AV-scold   OBL   child NCM-Buya   NCM-Imuy NCM-Utay
   b. m-niz   m-qila   tu   sunis [qani-buya,   ti-imuy,   ti-utay].
      AV-all   AV-scold   OBL   child group-Buya   NCM-Imuy NCM-Utay
      'Buya, Imuy, and Utay all scold children.'

The examples in (6) and (7) demonstrate that *qani-* must be attached to personal proper names when they are quantified over by either floating *niz* or non-floating *niz*. The fact that they share the same restriction can be attributed to the derivational history of floating *niz*, which originally forms a constituent with its DP associate and is later separated from it as a result of stranding.

2.2. DP-Movability and Quantifier Floating: Strong vs. Weak Quantifiers

The Q-stranding analysis also predicts that a DP that cannot undergo movement should not be able to bind a floating quantifier either. Before applying this test to Kavalan, I need to first discuss the distributional contrast between the strong quantifier, *niz* 'all', and the weak quantifier, *mwaza* or *mazmun* 'many, much'.[3]

The examples in (8) and (9) illustrate the distributions of non-floating *niz* and *mwaza*/*mazmun* in different case positions. While *niz* can occur in an absolutive (8a) or ergative (8b) position, it cannot occur in an oblique position (8c). In contrast, *mwaza*/*mazmun* can only occur in an oblique position, as shown in (9).

---

[3] *Mwaza* 'many, much' only modifies inanimate nouns, whereas *mazmun* 'many, much' is used when animate nouns are quantified over.

(8) a. qa-qila-an-na   ni   imuy   [ya   m-niz sunis].
    QA-scold-PV-3ERG   ERG   Imuy   ABS   AV-all child
    'Imuy scolds all the children.'

   b. qa-qila-an-na   [na   patudan   m-niz] ya   sunis.
    QA-scold-PV-3ERG   ERG   teacher   AV-all ABS   child
    'All the teachers scold the child(ren).'

   c. *m-qila   [tu   m-niz sunis] ya   ti-imuy.
    AV-scold   OBL   AV-all child   ABS   NCM-Imuy
    (Intended for 'Imuy scolds all the children.')

(9) a. *t<m>anuz   tu   saku   [ya   mazmun   wasu].
    <AV>chase   OBL   cat   ABS   AV.many   dog
    (Intended for 'Many dogs chase cats.')

   b. *tanuz-an-na   [na   mazmun   wasu] ya   saku   'nay.
    chase-PV-3ERG   ERG   AV.many   dog   ABS   cat   that
    (Intended for 'Many dogs chase that cat.')[4]

   c. t<m>anuz   [tu   mazmun   saku] ya   wasu.
    <AV>chase   OBL   AV.many   cat   ABS   dog
    'The dog chases many cats.'

      The distributions of non-floating *niz* and *mwaza*/*mazmun* in different case positions are summarized in Table 1. The distributional contrast between the strong and weak quantifiers can be attributed to the default definiteness interpretation of a DP in the absolutive or oblique position. A Kavalan absolutive DP must be assigned a definite interpretation (Liao 2004) and is thus incompatible with a weak quantifier such as *mwaza*/*mazmun* 'many, much'. In contrast, a Kavalan oblique DP receives an indefinite interpretation (Liao 2004), which conflicts with the semantics of a strong quantifier such as *niz* 'all'.[5]

---

[4] Kavalan *mazmun*/*mwaza* 'many, much' can appear in an absolutive or ergative position when it takes =*ay*.

(i) a. t<m>anuz   tu   saku   [ya   mazmun=ay   wasu].
    <AV>chase   OBL   cat   ABS   AV.many=REL   dog
    'Many dogs chase cats.'

   b. tanuz-an-na   [na   mazmun=ay   wasu] ya   saku   'nay.
    chase-PV-3ERG   ERG   AV.many=REL   dog   ABS   cat   that
    'Many dogs chase that cat.'

[5] The same distributional contrast between a strong quantifier and a weak quantifier has been observed in Seediq (Henningsson and Holmer 2008).

(i) Seediq (Henningsson and Holmer 2008: 29)

   a. wada=mu   puq-un kana   bunga   di.
    PST=1SG.ERG   eat-PV all   sweet.potato   PRF
    'I ate all the sweet potatoes.'

Table 1. Strong and weak quantifiers in different case positions

	m-niz 'all'	*mwaza*/*mazmun* 'many, much'
ABS	✓	✗
ERG	✓	✗
OBL	✗	✓

As for floating *niz*, it must precede the lexical verb and be bound by the absolutive DP.[6] As illustrated in (10), floating *niz* must quantifier over an absolutive DP, but not an oblique or ergative DP.

(10)a. m-niz m-liyam   tu   sudad [ya   sunis].
      AV-all AV-read   OBL   book ABS   child
      'All the children read (a) book(s).'
      (NOT 'The child(ren) read all the books.')

   b. m-niz qibasi-an-na   na   sunis [ya   qudus].
      AV-all wash-PV-3ERG ERG   child ABS   clothes
      'The child(ren) washed all the clothes.'
      (NOT 'All the children washed the clothes.')

