A TALE OF TWO TAQS:
AN OT-LFG ACCOUNT OF
PLURALS AND DISTRIBUTIVES
IN K'ICHEE' MAYAN

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Abstract

This paper investigates the distributive pluralizer *taq* (PL) of K'ichee' Mayan. As a nominal pluralizer, the non-bound morpheme *taq* barely registers in the Mayanist literature, while the distributive *taq* (DISTR) is virtually non-existent. Semantically the distributive pluralizer *taq* pluralizes nominals that are ambiguous between collective and distributive readings. Morphosyntactically the distributive pluralizer *taq* is a phrasal particle that (left) adjoins to string-adjacent constituents. This contrasts with the morphosyntax of the distributive *taq* that I argue elsewhere is a non-projecting particle that (right) head-adjoins to verbs only. Using Optimality Theoretic Lexical-Functional Grammar (OT-LFG), the complex phrasal distribution of the distributive pluralizer *taq*, which is unaccountable using phrase-structure rules alone, can be straightforwardly modeled using a modest number of universal constraints.

This paper investigates the distributive pluralizer *taq* (PL) of K'ichee' Mayan.[1,2] While little has been said about the non-bound morpheme *taq* as a nominal pluralizer in the grammars and dictionaries of the K'ichee'an language family, virtually nothing has been said about its use as a distributive (DISTR).[3]

The only substantive description of the morpheme *taq* is in Willson (2004, 2005), where it is interpreted as a distributive and a pluralizer. As a distributive, *taq* associates with verbs. As a pluralizer, *taq* follows adjectives, possessed nouns, relational nouns, prepositions, and 'splits' compound nouns. Judgment is reserved about whether *taq* is one morpheme with two uses, or two morphemes each with its own use. As for word type, Willson provisionally interprets *taq* as a clitic.

Employing a variety of data and linguistic constructions, I demonstrate conventional use of the distributive pluralizer *taq* and show the categories of words that it associates with and the positions that it occupies in the phrase. As a nominal pluralizer (PL), I indicate that *taq* is used with *wh*-interrogatives, NPs, (possessive) DPs, relational nouns, QPs, PPs, and non-verbal predicates. I propose that the distributive pluralizer *taq* pluralizes nominals that are semantically ambiguous between collective and distributive readings. I argue that the distributive pluralizer *taq* is a phrasal particle that (left) adjoins to string-adjacent constituents.

[†] I wish to thank George Aaron Broadwell for his assistance, and Ronald Kaplan and Michael Wescoat for their helpful comments. I am greatly indebted to my K'ichee' Maya consultants, in particular Felipe and Juan Barreno García of Totonìcapán, Guatemala. All the usual disclaimers apply.

[1] All K'ichee' data are from the author's field work, except (36). First, second, third person = 1, 2, 3, absolutive agreement marker = ABS, animate pluralizer (*ee*) = PLU, antipassive = AP, completive = COM, determiner = D(ET), distributive (*taq*) = DISTR, distributive pluralizer (*taq*) = PL, ergative agreement marker = ERG, incompletive aspect = INC, independent pronoun = PRO, interrogative = INT, irrealis = IRR, negative = NEG, nominalizing suffix = NOM, particle = PT, possessive = POS, transitive/intransitive phrase final marker = T/IPF, plural = -PL, preposition = P(REP), singular = S.

[2] The distributive *taq* (DISTR) is not fully addressed in this paper due to space considerations. I propose elsewhere that the distributive *taq* (DISTR) is a non-projecting word, that it right head-adjoins to verbal predicates only, and that its semantics is representative of distributives cross-linguistically. The paper's title reflects my hypothesis that the non-bound morpheme *taq* actually represents two words, that, although homophonous, differ in terms of semantics, word type, distribution, and syntax.

[3] The exception is: *'partícula que sirve para distribuir el efecto de un verbo, adjetivo, o preposición a las varias entidades de un sustantivo plural'* from García Hernández and Yac Sam (1980:144).

The complex phrasal distribution of the distributive pluralizer *taq*, which is un-accountable using phrase-structure rules alone, can be straightforwardly modeled using Optimality Theoretic Lexical-Functional Grammar (OT-LFG) (Bresnan 2000, *et al.*) and a modest number of universal constraints. Data on the distributive pluralizer *taq* is shown in section 1, and the OT-LFG analysis in section 2.[4]

1 K'ichee' data

Nominals Inanimate entities, like *lee leej* 'the tortilla(s),' are ambiguous between singular and plural readings. Structurally the distributive pluralizer *taq* in (1) cannot precede the determiner of the DP, nor can it be placed inside the DP, between the determiner and the head noun. The distributive pluralizer *taq* cannot immediately follow the noun that it pluralizes and, at the same time, be phrase-final:

(1)   Lee leej   ***Taq** lee leej   *Lee **taq** leej   *Lee leej   **taq**
      DET tortilla   PL DET tortilla   DET PL tortilla   DET tortilla PL
      'The tortilla(s)' ('The tortillas')   ('The tortillas')   ('The tortillas')

Negation The negation of a singular and a plural bare NP is shown in (2). The negation word *ma* 'no' and the non-projecting irrealis word *ta(j)* (IRR) typically frame the negated constituent. The distributive pluralizer *taq* cannot be negated:

(2)   Ma leej   taj   ***Taq** leej   taj   *Ma **taq** leej   taj   *Ma **taq** taj
      NEG tortilla IRR   PL tortilla IRR   NEG PL tortilla IRR   NEG PL IRR
      'No tortilla'   ('No tortillas')   ('No tortillas')   ('No (PL)')

Attributive adjectives In a DP with an attributive adjective pre-head modifier, as in (3), the distributive pluralizer *taq* must follow the adjective:

(3)   a.   Lee **q'an-a**   leej   Lee q'an-a   **taq** leej
           DET yellow-ATT tortilla   DET yellow-ATT PL tortilla
           'The yellow tortilla'   'The yellow tortillas'
      b. *Lee **taq** q'an-a   leej   *Lee q'an-a   leej   **taq**
           DET PL yellow-ATT tortilla   DET yellow-ATT tortilla PL
           ('The yellow tortillas')   ('The yellow tortillas')

The distributive pluralizer *taq* in (4a) follows the first adjective *nim* 'big.' Following the second adjective *q'eq* 'black' in (4b) is not preferred. Although not ungrammatical, using *taq* after multiple attributive adjectives is always avoided (4b). The overwhelming preference, then, is for the distributive pluralizer *taq* to follow the left-most attributive adjective, and to be used once per clause:

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[4] K'ichee' Mayan is an ergative, pro-drop, head-marking language that marks agreement on the finite verb with ergative and absolutive agreement markers. Possessed nouns (POSM) agree in person and number with their possessors (POS). Complex prepositions agree in person and number with their object complements. I argue that canonical (unmarked) word order is $[_S\ V^0\ XP*]$.

(4) a. Lee **nim**-a **q'eq**-a ab'aj   Lee nim-aq **taq** q'eq-a ab'aj
         DET big-ATT black-ATT rock   DET big-PL PL black-ATT rock
         'The big black rock'   'The big black rocks'

     b. ?Lee nim-aq q'eq-a **taq** ab'aj Lee nim-aq **taq** q'eq-a **taq** ab'aj
         D big-PL black-ATT PL rock   D big-PL PL black-AT PL rock
         'The big black rocks'   'The big black rocks'

Numerals   A DP modified by a cardinal cannot be pluralized with the distributive pluralizer *taq* (5). If used with a distributive pluralizer, cardinals could be confused with a distributive numeral, for example, *jo'taq* 'by fives, five-by-five':

(5) Lee **jo'-ob'** ab'aj   *Lee jo'-ob' **taq** ab'aj   *Lee **taq** jo'-ob' ab'aj
     DET five-PL rock   DET five-PL PL rock   DET PL five-PL rock
     'The five rocks'   ('The five rocks')   ('The five rocks')

Possessives – morphological   The noun *ja'* 'water' in (6) is possessed by the inanimate noun *tinamit* 'town,' and *me's* 'cat' by the animate noun *ak'aal* 'child':

(6) Lee **u**-ja'   lee tinamit   Lee **u**-me's   lee ak'aal
     DET 3SPOS-water DET town   DET 3SPOS-cat DET child
     'The town's water'   'The child's cat'

The data in (7), with and without the distributive pluralizer *taq*, are the pluralized forms of the singular inanimate possessor nominal *tinamiit* 'town' from (6). These data show that the two possessive phrases are semantically identical:

(7) Lee u-ja'   **taq** lee tinamit   Lee **ki**-ja'   lee tinamit
     DET 3SPOS-water PL DET town   DET 3PLPOS-water DET town
     'The towns' water'   'The towns' water'

The data in (8–9) are the pluralized forms of the singular animate possessor *ak'aal* in (6). The morphological plural form using plural agreement *ki-* without the distributive pluralizer *taq* is shown in (8). Because the animate possessor is morphologically marked as plural, the possessed noun must agree in number. Nominals without morphological plurals do not automatically trigger number agreement. Because the two phrases in (8) are semantically equivalent, it follows that no exclusive distributive reading exists using the distributive pluralizer *taq* with plural nominals:

(8) Lee **ki**-me's   lee ee ak'al-**aab'** Lee ki-me's **taq** lee ee ak'al-aab'
     DET 3PLPOS-cat D PLU child-PL   DET 3PLPOS PL D PLU child-PL
     'The children's cat'   'The children's cat'

