Floating Quantifiers and Universal Grammar

MARK DONOHUE

National University of Singapore
mark@donohue.cc
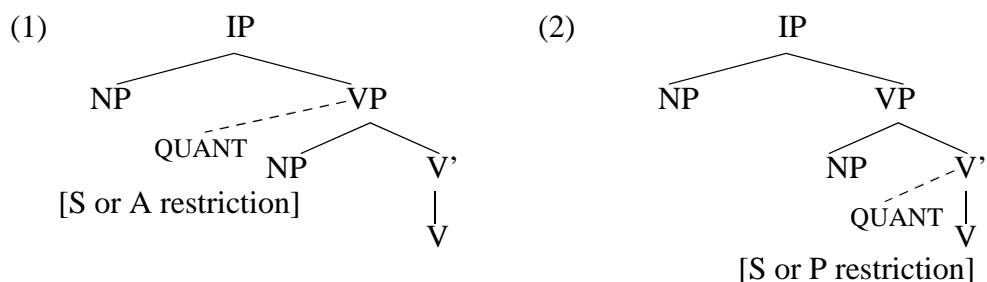
1. Floating quantifiers

Quantifiers often appear in other than immediate constituency with the element that they modify; this is referred to as 'floating', by analogy with the normal inverted tree representation of sentences.[1] We are then presented with an interpretive challenge: what element of the clause is interpreted as the restriction of the quantifier, given that close constituency is not used to restrict its scope? If there is a particular restriction as to which arguments may be interpreted as the restriction of the floating quantifier, this is often taken as evidence for grammatical functions. This article presents a typological overview of the relationship between quantifier restriction and the stuctural position at which that quantifier attaches, presenting evidence that there are some universal tendencies in terms of restrictions of floated quantifiers. This means that, for instance, some combinations of structural position and restriction are not unexpected, and so should 'count' as less when evaluating the syntactic alignment of a language. On the other hand the fact that these tendencies are statistical, and not absolute, means that data that runs against the norm can be taken as being strong evidence for the syntactic alignment in a language.

When the quantifier is attached at the VP level (either as part of a higher phrase, or through clitic-like behaviour), then the interpretation *tends* to favour an S or A argument. When the floating quantifier appears at a V' level (through close constituency: adjunction, or cliticisation are the usual mechanisms), the interpretation *tends* to be restricted to the S or P argument.[2] These two alternatives are shown in skeletal and normative form (as they would appear in an subject-initial, verb-final language) in (1) and (2).

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[1]   Many languages do not allow floating quantifiers; Leitre, related to Skou [see 1.6], is one such language. Similarly, languages that are largely non-configurational in there syntax do not treat quantifiers any differently to other modifiers, and typically resolve issues of scope and restriction through case-marking.

[2]   The following abbreviations are used: 1, first person; 2, second person; 3, third person; 3P, Cree: third person plural. Tukang Besi: third person P; ACC, accusative; ALL, allative; ART, article; ASP, aspect; AV, actor voice; CLF, classifier; CONJ, conjunct form; DAT, dative; DEIC, deictic; EMPH, emphatic; ERG, ergative; GEN, genitive; GENR, generic tense; IN, inclusive; INSTR, instrumental; IP, inflectional phrase; LD, locative/directional; LNKR, linker; NF, non-feminine; NOM, nominative; NP, noun phrase; OBL, oblique; OBV, obviative; PASS, passive; PERF, perfective; PF, perfect; PL, plural; PREP, preposition; PRES, present; PST, past; PV, patient voice; QUANT, quantifier; R, realis; SG, singular; TOP, topic; VP, verb phrase. In addition, I use the syntactic role labels A, S and P, which are defined following Comrie (1978) as the most agent-like argument of a lexical predicate, the single argument of a monovalent verb, and the most patient-like argument of a lexical predicate, respectively. These terms, rather than 'subject' and 'object', are used descriptively to avoid prejudging the grammatical status of the arguments of a particular construction or language, which are not in all cases identical (See Postal 1974, or Cinque 1999 for an analysis of floated quantifiers which uses grammatical functions as primitives; Sportiche (1988) has similar results, in a different framework). The grouping S,A corresponds to the traditional