---

   b. *mnekan=ku   kana   bunga   di.
      AV.PST.eat=1SG.NOM   all   sweet.potato PRF
      (Intended for 'I ate all the sweet potatoes.')

(ii) Seediq (Henningsson and Holmer 2008: 27)
   a. *m-n-eyah   hini   egu   preko.
      AV-PST-come   here   much   mosquito
      (Intended for 'Many mosquitoes came here.')

   b. m-n-ari=ku   egu   blebul.
      AV-PST-buy=1SG.NOM   much   banana
      'I bought many bananas.'

[6] Malagasy *daholo* and Tsou *acɨh* are also bound by a c-commanding DP, usually (though not always) the absolutive/nominative subject.

(i) Malagasy (Potsdam 2009: 769, 770)
   a. [[namaky   ilay   boky] daholo] ny   mpianatra.
      read.AT   that   book all   the   students
      'The students all read that book.'

   b. *[[hovakian'   ny   mpianatra]   daholo] ilay   boky.
      read.TT   the   students   all   that   book
      (Intended for 'The students all read that book.')

(ii) Tsou (Chang 2002:331)
   mo acɨh-ɨ eobak-o ta   'o'oko 'e   mamameoi.
   AF all-AF beat-AF OBL   children NOM   old.men
   'These old men all beat the children.'

In contrast, *mwaza/mazmun* cannot appear in a Q-floating construction and be separated from its DP associate, as demonstrated by the contrast between (11a) and (11b).

(11)a. m-Ramaz   [tu   mwaza   tamun] ti-abas
       AV-cook   OBL   AV.many   dish   NCM-Abas
       'Abas cooks many dishes.'
    b. *mwaza   m-Ramaz   tu   tamun ti-abas
       AV.many   AV-cook   OBL   dish   NCM-Abas

The distributional properties of *niz* and *mwaza/mazmun* seem to constitute empirical evidence for the Q-stranding analysis, which can relate their distributions to the well-known extraction restriction in Austronesian languages. On this analysis, there are two reasons why floating *niz* must be bound by an absolutive DP. First of all, as *niz* cannot co-occur with an oblique DP (8c), floating *niz* cannot have originated from an oblique position. Secondly, as only an absolutive DP can undergo extraction in Kavalan (Lin 2013), floating *niz* cannot have originated from an ergative position either. An ergative or oblique DP is unable to move to further induce stranding. The Q-stranding analysis also explains why *mwaza/mazmun* cannot float. As illustrated in (9), *mwaza/mazmun* can co-occur with an oblique DP, but not an absolutive DP. While an absolutive DP can move and is thus able to strand its modifying quantifier, as in the case of *niz*, an oblique DP cannot undergo movement, let alone strand *mwaza/mazmun*.

To summarize, the Q-stranding analysis can account for the same restriction shared by floating and non-floating *niz* regarding their co-occurrence with personal proper names. Moreover, it can explain why floating *niz* must be bound by an absolutive DP and why *mwaza/mazmun* cannot float. Nevertheless, as will be argued in section 3, the merits of the Q-stranding analysis are outweighed by the semantic and morphosyntactic differences between floating and non-floating *niz*. The fundamental differences between the two suggest that they are derivationally distinct.

3.   Floating *Niz* as a Base-Generated Functional Head in the VP Periphery

Section 3.1 will demonstrate that floating *niz* is not equivalent to non-floating *niz*. They differ morphosyntatically and semantically and are thus derivationally distinct. Section 3.2 will further argue that the Q-stranding analysis fails to derive the correct word order of a Q-floating construction in Kavalan. The word order of floating *niz*, however, is not a problem for the base-generation analysis.

3.1.   Semantic and Morphosyntactic Differences between Floating and Non-Floating *Niz*

3.1.1.   Scope Interaction between *Niz* and Negation

According to Bošković (2004), English floating *all* induces scope-freezing effect in a negative sentence, whereas its non-floating counterpart exhibits scope reconstruction. As illustrated in (12a) and (12b), the scope of floating *all* in a negative sentence is unambiguous. When it follows the negation morpheme, negation must have a wider scope; when it precedes the negation morpheme, negation must have a narrower scope. In contrast, the scope of non-floating *all* in a negative sentence is ambiguous, as illustrated in (12c).

(12)a. The students don't all speak Chinese. (not > all)
　　b. The students all don't speak Chinese. (all > not)
　　c. All the students don't speak Chinese. (all > not, not > all)

　　　　Likewise, non-floating *niz* in a negative sentence exhibits scope reconstruction. Either non-floating *niz* or the negation morpheme *mai* in (13a) can take wider scope over the other. Floating *niz* in a negative sentence, however, induces scope-freezing effect. (13b) and (13c) are both unambiguous. The linear order between floating *niz* and the negation morpheme *mai* determines their relative scope.