Although the distributive pluralizer *taq* can also be used in data with plural agreement, such as in (7–8), there appears to be a distinct preference against this by my consultants. Agreement on the possessed nouns in (9) is a mismatch:

(9) *Lee **u**-me's   lee ee ak'al-**aab'** *Lee **u**-me's taq lee ee   ak'al-**aab'**
     DET 3SPOS-cat DET PLU child-PL   DET 3SPOS PL D PLU child-PL
     ('The children's cat')   ('The children's cat')

Possessives – lexical   An alternate method for indicating possession exists using the inflecting relational noun *–ee(ch)* 'of, possession.' The distributive pluralizer *taq* in (10b) follows the relational noun *ree* 'of (it)' to pluralize its possessor DP *lee tinamit* 'the towns.' When the unpossessed noun *lee ee tz'i'* 'the dogs' in (10c) is immediately followed by the distributive pluralizer *taq* and then a PP, the use of *taq* to pluralize the PP's complement DP *lee tinamit* 'the town' is not permitted:

(10)   a.   Lee ee tz'i' **r-ee**   lee tinamit
            DET PLU dog 3SPOS-Poss DET town
            'The town's dogs / The dogs of the town'
       b.   Lee ee tz'i' r-ee   **taq** lee tinamit
            DET PLU dog 3SPOS-Poss PL   DET town
            'The towns' dogs / The dogs of the towns'
       c.   *Lee ee   tz'i' **taq** r-ee   lee tinamit
            DET PLU dog PL 3SPOS-Poss DET town
            ('The towns' dogs / The dogs of the towns')

If the distributive pluralizer *taq* follows an unpossessed DP and is itself then followed by a PP, *taq* cannot be used to pluralize the PP's DP complement (11c):

(11)   a.   Ee   k'oo k'a'n-a   tz'i' **pa** lee tinamit
            3PLABS exist mean-ATT dog PREP DET town
            'There are mean dogs in the town.'
       b.   Ee   k'oo k'a'n-a   tz'i' pa   **taq** lee tinamit
            3PLABS exist mean-ATT dog PREP PL   DET town
            'There are mean dogs in the towns.'
       c.   *Ee   k'oo k'a'n-a   tz'i' **taq** pa   lee tinamit
            3PLABS exist mean-ATT dog PL   PREP DET town
            ('There are mean dogs in the town(s).')

Phrasal compounds   The distributive pluralizer *taq* can pluralize phrasal compounds. The latter consist of two separate words that act as a single lexical unit. The phrasal compounds in (12a) are inanimate [Adjective Noun] and animate [Noun Noun]. The pluralized versions of the inanimate and animate phrasal compounds are shown in (12b). The *only* position the distributive pluralizer *taq* can occupy in (12) is preceding the second noun of the phrasal compound:

(12)   a.   K'im-a   jaa   Lee ati't   ak'
            thatch-ATT house   DET female chicken
            'Thatched house'   'The hen (La gallina)'

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b.　K'im-a　　**taq** jaa　　　　Lee ee　ati't-ab'　**taq** ak'
　　thatch-ATT PL　house　　　DET PLU female-PL PL　chicken
　　'Thatched houses'　　　　　'The hens (Las gallinas)'

Consider a DP headed by an adjective-noun [A N] phrasal compound with a cardinal and attributive adjective. The attributive marker *–a* on the pre-head word *k'im* in (13b) indicates that the word *k'im* is a modifying adjective, and that, lexically, it is part of the phrasal compound *k'ima jaa* 'thatched house.' The distributive pluralizer *taq* follows the attributive adjective *niitz'* in (13a) and the adjective *k'im* in (13b). The alternation indicates ideolectical or dialectical microvariation:

(13)　a.　Lee niitz' k'im-a　　jaa　　Lee jo'ob' niitz' k'im-a　　**taq** jaa
　　　　　D　little thatch-ATT house　D　five　little thatch-ATT PL　house
　　　　　'The little thatched house'　'The five little thatched houses'

　　　b.　Lee jo'-ob' niitz' **taq** k'im-a　　jaa
　　　　　DET five-PL little　PL　thatch-ATT house
　　　　　'The five little thatched houses'

　　　c.　??Lee jo'-ob' niitz' **taq** k'im-a　　**taq** jaa
　　　　　DET five-PL little　PL　thatch-ATT PL　house
　　　　　('The five little thatched houses')

Prepositional phrases　　The complex preposition *puwi'* 'above' in the second part of (14) agrees in number and person with the preposition's morphologically singular (but semantically plural) DP complement *lee chee'* 'the tree':[5]

(14)　P-u-wi'　　　　lee　chee'　　P-u-wi'　　　　**taq** lee　chee'
　　　PREP-3SPOS-head DET tree　　PREP-3SPOS-head PL　DET tree
　　　'Above the tree.'　　　　　'Above the trees.'