(1) IP   (2) IP

NP ‑‑‑‑‑VP   NP VP

QUANT   NP   V'   NP ‑‑V'

[S or A restriction]   V   QUANT V

[S or P restriction]

This is a non-random relationship: the quantifier is restricted to the structurally closest (core) argument; this is the 'expected', and most widely attested interpretation. But not all languages follow this pattern, as we shall see. I shall argue that what we are observing is a universalist tendency, but not an absolute requirement: it is a strong preference, but not something that is 'hardwired' in universal grammar. I start the exposition with VP-level quantification, which can be exemplified with data from English.

2. VP-level quantification: S, A restriction

2.1 English

In addition to NP-internal quantifiers ([NP *All of the children*]), English allows quantifiers at the VP level, and these quantifiers can only be interpreted as referring to an S or an A. In the following sentences there is no ambiguity in the restriction of the floating quantifier.

(3)   The children all =[VP ate the sweets].

(4)   The children all =[VP felt sick].

In English, the restriction of the floating quantifier is always to the S or A argument. The placement of the floating quantifier is to the left edge of the VP. The pragmatic status of an NP (topic or non-topic) does not affect the restriction of the floating quantifier, though grammatical function changing operations such as passives do, as we would expect.

(5)   [TOP The sweets], [NP the children] all =[VP ate (them)].

(6)   [NP The sweets] were all =[VP eaten] by the children.

I assume that aspectually complex predicates with multiple verbs, such as *The children have (all)   been (all)   eating sweets*, involve sequences of embedded VPs, each of which offers a leftmost position in which the floating quantifier can appear. Passive clauses appear not to allow quantification in the innermost VP.

2.2 Mandarin Chinese

Mandarin, like English, has VP-initial floating quantifiers. Unlike English, topicality does affect the range of possible restrictions for floating quantifiers. In (7) - (9) we can see that the restriction of a floating quantifier is the A or S of its clause.

(7)   Tāmen   dōu=[VP dǎ   gǒu].
      they   all= hit   dog
      'They all hit the dogs.'

'nominative', S,P to 'absolute', A to 'ergative' and P to 'accusative'. Note, however, that the syntactic roles are not dependent on morphology for their realisation.

(8)   Gǒu   dōu=[_{VP} pǎo-qù-le].
        dog   all= run-go-ASP
        'The dogs have all run away.'

(9)   Gǒu   dōu=[_{VP} sǐ-le].
        dog   all= die-ASP
        'The dogs have all died.'

Evidence that *dōu* is restricted to a syntactic category, and not a semantic one (such as 'most agentive argument', for instance) comes from passive clauses, in which the reference of the quantifier can only be to the non-agentive S.

(10)   Gǒu   dōu= bèi=[_{VP} tāmen   dǎ-le].
        dog   all= PASS= they   hit-ASP
        'The dogs were all hit by them.'
        * 'The dogs were hit by all of them.'

Unlike English, Mandarin allows at least some topics to be the restriction of a floating quantifier. This is not exclusive ('a topic if present will be the restriction'), but additional: in a clause with both an S or A and a topic, either NP may be the restriction of the floated quantifier.

(11)   Gǒu   tāmen dōu=[_{VP} dǎ-le].
        dog   they all= hit-ASP
        'The dogs, they've all hit them.'
        'The dogs, they've hit all of them.'

(12)   Nà-bian   de   shítáng,   lǎoshɪ   dōu=[_{VP} qù-guo] .
        there-side GEN   cafeteria teacher   all= go-ASP
        'The cafeterias over here, the teachers have all been to them.'
        'The cafeterias over there, the teachers have been to all of them.'

The S,A grouping does not represent the only universalist tendency that we can identify cross-linguistically. There is another quantifier in Mandarin, *quánbù* 'all', which when it appears as a floating quantifier has a different restriction than does dōu (Ng 2004). This is an example of the one language having two different quantifiers, which do not both follow the same rules for scope. In other languages a floated quantifier might show restrictions, but the identity of that restriction differs because on the structural configuration of that pivot.