(13)a. mai　　qibasi-an-na　　　　ni　　imuy　[ya　　m-niz　qudus].
　　　　NEG　　wash-PV-3ERG　　　　ERG　　Imuy　ABS　　AV-all　clothes
　　　　'Imuy didn't wash all the clothes.' (NEG > all; all > NEG)
　　b. m-niz　mai　　qibasi-an-na　　　　ni　　imuy　[ya　　qudus].
　　　　AV-all　NEG　　wash-PV-3ERG　　　　ERG　　Imuy　ABS　　clothes
　　　　'Imuy didn't wash all the clothes.' (*NEG > all; all > NEG)
　　c. mai　　m-niz　qibasi-an-na　　　　ni　　imuy　[ya　　qudus].
　　　　NEG　　AV-all　wash-PV-3ERG　　　　ERG　　Imuy　ABS　　clothes
　　　　'Imuy didn't wash all the clothes.' (NEG > all; *all > NEG)

3.1.2. Morphological Differences between Floating and Non-Floating *Niz*

Floating and non-floating quantifiers in some languages, e.g., Dutch and Korean, take different morphological forms, as illustrated in (14) and (15).

(14)　　Dutch (Doetjes 1997: 210-211)
　　a. [De　　kinderen]　　zijn　　allemaal　　　gekomen.
　　　　the　　children　　　are　　all　　　　　come
　　　　'The children have all come.'
　　b. *[Allemaal (de) kinderen] zijn gekomen.
　　c. [Alle　kinderen]　　zijn　　gekomen.
　　　　all　　children　　　are　　come
　　　　'All of the children have come.'

(15)   Korean (Jaehoon Choi, personal communication)
  a. Haksayng-tul-i   [chayk-ul]   modu ilk-ess-ta.
      student-PL-NOM   book-ACC   all   read-PST-DECL
      'The students read all the books.'
  b. Haksayng-tul-i   [modu-n   chayk-ul]   ilk-ess-ta.
      student-PL-NOM   all-ADJ   book-ACC   read-PST-DECL
      'The students read all the books.'

Floating and non-floating *niz* also differ morphologically. While non-floating *niz* is a nominal modifier, floating *niz* should be analyzed as a full-fledged verb. First of all, floating *niz*, but not its non-floating counterpart, can take the imperative suffix, as shown by the contrast between (16a) and (16b). Secondly, floating *niz*, but not non-floating *niz*, can take the causative prefix, as illustrated in (16c). Finally, floating *niz* can be affixed with the patient voice marker (16d), whereas non-floating *niz* cannot (16e).

(16)a. niz-ika   m-liyam   [ya   sudad].
        AV-IMP.PV   AV-read   ABS   book
        'Read all the books!'
  b. *m-liyam   [ya   niz-ika   sudad].
      AV-read   ABS   all-IMP.PV   book
  c. pa-niz=iku   [tu   sunis] pa-taqsi.
      CAUS-all=1SG.ABS   OBL   child   CAUS-study
      'I make all the children study.'[7]
  d. niz-an-na=ti   ni   abas   q<m>an   [ya   byabas].
      all-PV-3ERG=PFV   ERG   Abas   <AV>eat   ABS   guava
      'Abas ate all the guavas.'
  e. *qan-an-na=ti   ni   abas   [ya   niz-an byabas].
      eat-PV-3ERG=PFV   ERG   Abas   ABS   all-PV guava

Moreover, the voice markers on floating *niz* are verb-defining *v*, which can determine the argument structure of a sentence. While PV *-an* by itself can assign an external argument and an affected theme, AV *m-* cannot (Lin 2013, 2015). PV-marked *niz* in (17a) is thus grammatical even without a lexical verb, but this is not true of AV-marked *niz* in (17b).

(17)a. niz-an-na=ti   ni   abas   [ya   byabas].
        all-PV-3ERG=PFV   ERG   Abas   ABS   guava

---

[7] In (16c), not only the universal quantifier but also the lexical verb is affixed with the causative marker *pa-*. The doubling of the causative marker is reminiscent of "prefix harmony" or "anticipating sequence" in Siraya (Adelaar 1997; Tsuchida 2000). Whether this Kavalan example can be subsumed under this phenomenon requires further investigation.

'Abas ate/used up all the guavas.'
b. *m-niz   tu   byabas [ya   sunis].
   AV-all   OBL   guava ABS   child

All these facts suggest that floating *niz* should be analyzed as a full-fledged verb that can move to *v*. This empirical generalization is incompatible with the Q-stranding analysis, which predicts that the stranded quantifier should be embedded inside a specifier position and cannot undergo head movement to *v*. Instead, as low adverbials in the VP periphery are all realized as a verb in Kavalan (Chang 2006; Lin 2014), the facts presented in (16) and (17) corroborate the analysis of floating *niz* as a base-generated head in the VP periphery below *v*.[8] As illustrated in (18), low adverbials in Kavalan share the same distributional and morphosyntactic properties as a verb.