The distributive pluralizer *taq* cannot 'split' a PP's unmodified DP complement:

(15)　*P-u-wi'　　　　lee　**taq** chee'　*Pa-ki-wi'　　　　lee　**taq** chee'
　　　PREP-3SPOS-head DET PL　tree　PREP-3PLPOS-head DET PL　tree
　　　('Above the trees.')　　　　('Above the trees.')

If a pre-head attributive adjective modifies the head noun of the PP's DP complement, the distributive pluralizer *taq* must follow the DP's attributive adjective:[6]

(16)　a.　P-u-wi'　　　　lee　rax-a　　**taq** chee'
　　　　　PREP-3SPOS-head DET green-ATT PL　tree
　　　　　'Above the green trees.'

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[5] Willson (2004) first demonstrated the interrelationship of the distributive pluralizer *taq* and attributive adjectives in the DP complements of prepositional phrases.

[6] To indicate plurality in complements, speakers mildly prefer the singular form of the prefixed agreement maker in conjunction with the distributive pluralizer *taq*, rather than the plural paradigm of agreement markers with or without the distributive pluralizer *taq*.

b. Pa-ki-wi' lee rax-a **taq** chee'
PREP-3PLPOS-head DET green-ATT PL tree
'Above the green trees.'

When an attributive adjective modifies the nominal head of the DP complement, the distributive pluralizer *taq* cannot immediately follow the preposition (17):[7]

(17) a. *P-u-wi' **taq** lee rax-a chee'
PREP-3SPOS-head PL DET green-ATT tree
('Above the green trees.')
b. *Pa-ki-wi' **taq** lee rax-a chee'
PREP-3PLPOS-head PL DET green-ATT tree
('Above the green trees.')

If a cardinal quantifies the head noun of a DP complement, the distributive pluralizer must follow the preposition (18b), not the cardinal (18c):

(18) a. Ch-u-paam **taq** lee tinamit
PREP-3SPOS-stomach PL DET town
'Inside the towns.'
b. Ch-u-paam (**taq**) lee ox-ib' tinamit
PREP-3SPOS-stomach PL DET three-PL town
'Inside the three towns.'
c. ??Ch-u-paam lee ox-ib' **taq** tinamit
PREP-3SPOS-stomach DET three-PL PL town
('Inside the three towns.')

If a cardinal is followed by a pre-head attributive adjective, the distributive pluralizer *taq* follows the adjective, not the cardinal (19a). Clearly plural cardinals do not behave like attributive adjectives. In the configuration of pre-head modifiers in (19c), the distributive pluralizer *taq* cannot follow the preposition:

(19) a. Ch-u-paam lee ox-ib' alaj **taq** tinamit
PREP-3SPOS-stomach DET three-PL little PL town
'Inside the three small towns.'
b. ??Ch-u-paam lee ox-ib' **taq** alaj tinamit
PREP-3SPOS-stomach DET three-PL PL little town
('Inside the three small towns.')
c. *Ch-u-paam **taq** lee ox-ib' alaj tinamit
PREP-3SPOS-stomach PL DET three-PL little town
('Inside the three small towns.')

The restriction on the pluralization of cardinals by *taq* might be due to possible confusion with distributive numerals, like *waqitaq* 'six by six,' for example (20):

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[7] Although it is possible for the distributive pluralizer *taq* to follow both the preposition and the attributive adjective of the PP's DP complement at the same time, the multiple use of *taq* in this manner is grammatical but never used.

(20) Waq-iib'   *Waq-ib' **taq**   Waq-i-**taq**
      six-PL   six-PL   PL   six-ATT-DISTR
      'Six'   ('Six')   'By sixes, six by six'

Phrasal compound DP complement   When the preposition's DP complement is a phrasal compound, pluralization is somewhat more involved. The phrasal compound, *tiox jaa* 'church' consists of two juxtaposed nominal heads, *tiox* 'Dios' and *jaa* 'house.' The distributive pluralizer *taq* in (21a) follows the PP's (prepositional) head. Pluralizing the phrasal compound *tiox jaa* 'church' in (21b) with the distributive pluralizer *taq* is questionable at best:[8]

(21) a. Ch-u-wach   lee tiox jaa   Ch-u-wach   **taq** lee tiox jaa
          PREP-3SPOS-face D god house   P-3SPOS-face PL D god house
          'In front of the church.'   'In front of the churches.'
      b. ??Ch-u-wach   lee tiox **taq** jaa
          PREP-3SPOS-face DET god PL house
          'In front of the churches.'
      c. Ch-u-wach   **taq** lee tiox **taq** jaa
          PREP-3SPOS-face PL DET god PL house
          'In front of the churches.'