3. V' or V⁰ level quantification

3.1 Japanese

In Japanese there are several possibilities for quantification; the simplest involve the quantifier appearing NP-internally or floated to just outside (following) the NP. In these cases the quantifier is always restricted to the head of the NP with which it shares constituency. It is also possible for a quantifier to appear in close constituency with the V under a V' (no other elements, such as adjuncts, may intrude between them), and that is the strategy that is reported on here.

In (13) - (15) we have examples of sentences in which the quantifier, consisting of a numeral plus classifier, appears adjacent to the verb and separated from the NP to which it is restricted. In (13) it is restricted to an S; in (14) we can see a grammatical sentence with a P restriction, while in (15) the sentence is ungrammatical with the quantifier restricted to the A, even though the classifier is correct.

(13)   Gakusei ga   niwa ni   san-nin   kita.
       student NOM   garden DAT   three-CLF came
       'Three students came to the garden.'

(14)   Gakusei ga   kodomo o   niwa de   san-nin   ketta.
       student NOM   child ACC   garden INSTR three-CLF kicked
       'The students kicked three children in the garden.'

(15) * Gakusei ga   kodomo o niwa de   san-nin   ketta
       student NOM   child ACC garden INSTR   three-CLF kicked

Unlike Mandarin, and more similar to English, topicalisation does not save the A as a potential restriction for the quantifier, as seen in (16). (Topicalisation does not otherwise affect grammaticality for this construction; *Gakusei wa niwa ni sannin kita* is a grammatical alternant for (13), and (14) may be expressed with a topicalised P: *Kodomo wa gakusei ga niwa de sannin ketta*, though it most naturally acquires a partitive reading ('three of the children') in this case.)

(16) * Gakusei wa   kodomo o niwa de   san-nin   ketta.
       student TOP   child ACC garden INSTR   three-CLF kicked

(17)   Niwa ni wa   gakusei ga   san-nin   kita.
       garden DAT TOP   student NOM   three-CLF came
       'To the garden three students came.'
       * 'To three gardens, the students came.'

(This last, ungrammatical, reading with 'garden' as the restriction of the quantifier is not possible even if the sentence was uttered with the correct classifier for gardens, or a generic numeral *mittsu* 'three')

Proof that this is a dynamic, syntactic-role referring restriction, and not one that is based on semantic features can be seen in the behaviour of a passivised clause, in which the now intransitive subject patient, not the agent, is the restriction of the quantifier.

(18)   Kodomo ga   gakusei ni   niwa de   san-nin   ker-are-ta.
       child NOM   student DAT   garden INSTR   three-CLF kick-PASS-PST
       'Three children were kicked by the students in the garden.'

In Japanese the quantifier itself may appear in a topic position, at the left edge of the clause (Miyagawa 1989), but in these cases the restriction is still to the S or P, as appropriate.

3.2 Cree

The following Cree sentences (from Dahlstrom 1991: 83, 87, drawing on Bloomfield 1934: 44, 86), show that a V'-internal quantifier (not obviously structurally associated with one of the core arguments in the clause), which like the Japanese V'-quantifier can only be taken as referring to the P, if the clause is bivalent, or the S, if it is monovalent.

Plains Cree

(19)   [$_{V'}$ nisto   nipahe·wak]   mo·swa   na·pe·wak
          three   kill *3-OBV [DIRECT]*   moose *OBV*   man *PL*
        'The men killed three moose.'

        * 'Three men killed moose.'

(20)   … [$_{V'}$ kahkiyaw   e·h=takohte·cik]   o·ki   ne·hiyawak   mina
              all   arrive *3P/CONJ*   these   Cree *PL*   also

              opwa·si·mo·wak   mi·na   nahkawiyiniwak
              Assiniboine *PL*   also   Saulteaux *PL*
              '… all the Cree and Assiniboine and Saulteaux having come there.'

(21)   [$_{V'}$ pe·yak pikoh   nipahikwak]   e·wakonik   o·ki.
              one   only   kill *OBV-3P [INVERSE]*   the very one *PL*   these
        'They (obv.) killed only one of them (prox.)'