(18)a. paqanas-an-ku   m-liyam   ya   sudad.
      slowly-PV-1SG.ERG   AV-read   ABS   book
      'I read the book slowly.'
   b. m-duna   qan-an-ku   ya   'may.
      AV-always   eat-PV-1SG.ERG   ABS   rice
      'I always eat (this kind of) rice.'

3.1.3. Insensitivity to A/A' Distinction

Sensitivity to A/A' distinction has often been cited as evidence for the stranding analysis of quantifier floating. As indicated by the contrast between (19) and (20), a DP that undergoes A'-movement cannot strand a quantifier, unless it first undergoes short A-movement (Bobaljik 2003; Déprez 1989). A floating quantifier is only licensed in an A-chain due to its immediate adjacency to the DP-trace of its associate.

(19)   (Bobaljik 2003)
   a. The runners$_i$ seem to themselves [t_i to be moving very slowly].
   b. The lions$_i$ might all seem (to you) [t_i to have large teeth].
   c. The lions$_i$ might all have been seen t_i (by the tourists).

(20)   (Bobaljik 2003)
   a. *the professors who Taylor will have all met before the end of term
   b. *These professors, Taylor will have all met before the end of term.
   c. *Which professors will Taylor have all met before the end of term?

This argument, however, does not apply to Kavalan *niz*. In (21), the operator that floating *niz* quantifies over undergoes A'-movement without

---

[8] cf. the high base-generation site of Malagasy *daholo* proposed by Koopman (2005)

incurring ungrammaticality. On the base-generation approach to floating *niz*, the grammaticality of (21) is expected, as floating *niz* and its DP associate never form a constituent and thus the movement type of the associate does not determine whether *niz* can float or not.

(21)a. byabas [_{RC}   niz-an-na=ay   ni   buya   m-Rasa]
        guava   all-PV-3ERG=REL   ERG   Buya   AV-buy
        'the guavas that Buya all bought'

   b. saku   ya   [_{Headless RC} niz-an-na=ay   na   wasu t<m>anuz].
        cat   ABS   all-PV-3ERG=REL   ERG   dog   <AV>chase
        'What the dog chases all are the cats.'

   c. niana   ya   [_{Headless RC} niz-an-na=ay   na   wasu t<m>anuz]?
        what   ABS   all-PV-3ERG=REL   ERG   dog   <AV>chase
        'What does the dog chase all?'

3.1.4. Co-occurrence of Floating and Non-Floating *Niz*

If floating *niz* and non-floating *niz* are not derivationally related, as claimed by the base-generation approach, it is predicted that they should be able to co-occur in a sentence. As shown in (22), this prediction is borne out.

(22)   niz-an-na   ni   abas   q<m>an   [ya   m-niz byabas].
        all-PV-3ERG   ERG   Abas   <AV>eat   ABS   AV-all guava
        'Abas ate up all the guavas.'

The co-occurrence of floating Q and non-floating Q can also be observed in other languages, e.g., Chinese (23), Korean (24), and Cebuano (25).

(23)   Chinese
        [suoyou   de   xuesheng]   dou   xihuan zhe   tang   ke.
        all   DE   student   all   like   this   CLF   class
        'All the students like this class.'

(24)   Korean (Jaehoon Choi, personal communication)
        [modu-n   haksayng-tul-i]   modu   chayk-ul   ilk-ess-ta.
        all-ADJ   student-PL-NOM   all   book-ACC   read-PST-DECL
        'All the students read the book.'

(25)   Cebuano
        pulos   ganahan ani   nga   libro   [ang   tanan nga   mga   bata].
        all   like   this LNK   book   ABS   all   LNK   PL   child
        'All the children like this book.'

Floating Q in (22) to (25) is not a pronounced copy of the corresponding non-floating Q, as they are formally distinct from each other.

3.1.5. Interpretations of Floating *Niz*

Floating *niz* can receive interpretations that are not available to non-floating *niz*. Floating *niz* can be used as a quantifier/modifier of either entities/individuals or predicates. It can either mean 'all' or 'completely; entirely'. For example, floating niz in (26a) can quantify over either the absolutive DP *ya qudus-ku* or the predicate *tengen*.

(26)a. m-niz   tengen ya   qudus-ku.
        AV-all black ABS   clothes-1SG.GEN
        'My clothes are completely black.' or 'All my clothes are black.'
  b. maqen-ika   m-niz q<m>an   ya   byabas.
       indeed-IMP.PV AV-all <AV>eat   ABS   guava
       'Do eat up (all) the guavas.' ('consume entirely')

Floating *niz* can also function as a quantifier of a set of propositions. It is similar to Chinese *dou*, which can quantify over a set of propositions denoted by an embedded question or a yes-no question (i.e., their possible answers), as illustrated in (27) (Cheng 1995; Cheng & Huang 1996). A corresponding Kavalan sentence is given in (28).

(27)   Chinese
  a. ni   guyong   shei, wo   dou   hui   bang ta.
    you   hire   who   I   all   will   help him
    'No matter who you hire, I will help him.'
  b. ta   nian bu   nian dou   gen   wo   mei   guanxi.
    he   study NEG   study all   with   I   NEG   matter
    'It is none of my business whether or not he studies (this).'