If an attributive adjective is used as a DP complement's pre-head modifier, the adjective seems to strongly 'attract' the distributive pluralizer *taq*. The pluralizer *taq* in (22b) directly follows the attributive adjective *q'el* 'old.' The pluralization of the phrasal compound in (22c) by the distributive pluralizer *taq* is not preferred. Alternatively when the attributive adjective in (22e) modifies the phrasal compound, the distributive pluralizer *taq* is not permitted to follow the preposition *chuwach*:

(22) a.   Ch-u-wach   lee q'el-a   tiox jaa
           PREP-3SPOS-face DET old-ATT god house
           'In front of the old church.'
      b.   Ch-u-wach   lee q'el-a   **taq** tiox jaa
           PREP-3SPOS-face DET old-ATT PL god house
           'In front of the old churches.'
      c. ?Ch-u-wach   lee q'el-a   tiox **taq** jaa
           PREP-3SPOS-face DET old-ATT god PL house
           'In front of the old churches.'
      d. ??Ch-u-wach   lee q'el-a   **taq** tiox **taq** jaa
           PREP-3SPOS-face DET old-ATT PL god PL house
           'In front of the old churches.'
      e. *Ch-u-wach   **taq** lee q'el-a   tiox jaa
           PREP-3SPOS-face PL DET old-ATT god house
           ('In front of the old churches.')

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[8] The distributive pluralizer *taq* can follow the preposition and be used in the phrasal compound at the same time but the usual warnings against multiple uses of *taq* apply (21c).

Interrogatives   Interrogative operators can be pluralized in two ways. When referencing an animate argument, an interrogative can be pluralized with the animate pluralizer *ee*, and the distributive pluralizer *taq* optionally (23a). An interrogative can also be pluralized with the distributive pluralizer *taq* alone, particularly when the operator references an inanimate entity (23b):[9]

(23)   a.   Ee   jachin (**taq**) k-ee-b'ii-n   la'   ch-aw-ee?
            PLU INT   PL   INC-3PLABS-say-AF DEM PREP-2SPOS-Poss
            'Who (PL) said that to you?'
       b.   Jachin **taq** k-ee-b'an-ow   la'   ch-k-ee?
            INT   PL   INC-3PLABS-make-AF DEM PREP-3PLPOS-Poss
            'What (PL) did that to them?'

Ambiguity of plural descriptives   I argue that standard plural nominals in K'i-chee' are semantically ambiguous between collective and distributive readings. DP complements pluralized with the distributive pluralizer *taq* are not interpreted as having exclusive distributive readings. Both collective and distributive readings remain available, but the collective reading is the default.

The PP in (24) with a plural DP complement has at least two interpretations; a collective reading, which is the default (24a), and a distributive reading (24b):

(24)   Pa   **taq** lee juyub'
       PREP PL   DET mountain
       a.   'In all of the mountains.'   (Collective reading)
       b.   'In each of the mountains.'   (Distributive reading)

Temporal events can be expressed with PPs. Because of the use of the distributive pluralizer *taq*, the PPs in (25) appear to have a distinctly distributive reading:

(25)   Pa   saq'iij   Pa   **taq** saq'iij   Pa   martes   Pa   **taq** martes
       PREP summer   PREP PL   summer   PREP T.   PREP PL   T.
       'In summer.'   'Every summer.'   'On Tuesday.' 'Every Tuesday.'

When used following prepositions, *taq* is typically a pluralizer with a collective reading. Yet in (25) the distributive reading seems more appropriate. The data support my contention that plural nominals in K'ichee' are semantically ambiguous between collective (default) and distributive (marked) readings.

Non-verbal predicates   The distributive pluralizer *taq* is also used in non-verbal predicates, which can provide additional insight about the morpheme *taq*. Let us consider in particular the pluralization of subjects and the hosting of the pluralizer.

Subject pluralization   The glosses in (26b) indicate clearly that the subject nominals of the non-verbal predicates are targeted for pluralization by the distributive

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[9] Note: *jachina'q* 'who (PL) (phrase-final)' < *jachin taq* 'who (PL)' (non-phrase-final)

pluralizer *taq*. In this form of clausal arrangement, the distributive pluralizer *taq* cannot be used 'inside' the subject nominal in order to pluralize it (26c):

(26) a. Saq lee jaa   Q'or lee ala
            white DET house   lazy DET boy
            'The house is white.'   'The boy is lazy.'

      b. Saq **taq** lee jaa   Ee   q'or-ib' **taq** lee alab'oom
            white PL DET house   3PLABS lazy-PL PL DET boy:PL
            'The houses are white.'   'The boys are lazy.'

      c. *Saq lee **taq** jaa   *Ee   q'or-ib' lee **taq** alab'oom
            white DET PL house   3PLABS lazy-PL DET PL boy:PL
            ('The houses are white.')   ('The boys are lazy.')