In Cree floated quantifiers are also possible with passive voice clauses (Dahlstrom pc), and it appears that Cree, too, has an S, P restriction.

3.3 Warembori

When the quantifier *pasi* 'all' appears in the sentence, the interpretation of its scope is revealing (Donohue 1999b: 38-39). When the quantifier is floated out of the NP, and is found contiguously with the main verb, the interpretation is unambiguous: it can only refer to an S, as in (22) or, in a bivalent clause, a P, as in (23). Although this is a different position to that seen in Japanese and Cree, being incorporated into the verb itself rather that simply sharing close constituency with it, the scope relationship is the same.

(22)   Ka-ra-pasi   ta   bunupune.
        1PL.IN-go-all   ALL   village
        'We all went to the village.'
        * 'We went to all the villages.'
        * Kapasi kara ta bunupune, * Kara ta bunupune kapasi.

(23)   E=manivovi   ta-piti-pasi   Putampa.
        1SG=friend   3PL-shoot-all   Bagusa
        'My friends shot all of the Bagusa.'
        * 'All of my friends shot the Bagusa.'

3.4 Skou

In Skou (Donohue 2004, forthcoming) the quantifier *fátà* 'all' can appear in the NP, or floated. If floated, it can only modify an S or a P.

(24) Naké fátà te=me   y-a tà.
      dog   all   3PL=3PL.return   3PL-walk running
      'All the dogs ran away.'

When floated the quantifier is found in a postverbal position, as in (25), in which there is extra pragmatic salience on both *naké* and *fátà*.

(25)   Naké te me ya tà fátà.

In a bivalent clause, a floated quantifier is possible, with a restriction: it can only refer to the P of the clause, not the A:

(26)   Naké pále te=y-a yú   fátà.
        dog   pig   3PL=3PL-walk chase   all
        'The dogs chased all the pigs.'
        * 'All the dogs chased the pig(s).'

Quantification of the A can be simply accomplished by an NP-internal quantifier. Similarly, a postverbal nominal (a goal or location; oblique) may only be quantified NP-internally.

In the case of a complex predicate of the N+V type the quantifier can only be taken as referring to the nominal associated with the adjunct nominal position, and not the P of the sentence. In (27) the postverbal quantifier *fátà* will most naturally be interpreted as being restricted to the adjunct nominal concept 'arrow' (that which is released from a bow), and not over the P of the clause, *palé*.

(27)   Pále pìng nì=lú   fátà.
        pig   bow   1SG=release   all
        'I shot a pig/pigs with all (my) arrows.'
        * 'I shot all the pigs.'

Note that when the adjunct nominal is not countable, the quantifier cannot be interpreted as being restricted to it.

(28)   Te=ueme   ráue   te=j-á   e   ti   fátà.
        3PL=woman   laughter   3PL=3PL-'emote' 3PL.be   3PL.do   all
        'All of the women laughed.'
        * 'the women did all of the laughing'

(29)   Rí   rà   ke=li   fátà.
        wood fire 3SG.NF=do   all
        'He burned all of the wood.'
        * 'he burned the wood with the whole fire'

(30)   Te=balèng   te=ta y-ùng   fátà.
        3PL=man   3PL=sitting 3PL=sit   all
        'All of the men sat down.'
        * 'the men did all of the sitting'

Another complication for the analysis of postverbal quantification as an S,P-pivot construction involves the quantification of obliques. If an oblique appears in the preverbal

topic position, a postverbal quantifier can be licensed; this creates ambiguity when there is a plural S as well as an oblique topic, just as with Mandarin *dou*.[3]

(31)   [TOPIC Bàme=fue=ing a] te=balèng=ing ,   te=y-a   fátà.
                village=that=the   3PL=male=DEIC   3PL=3PL-walk   all
         'All of the villages, the men went to them.'
         'The villages, the men all went to (them).'

3.5 The relevance of the S, P group with respect to the V' or V^0 level

Other phenomena that have been reported as being restricted to an S,P grouping include

- verb forms that are suppletive for number of one of the arguments;

- eligibility for noun incorporation,

- (less convincingly) 'ambitransitivity', where a single lexical verb can have both monovalent and bivalent uses.