(28)   t<m>ayta   tu   ti-tiana   wasu zau nani, niz-an-na Raytunguz
    <AV>see   OBL   NCM-who dog this DM   all-PV-3ERG bark
    'No matter who this dog sees, it barks (at him).'

3.1.6. Interim Summary

Section 3.1 has presented 5 empirical facts of *niz* that are opaque to the Q-stranding analysis: (1) scope-freezing effect (floating *niz*) vs. scope reconstruction (non-floating *niz*); (2) floating *niz* as a full-fledged verb; (3) the insensitivity of floating *niz* to A/A' distinction; (4) co-occurrence of floating *niz* and non-floating *niz*; (5) floating *niz* as a quantifier of a set of propositions. The fundamental differences

between floating *niz* and non-floating *niz* suggest that they are derivationally distinct. Just like other low adverbials in Kavalan, floating *niz* is also morphosyntactically realized as a verb and should be analyzed as a base-generated functional head in the VP periphery.

3.2. Word Order of Floating *Niz*

This section will argue that the Q-stranding analysis also fails to derive the word order of a Q-floating construction in Kavalan.

Verb-initial order in Austronesian languages can be derived via either TP/VP fronting, e.g., Malagasy (Pearson 2005) and Seediq (Aldridge 2004, 2013), or verb raising, e.g., Tagalog (Aldridge 2004, 2012). On the TP/VP fronting approach, the absolutive subject moves to Spec, TopP to check the uninterpretable [D]-feature [*D] on Top. The verb-initial word order results from the subsequent movement of the remnant TP or predicate phrase to Spec, FocP.

The verb-initial order of Tagalog, however, is derived via verb raising (Aldridge 2004, 2012). In this language, the absolutive subject undergoes covert movement to the outer specifier of *v*P, where it receives a definite, presuppositional interpretation. There is no TP/VP fronting. Instead, the verb-initial order is derived via verb movement to T.

On the Q-stranding analysis, [*niz* Erg-DP V Abs-DP], as illustrated in (29), is not a possible word order in Kavalan regardless of how Kavalan verb-initial order is derived.

(29) niz-an-na=ti   ni   abas   q<m>an   [ya   byabas].
      all-PV-3ERG=PFV   ERG   Abas   <AV>eat   ABS   guava
      'Abas ate all the guavas.'

The derivation in (30) involves both quantifier stranding and TP fronting. The correct order of [*niz* Erg-DP V Abs-DP] cannot be derived. As shown in (31), on the analysis of Q-stranding, verb raising also fails to derive the word order of floating *niz*, which precedes the lexical verb in a Q-floating construction. If quantifier floating of *niz* in Kavalan results from quantifier stranding accompanied by DP movement, floating *niz* should never precede a verb, contrary to fact.

On the base-generation approach, floating *niz* is merged in a functional head position that is structurally higher than V. Its clause-initial position before V is expected no matter how Kavalan verb/predicate-initial order is derived. The derivations in (32) and (33) show that as a base-generated functional head between *v* and V, floating *niz* always precedes the lexical verb whether Kavalan verb-initial order is derived via TP fronting or verb raising.

(30)   TP fronting + Q-stranding → incorrect word order

```
                        FocP
              ┌──────────┴──────────┐
             TP                    Foc'
         ┌────┴────┐        ┌────────┴────────┐
    V-v-T niz Erg-DP      Foc               TopP
                          [*T]        ┌───────┴───────┐
                                   Abs-DP            Top'
                                             ┌────────┴────────┐
                                            Top               TP
                                            [*D]       ┌───────┴───────┐
                                                     V-v-T            vP
                                                    [no EPP]    ┌──────┴──────┐
                                                               QP            v'
                                                          ┌────┴────┐  ┌──────┴──────┐
                                                      niz Abs-DP  Erg-DP          v'
                                                                          ┌────────┴────────┐
                                                                         V-v              VP
                                                                        [EPP]      ┌───────┴───────┐
                                                                                  V             QP
                                                                                          ┌──────┴──────┐
                                                                                       niz Abs-DP
```

(Q-stranding)