Contrarily if an attributive adjective modifies the head noun as in (27), the distributive pluralizer *taq* must immediately follow the attributive adjective:

(27)   Saq lee q'el-a-laj   **taq** jaa   Ee   q'or-ib' lee alaj **taq** alab'oom
         white D old-ATT-INT PL house 3PLA lazy-PL D small PL boy:PL
         'The very old houses are white.'   'The small boys are lazy.'

And if the distributive pluralizer *taq* instead follows the predicative adjective and not the attributive adjective, the clause is ungrammatical (28):[10]

(28)   *Saq **taq** lee q'el-a jaa   *Ee   q'or-ib' **taq** lee alaj alab'oom
         white PL DET old-ATT house 3PLA lazy-PL PL DET small boy:PL
         ('The old houses are white.')   ('The small boys are lazy.')

Pluralization in the non-verbal predicates using the distributive pluralizer *taq* is syntactically similar to pluralization in PPs and QPs. But the distributive pluralizer *taq* is not a distributive in non-verbal predicates because the latter are not verbs. Rather non-verbals are non-eventives, non-dynamic statives that can never distribute over sorting keys as distributive shares.

Pluralizer host   The data in (29) illustrate that the distributive pluralizer *taq* in (29a) precedes the plural subject DP *lee tz'i'* 'the dogs,' but does not precede it in (29b). In the former, *lee tz'i'* follows the predicate as grammatical subject, whereas, in the latter, *lee tz'i'* is in sentence-initial position, in this case as external topic. Crucially the distributive pluralizer *taq* in (29b) remains *in situ* when the subject DP extracts to external topic position. Example (29) includes the antipassive voiced verb *keeti'onik* 'they bite' used here as a restrictive relative clause:

(29)   a. Ee   k'a'n taq **lee** **tz'i'** k-ee-ti'o-n-ik
           3PLABS mean PL DET dog INC-3PLABS-bite-AP-IPF
           'The dogs that bite are mean.'

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[10] It is possible to use the distributive pluralizer *taq* in both places at the same time, but repetition of the distributive pluralizer almost always never occurs.

b. **Lee tz'i'** ee   k'a'n taq k-ee-ti'o-n-ik
   DET dog 3PLABS mean PL INC-3PLABS-bite-AP-IPF
   'The dogs that bite are mean.'

The distributive pluralizer *taq* cannot extract with the subject it pluralizes to sentence-initial position (30a). Even if the extracted subject in (30b) is not sentence-initial, the sentence is ill-formed. If the distributive pluralizer *taq* extracts along with the subject, the sentence is ill-formed (30c). It is obvious from (29-30) that the pluralizer *taq* does not necessarily attach to the DP that it pluralizes:

(30) a. ***Taq lee   tz'i'** ee   k'a'n k-ee-ti'o-n-ik
         PL   DET dog 3PLABS mean INC-3PLABS-bite-AP-IPF
         ('The dogs that bite are mean.')
      b. *Ojeer **taq lee   tz'i'** ee   k'a'n k-ee-ti'o-n-ik
         before PL   DET dog 3PLABS mean INC-3PLABS-bite-AP-IPF
         ('In the past, the dogs that bite were mean.')
      c. *Ojeer **lee   tz'i' taq** ee   k'a'n k-ee-ti'o-n-ik
         before DET dog PL 3PLABS mean INC-3PLABS-bite-AP-IPF
         ('In the past the dogs that bite were mean.')

Non-projecting word or phrase?   The category and word type of the distributive pluralizer *taq* have not yet been established. I argue elsewhere that the distributive *taq* (DISTR), used exclusively in verbal predicates, is a non-projecting word. So is the distributive pluralizer *taq* also a non-projecting word? Let us first consider a DP with a coordinated attributive adjectival modifier. As we know, the distributive pluralizer *taq* preferentially follows the left-most pre-head attributive adjective (4b). One could conclude that the distributive pluralizer *taq* would follow the left-most adjective in a coordinated phrase. This assumes that the pluralizer *taq* is a non-projecting word because it head-adjoins to its host, and as such, does not respect phrasal boundaries. Thus in a coordinated phrase, a non-projecting word would be predicted to follow the left-most adjective. Nonetheless it is clear that the distributive pluralizer *taq* in (31) follows the entire coordinated adjectival phrase *q'eqa chi'l saqa*, not the first attributive adjective *q'eqa* 'black.' Because a non-projecting word can penetrate the phrasal boundaries of any phrase, the distributive pluralizer *taq*, as a hypothesized non-projecting word, should be able to immediately follow the DP's left-most adjective, *q'eq* 'black.' But as (31c) demonstrates, it does not:

(31) a. Lee q'eq-a   chi'l saq-a   wakax
         DET black-ATT CONJ white-ATT cow
         'The black and white cow'
      b. Lee q'eq-a   chi'l saq-a   **taq** wakax
         DET black-ATT CONJ white-ATT PL cow
         'The black and white cows'
      c. *Lee q'eq-a   **taq** chi'l saq-a   wakax
         DET black-ATT PL CONJ white-ATT cow
         ('The black and white cows')

The non-projecting adverb *chi(k)* can precede or follow the head noun *kape*:[11]

(32) Jun q'eq-a **chi** kape   Jun q'eq-a   kape **chik**
      DET black-ATT again coffee   DET black-ATT coffee again
      'Another black coffee'   'Another black coffee'

I propose elsewhere that the non-projecting adverb *chik* and the distributive *taq* (DISTR) can order freely after the verb complex. If the distributive pluralizer *taq* were a non-projecting word like the non-projecting adverb *chik*, then the two words should similarly be able to order freely after the pre-head attributive adjective. The data in (33) clearly show that the two words do not order freely. This surprising result suggests that the distributive pluralizer *taq* may not be a non-projecting word:

(33) a. Jujun q'eq-a **taq** kape   Jujun q'eq-a   **taq** chi   kape
           DISTR black-ATT PL   coffee   DISTR black-ATT PL   again coffee
           'Some black coffees'   'Some more black coffees'
     b. Jujun q'eq-a **taq** kape chik   *Jujun q'eq-a chi   **taq** kape
           DISTR black-A PL   coffee again   DISTR black-A again PL   coffee
           'Some more black coffees'   ('Some more black coffees')

Let us consider PPs that include the distributive pluralizer *taq* and directionals. The distributive pluralizer *taq* is used to pluralize the PP's object complement (34b):

(34) a. Ee   k'oo lee kyeej pa   lee saq'umb'al
           3PLABS exist DET horse PREP DET field
           'The horses are in the field.'
     b. Ee   k'oo lee kyeej pa   **taq** lee saq'umb'al
           3PLABS exist DET horse PREP PL   DET field
           'The horses are in the fields.'

Directionals can be used in a PP immediately following the preposition (35a). But the distributive pluralizer *taq* and directional *aq'an* 'above' can not be used together following the preposition in a PP irrespective of their order (35b-c):[12]

(35) a. Ee   k'oo lee kyeej pa   **aq'an** lee saq'umb'al
           3PLABS exist DET horse PREP DIR   DET field
           'The horses are up above the field.'
     b. *Ee   k'oo lee kyeej pa   aq'an **taq** lee saq'umb'al
           3PLABS exist DET horse PREP DIR   PL   DET field
           ('The horses are up above the fields.')
     c. *Ee   k'oo lee kyeej pa   **taq** aq'an lee saq'umb'al
           3PLABS exist DET horse PREP PL   DIR   DET field
           ('The horses are up above the fields.')

---

[11] From its syntactic behaviour in nominals and at the edges of the verb complex, I suggest that the adverb *chi(k)* 'again, already' is a non-projecting word. When it is used in a nominal with the indefinite determiner *jun ∼ jujun*, the combination of the two means 'another (lit. one again).'

[12] In contrast, the distributive *taq* (DISTR) and the directionals, which I argue are non-projecting clitics, can together immediately follow a finite verb and can order freely with each other.

In addition, it is possible to gap the head of a PP whose object complement has been pluralized by the distributive pluralizer *taq*. The preposition in (36) following the conjunctive adverb *chuq(e)* 'also' in the sentence-final PP has been gapped:[13]

(36) Lee siink   aree   ka-chooman **taq** lee chaak pa   lee tinamit
      DET syndicate 3SPRO INC-organize DISTR DET work PREP DET town

      xuq pa   taq juyub', k'ayb'al, chuqe **taq** lee b'eh
      CONJ PREP PL aldea   market   CONJ PL DET road

      'El síndico, es él que arregla los trabajos en el pueblo, las aldeas, los
      mercados, y las carreteras (Ajpacajá Tum et al. 2005:361).'
       'The syndicate organizes every job in the town, and in the aldeas, markets,
      also the roadways.'[14]

Because the preposition has been elided in (36), the distributive pluralizer *taq* cannot head-adjoin to it. In sum, the data support the proposal that the distributive pluralizer *taq* is a phrase, not a non-projecting word. In that case, the distributive pluralizer *taq* adjoins to whichever constituent is right string-adjacent.[15]