All of these constructions involve direct constituency with verbs: the floated quantifier data in 1.2 all involve some sort of constituency with a V (the case for Warembori) or a V' (in Cree and some other languages not discussed here), and the other properties listed above are overtly based on the verbal lexicon. The tendency described here for these properties to show an S,P pivot may simply reflect universal constraints about the way arguments link with their verbs.[4]

4. The 'counter examples': floating against universal tendencies

Here, a break with the policy, up to now, of not reporting any two languages from the same family. Tukang Besi and Tagalog are both Western Malayo-Polynesian languages from the Austronesian family, and show very similar syntax with respect to the restriction of floated quantifiers (Indonesian shows identical patterns, too). Palu'e and Samoan are also Austronesian, but much more distantly related, and they display quite variant patterns of quantifier restriction.

4.1 Tukang Besi

Tukang Besi (Donohue 1999a) has a pronominal voice system, in which the selection of subject is monitored by the selection of pronominal agreement on the verb. The floated quantifier construction involves the universal quantifier *saba'ane* 'all' in a position inside the V' (the placement is testable by constraints on adverb placement). In these sentences the nominal that is the restriction of the quantifier is presented in bold. A monovalent clause allows a floated quantifier. In the sentences below the restriction of the floated quantifier can only be interpreted as being the S, and not the oblique argument.

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[3]   An avenue that might lead to an explanation of this lies in the unusual P-like behaviour of locatives when they are coded preverbally (Donohue 2002).

[4]   Shlonsky (1991) presents data from Hebrew that are, at least as far as verbal clauses go, compatible with the V' or V^0 level analysis and restriction presented here.

Floated quantifier referring to an S

(32)   [QUANT Saba'ane] no-hena'u=mo   [**na   amai**] i   wunua=no.
              all   3R-descend=PF   NOM 3PL   OBL   house=3GEN
       'They all went down to their houses.'
       * 'They went down to all of their houses.'

In a bivalent clause with no pronominal marking for the P on the verb the floated quantifier will be restricted to the A.

Floated quantifier referring to an A

(33)   [QUANT   Saba'ane] no-lemba   te   kaluku   [**na   amai**].
                 all   3R-carry   CORE   coconut   NOM 3PL
       'All of them carried coconuts.'
       * 'They carried all of the coconuts.'

It is possible for a floated quantifier to refer to a P. A quantifier floated from the NP when the P is coded as nominative, as in (34), can only refer to the P:

Floated quantifier referring to a P

(34)   [QUANT Saba'ane] no-lemba='e   [**na   kaluku**]   te   amai.
              all   3R-carry=3P   NOM coconut   CORE   3PL
       'They carried all of the coconuts.'
       * 'All of them carried coconuts.'

Floated quantifiers refer to the syntactically **nominative** argument in a clause, regardless of its status as A, S or P. Thus the 'nominative' status of an argument of a multivalent verb is independent of its syntactic role, and while it can be predicted from the morphology on the verb, that too is not (usually) predictable from the lexicon. The label 'nominative', as used to describe the restriction of a floated quantifier, does not simply refer to a morphological case, but rather refers to the grammatical function 'subject'. Keeping in mind cautions about patterns of ellipsis in texts (Kroeger 1993), it is worth noting that the preferred controller and target of zero-anaphora in texts is also the nominative argument.

4.2 Tagalog

A quantifier attached to the verb can only be construed as referring to the nominative argument, regardless of its syntactic role.

(35)   H[**um**]uli=ng   lahat   ng mga bata   **ang mga ina**.
       catch.AV=LNKR   all   GEN PL child   NOM PL mother
       'All the mothers caught the children.'
       * 'The mothers caught all of the children.'

(36)   H[**in**]uli=ng   lahat   ng mga ina   **ang mga bata**.
       catch.PV=LNKR   all   GEN PL mother   NOM PL child
       'The mothers caught all the children.'
       * 'All the mothers caught the children.'