(QP movement)
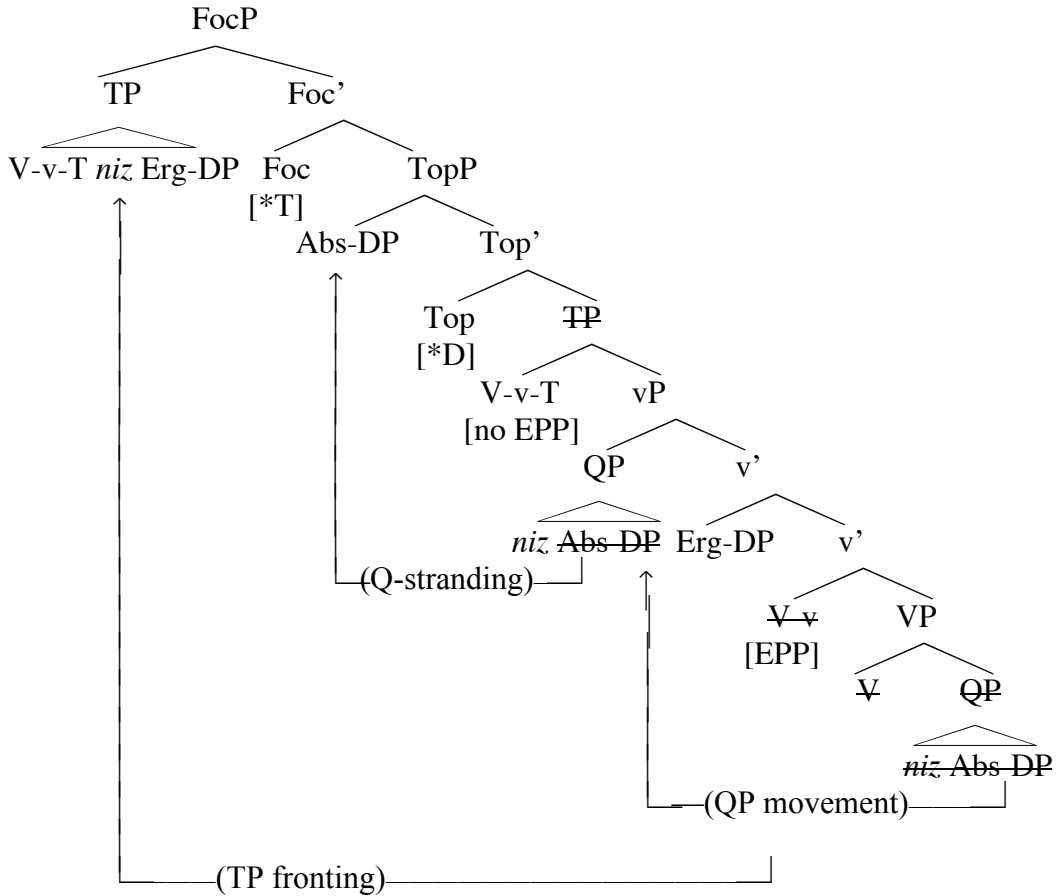
(TP fronting)

(31)   verb raising + Q-stranding → incorrect word order

```
                   TP
           ┌───────┴───────┐
        V+v+T              vP
                    ┌──────┴──────┐
                   QP            v'
              ┌────┴────┐  ┌──────┴──────┐
          niz Abs-DP    DP            v'
                        [Erg]  ┌───────┴───────┐
                              V+v             VP
                          [Abs, EPP]   ┌───────┴───────┐
                                      V             QP
                                             ┌──────┴──────┐
                                          niz Abs-DP
```
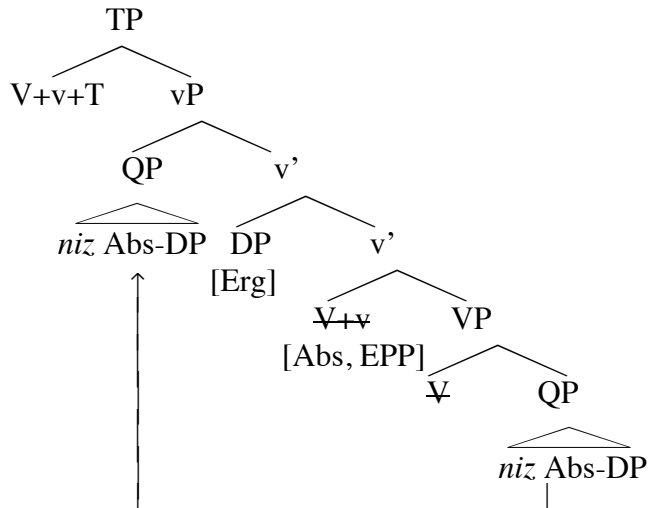
(32)   verb raising + base-generated Q between *v* and V

```
                        TP
                   ┌────┴────┐
              niz+v+T        vP
                        ┌─────┴─────┐
                       D̶P̶          v'
                      [Abs]    ┌────┴────┐
                        ↑     DP         v'
                        │    [Erg]   ┌───┴───┐
                        │         n̶i̶z̶+̶v̶      QP
                        │        [Abs, EPP] ┌──┴──┐
                        │                  n̶i̶z̶    VP
                        │                     ┌───┴───┐
                        │                     V      DP
                        │                           [Abs]
                        └───────────────────────────┘
```
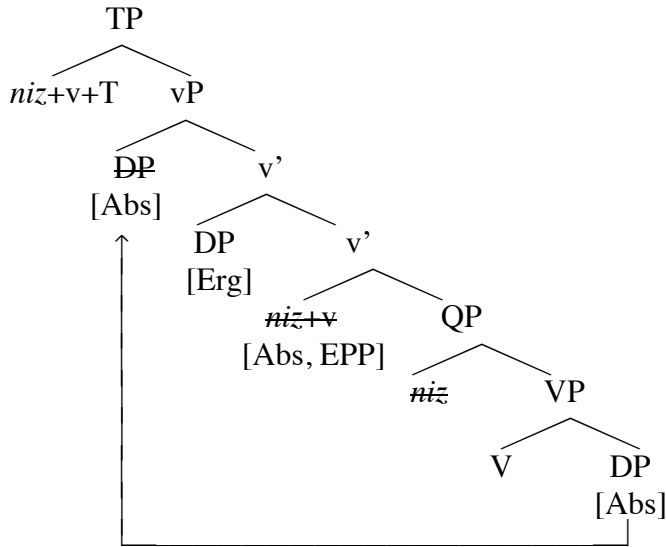
(33)   TP fronting + base-generated Q between *v* and V

```
                           FocP
                     ┌──────┴──────┐
                    TP            Foc'
              ┌──────┴──────┐  ┌───┴────┐
         niz-v-T Erg-DP V  Foc        TopP
                          [*T]    ┌────┴────┐
                               Abs-DP      Top'
                                        ┌───┴────┐
                                       Top       T̶P̶
                                      [*D]    ┌───┴───┐
                                           niz-v-T    vP
                                                  ┌────┴────┐
                                               A̶b̶s̶ ̶D̶P̶      v'
                                                      ┌─────┴─────┐
                                                   Erg-DP         v'
                                                            ┌─────┴─────┐
                                                          n̶i̶z̶ ̶v̶         QP
                                                                   ┌─────┴─────┐
                                                                  n̶i̶z̶         VP
                                                                         ┌─────┴─────┐
                                                                         V        A̶b̶s̶ ̶D̶P̶
```