(37)   T[**um**]akbo=ng   lahat   **ang mga bata**   (sa bahay).
      run.AV=LNKR   all   NOM PL child   DAT house
      'All the children ran (to the houses).'
      * 'The children ran to all of the houses.'

Despite the many properties that are associated with the nominative argument (such as relative clause formation, and others – see Kroeger (1993), some constructions, most notably 'want'-type complements, refer to an S,A pivot.

4.3 Palu'e

There are two floated quantifier constructions in Palu'e. The universal quantifier in Palu'e may appear in a clause final position. When a monovalent clause appears with a clause-final quantifier, the quantifier *teti.ːón* 'all' can only be interpreted as being restricted to the S of the clause.

(38)   Aku   ari=gu   nodo   tetiʔón.
      1SG   younger.sibling=1GEN   sit   all
      'All of my younger brothers and sisters are sitting down.'

Even when there is an oblique closer to the quantifier than the subject, the quantifier cannot be interpreted as being restricted to the oblique.

(39)   Konen   pana   le   nua   tetiʔón.
      3PL   go   PREP   village   all
      'All of them went to the village(s).'
      * 'They went to all of the villages.'

Floated quantifiers are also found with bivalent verbs; in this case the restriction of the quantifier is potentially ambiguous, as the quantifier can be interpreted as being restricted to either of the core arguments.

(40)   Konen   bere   somu   tetiʔón.
      3PL   chop   garlic   all
      'They chopped all of the garlic.' ~
      'All of them chopped the garlic'

It is notable that in bivalent clauses the quantifier cannot be interpreted as being restricted to an oblique nominal; only the core arguments of the clause are eligible.

(41)   Konen   bere   somu   noʔo   kti tetiʔón.
      3PL   chop   garlic   with   knife   all
      'All of them chopped the garlic with knives.'   *OR*
      'They chopped all of the garlic with knives.'
      * 'they chopped the garlic with all the knives'

Expressing universal quantification is possible with other (non-core) arguments, but in these cases the verb has an extra cliticised unit, *naba*, and the nominal to which the quantifier is restricted must be reduplicated. If either the reduplication or the clitic *naba* are omitted, then the clause is ungrammatical; if both are omitted, then the only possible interpretation of the restriction of the quantifier is to a core argument of the clause. These possibilities (and impossibilities) are shown in (42) - (45).

(42) Konen   vaʔa   pana=naba   le   nata-nata   tetiʔón.
      3PL   that   go=all   PREP village-RED   all
      'They went to all the villages.'
      * 'all of them went to the villages'

(43) * konen vaʔa pana naba le nata tetiʔón

(44) * konen vaʔa pana le nata-nata tetiʔón

(45) Konen   vaʔa   pana   le   nata   tetiʔón.
      3PL   that   go   PREP village   all
      'They all went to the villages.'
      * 'they went to all of the villages'

This =*naba* (RED-) construction may also be used with a bivalent clause, in which case the floated quantifier is unambiguously restricted to the P, not the A (in monovalent clauses the floated quantifier can only refer to an oblique, never the S, regardless of its semantic type).

(46) Konen   vaʔa   ka=naba   keʔo-keʔo   tetiʔón.
      3PL   that   eat=all   corn-RED   all
      'They ate all the corn.'
      * 'all of them ate the corn'

While the simple *tetiʔón* construction is restricted to core arguments, as opposed to obliques, the =*naba* (RED-) *tetiʔón* is differently restricted to any arguments, core or non-core, other than an S or an A. This data shows that in the P A V construction the only possible interpretation of the P argument is that it is core, and behaves in a similar way to the S or A of the other clause types. On the other hand, the A cannot be interpreted as a core argument, and shows similar behaviour to the non-S,A arguments of other clause types.

4.4 Samoan

Samoan is another example of a language that allows floated quantifiers, but which does not necessarily refer to specific groupings of core arguments for interpretation purposes. The quantifier *'uma* may appear immediately following the verb, in which case it can only be interpreted as being restricted to a postverbal P, or any S (examples from Mosel and Hovdhaugen 713-714).

(47) E   iloa   uma   lava   e   Seu   pese.
      GENR   know   all   EMPH   ERG   Seu   song
      'Seu knows all songs.'

(48) 'Ua   latou   ō   'uma   'i   Sāmoa.
      PERF   3PL   go.PL   all   LD   Samoa
      'They have all gone to Samoa.'

With the preverbal *taufai*, there are no restrictions: A, S and P can all be the restriction (and note that it occurs with *'uma* as well).

(49) 'O   tagata   'uma   sā   taufai tuli   le   pua'a.
      PRES   person   all   PAST   all   chase ART   pig
      'All people chased the pig.'

(50) E   tutusa sua   e   tanu   uma   i   le   palapala …
      GENR   equal   because   GENR   bury   all   LD ART   earth

      Ae   tau fai ola,   e   tau fai oti,
      but   all   live   GENR   all   die

      e   tau fai tanu   toi   i   suo   palapala.
      GENR   all   bury   also   LD shovel   dirty
      'They are all equal, because they are all buried in the earth … All of
      them live, all of them die, all of them are buried with dirty shovels.'

Samoa shows that it is possible for a language to show different behaviours for different quantifier constructions. The *'uma* pivot behaves as would be expected for a V'-level quantifier. The *taufai* quantifier is unrestrained in terms of core argument restrictions.

5. Summary

Different languages either allow or do not allow floated quantifiers; this is simply a language-specific parameter. If the restriction of a floated quantifier is constrained, the primary constraint seems to be to limit the restriction to one or another groupings of core arguments, thus implying a grammatical functions-based analysis of the phenomenon. In the group of core arguments, there are two polar tendencies for the identity of the restriction, an S,A group and an S,P group. These groupings can be correlated with different structural positions.

Table 1. Restrictions of floated quantifiers seen here

	Position?	A	S	P	others
English	VP				
Mandarin	VP				TOP
Japanese	V'				
Saweru	V'				
Skou	V'				TOP
Warembori	V⁰				
Tukang Besi	V'				SUBJ
Tagalog	V'				SUBJ
Palu'e I	VP				
II	IP, V				OBL
Samoan I	IP				
II	IP				

Other phenomena that have been reported as being restricted, morphosyntactically, to an S,P grouping (often, but not always, restricted to unaccusative Ss) include the presence and use of verb forms that are suppletive for number of one of the arguments, eligibility for noun incorporation, and (less convincingly) 'ambitransitivity', where a single lexical verb can have both monovalent and bivalent uses (such as 'break', 'boil', or 'drop' in English, in which the theme/patient may be coded as either an S or a P). All of these constructions,

we can note, involve direct constituency with verbs: the floated quantifier data cited above all involve some sort of constituency with a V (the case for Warembori) or a V' (in Cree and some other languages not discussed here), and the other properties listed above are overtly based on the verbal lexicon. The tendency described here for these properties to show an S,P pivot may simply reflect universal constraints about the way arguments link with their verbs, and their phrase-structural encoding. Similarly the S,A tendency for VP-level quantification is also unexceptional if we assume a reasonably uncontroversial X' model of phrase structure.

The fact, though, that some languages display restrictions that are contraindicated by the generalisations here shows that the restriction of floated quantifiers is not a universal setting, but a parameter that is sensitive to language-specific pivot selection. We can use floated quantifier restrictions as a test for pivothood, after first checking whether it falls into one of the unexceptional default groups.

The implications for a model in which structure assigns grammatical functions are somewhat surprising: there are exactly no implications, since the evidence is that, while there are some associations between the structural position of a floated quantifier and the restriction that it shows, these are universal restrictions, and so do not bear on the notion of grammatical functions as defined for a particular language. One might initially think that this data supports a model of structurally-assigned grammatical functions, but in fact it supports the idea of structurally-related norms for a constructional pivot: the fact that many languages successfully override these norms shows that the structural position alone is not enough to specify the pivot.

An obvious next step in a cross-linguistic survey of the behaviour of floated quantifiers would be to investigate the behaviour of ditransitives and V'-level floated quantifiers. Due to the appalling paucity of published data that adequately addresses these issues, this has not been attempted here.

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