(TP fronting)
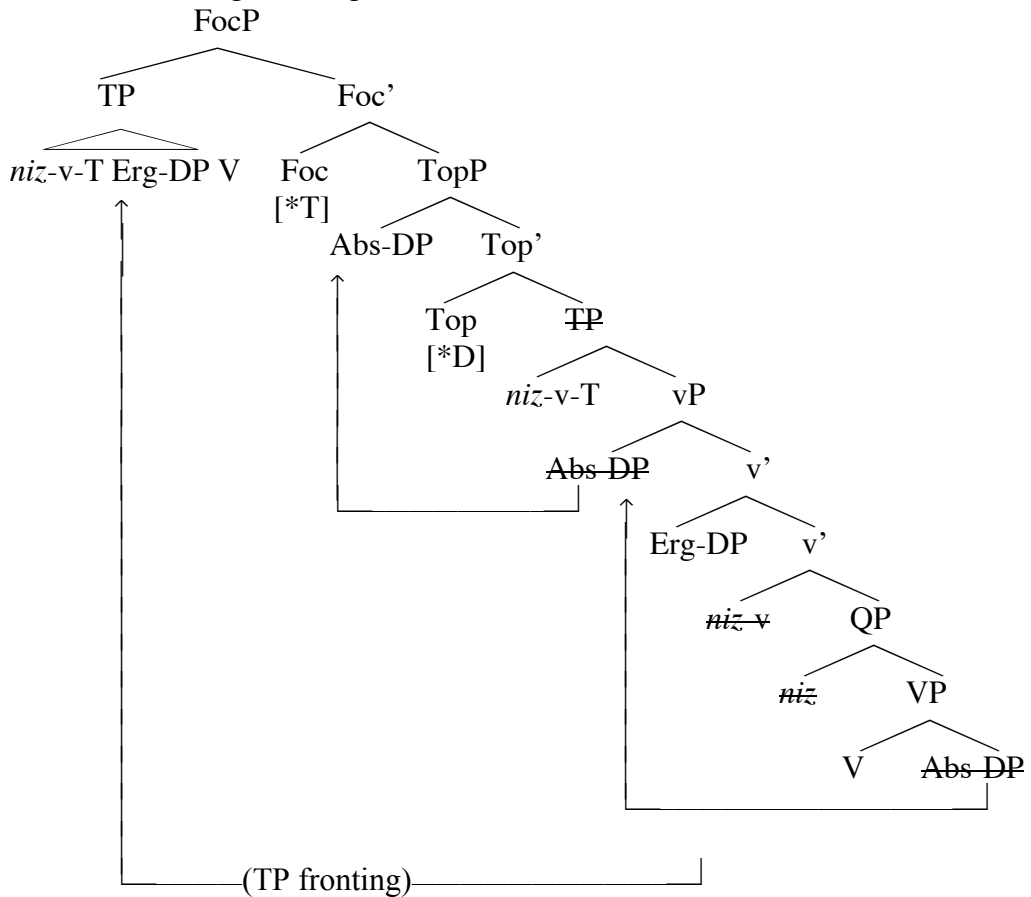
4.   Conclusion

Floating *niz* and non-floating *niz* in Kavalan differ both semantically and morphosyntactically. Floating *niz* is not derived from non-floating *niz* as a result of quantifier stranding. Non-floating *niz* is a nominal modifier, whereas floating *niz* is base-generated in a head position in the VP periphery below *v* and exhibits properties of a full-fledged verb just like other adverbial verbs in this language.

References

Adelaar, K. Alexander. 1997. Grammar notes on Siraya, an extinct Formosan language. *Oceanic Linguistics* 36:362-397.

Aldridge, Edith. 2004. Ergativity and word order in Austronesian languages. Doctoral dissertation, Cornell University, Ithaca.

Aldridge, Edith. 2012. Antipassive and ergativity in Tagalog. *Lingua* 122:192-203.

Aldridge, Edith. 2013. Wh-clefts and verb-initial word order in Austronesian languages. *Cleft structures*, eds. Katharina Hartmann and Tonjes Veenstra, 71-96. Amsterdam/Philadelphia: John Benjamins Publishing Company.

Baltin, Mark R. 1995. Floating quantifiers, PRO, and predication. *Linguistic Inquiry* 26:199-248.

Bobaljik, Jonathan David. 2003. Floating quantifiers: Handle with care. *The second Glot international state-of-the-article book: The latest in linguistics*, eds. Lisa Cheng and Rint Sybesma, 107-148. Berlin/New York: Mouton de Gruyter.

Bošković, Željko. 2004. Be careful where you float your quantifiers. *Natural Language and Linguistic Theory* 22:681-742.

Chang, Henry Yung-li. 2002. Distributivity, plurality, and reduplication in Tsou. *The Tsing Hua Journal of Chinese Studies, New Series* 32:327-355.

Chang, Yung-li. 2006. The guest playing host: Adverbial modifiers as matrix verbs in Kavalan. *Clause Structure and Adjuncts in Austronesian Languages*, eds. Gärtner Hans-Martin, Paul Law, and Joachim Sabel, 43-82. Berlin: Mouton de Gruyter.

Cheng, Lisa Lai-Shen. 1995. On *dou*-quantification. *Journal of East Asian Linguistics* 4:197-234.

Cheng, Lisa Lai-Shen, and C.-T. James Huang. 1996. Two types of donkey sentences. *Natural Language Semantics* 4:121-163.

Déprez, Viviane. 1989. On the typology of syntactic positions and the nature of chains: Move α to the specifier of functional projections. Doctoral dissertation, MIT, Cambridge.

Doetjes, Jenny Sandra. 1997. Quantifiers and selection: On the distribution of quantifying expressions in French, Dutch and English. Doctoral dissertation, Leiden University, The Hague.

Giusti, Giuliana. 1990. Floating quantifiers, scrambling, and configurationality. *Linguistic Inquiry* 21.633-641.

Henningsson, Lars-Åke, and Arthur Holmer. 2008. The distribution of quantifiers in Seediq. *Lund University Department of Linguistics and Phonetics Working Papers* 53:23-41.

Liao, Hsiu-chuan. 2004. Transitivity and ergativity in Formosan and Philippine Languages. Doctoral dissertation. The University of Hawai'i, Manoa.

Lin, Dong-yi. 2013. Interrogative constructions in Kavalan and Amis. Doctoral dissertation, University of Florida, Gainesville.

Lin, Dong-yi. 2014. A cartographic approach to adverbials in Kavalan: Adverbial verbs and restructuring. Paper presented at 2014 Annual Meeting of the Linguistics Association of Great Britain. University of Oxford.

Lin, Dong-yi. 2015. The syntactic derivations of interrogative verbs in Amis and Kavalan. *New advances in Formosan linguistics*, eds. Elizabeth Zeitoun, Stacy F. Teng, and Joy J. Wu, 253-289. Canberra: Asia-Pacific Linguistics.

Koopman, Hilda. 2005. Malagasy imperatives. *Proceedings of AFLA XII*, 141-160. (*UCLA Working Papers in Linguistics* 12) University of California, Los Angeles.

Pearson, Matthew. 2005. The Malagasy subject/topic as an A'-element. *Natural Language and Linguistic Theory* 23:381-457.

Potsdam, Eric. 2009. Malagasy backward object control. *Language* 85:754-784.

Shlonsky, Ur. 1991. Quantifiers as functional heads: A study of Quantifier Float in Hebrew. *Lingua* 84:159-180.

Sportiche, Dominique. 1988. A theory of floating quantifiers and its corollaries for constituent structure. *Linguistic Inquiry* 19:425-449.

Torrego, Esther. 1996. On quantifier float in control clauses. *Linguistic Inquiry* 27:111-126.

Tsuchida, Shigeru. 2000. Lexical prefixes and prefix harmony in Siraya. *Grammatical analysis: Morphology, syntax, and semantics – Studies in honor of Stanley Starosta*, eds. Videa P. De Guzman and Byron W. Bender, 109-128. Honolulu: University of Hawai'i Press.

Williams, Edwin. 1982. The NP cycle. *Linguistic Inquiry* 13:277-295.