2   The OT-LFG of the distributive pluralizer *taq*

In brief, I argue that the K'ichee' morpheme *taq* denotes two grammaticized concepts: plurality (PL) and distributivity (DISTR), and represents two word types: phrase and non-projecting word. To indicate the plurality of nominals, the phrase *taq* follows attributive adjectives, interrogatives, prepositions, non-numerical quantifiers, the heads of possessive constructions, and non-verbal predicates. Restrictions on the phrasal distribution of *taq* are substantial: *taq* can never be phrase-initial or phrase-final, can never follow determiners, cardinals, or unpossessed nouns, and can only follow a phrasal compound's initial word. Preferred usage of *taq* is one per clause. To indicate distributivity (DISTR), the non-projecting word *taq* immediately follows finite verbs only, freely ordering with other non-projecting words, like the adverb *chik* and the directionals, for example. As regards category, I suggest that both forms of *taq* are non-phonologically dependent particles.[16]

The lexical entries of the non-bound morpheme *taq* are shown in (37):

(37)   *taq* Pl^0 $(\uparrow \text{NUM}) = \{\text{DISTRIBUTIVE} \mid \text{PLURAL}\}$
       taq $\widehat{\text{Distr}}$ $(\uparrow \text{NUM}) = \text{DISTRIBUTIVE}$

Constraints   Phrase-structure rules are, of course, indispensable in that they license the phrasal organization of constituent categories. But unordered PS rules

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[13] The distributive *taq* (DISTR) follows the finite verb and distributes the verb (the distributive share) over the semantically plural nominal *lee chaak* 'every job' (the sorting key).

[14] My translation of the K'ichee', not the Spanish.

[15] Except for the *wh*-interrogative, in which case, the distributive pluralizer *taq* right-adjoins to it.

[16] See Toivonen (2003) for a definitive analysis of projecting & non-projecting clitics & particles.

account only for dominance relations of phrasal constituents, not their linear order. Some have proposed a limited set of generalized ordering rules to account for linear word order in the clause.[17] It has been suggested, however, that a more representative method of explaining linear word order can be captured using OT (Prince and Smolensky 1993) or OT-LFG (Bresnan 2000). Let us consider the constraints.

The constraint in (38a-b) penalizes the placement of the distributive pluralizer *taq* initially in a [–V] constituent (NP, DP, PP). The constraint in (38c-d) penalizes placing the distributive pluralizer *taq* finally in a –V constituent (NP, DP, PP). Let us propose, then in (38e-f), to unify the two 'edge' constraints as AVOID(Edge):

(38)   a.   Distributive pluralizer *taq* may not be initial in [–V] constituent
        b.   *INITIAL(*taq*) ⇒ *INITIAL
        c.   Distributive pluralizer *taq* may not be final in a [–V] constituent
        d.   *FINAL(*taq*) ⇒ *FINAL
        e.   Unify *INITIAL and *FINAL so phrasal boundaries are penalized
        f.   *INITIAL ∪ *FINAL ⇒ *EDGE

When all the candidates badly violate ranked constraints, no output is generated resulting in ineffability. To account for ineffability, the constraint MPARSE (Prince and Smolensky 2004) is used because it penalizes no output. MPARSE resolves the tableau by satisfying all candidates except the null parse candidate 'Ø':

(39)   Ineffability: use null parse candidate Ø, and the constraint MPARSE

The distributive pluralizer *taq* displays strong preferences for following attributive adjectives. Formalizing this preference is straightforward: always penalize a phrase in which the distributive pluralizer *taq* does not abut an adjective (40):

(40)   a.   Align left edge of distr. pluralizer *taq* with right edge of an adjective
        b.   ALIGN(*taq*, L, Adj, R) ⇒ ALIGN-ADJ

Several types of phrasal compound occur in K'ichee' (e.g., A N, N N). The distributive pluralizer *taq* must be constrained so that it only follows the phrasal compound's initial word. The necessary constraint must also penalize the distributive pluralizer *taq* for not following adjectives, interrogatives, possessed nouns, prepositions, quantifiers, and so on. Therefore the constraint in (41) requires the distributive pluralizer *taq* to be placed immediately after a lexical category (N, A, P, Q):

(41)   a.   Align left edge of *taq* with right edge of a [–V] lexical category
        b.   ALIGN(*taq*, L, $X_{[+\text{lexical}]}$, R) ⇒ ALIGN-LEX

Constraint ranking   The constraints, *EDGE, MPARSE, ALIGN-ADJ, ALIGN-LEX, are ranked according to the hierarchy in (42):

(42)   *EDGE ≫ MPARSE ≫ ALIGN-ADJ ≫ ALIGN-LEX

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[17]King (1995) proposes two linear precedence (LP) rules, while Falk (2001:49) proposes five.

Determiner phrases   The PS rules in (43) license a DP configured as 'Det N':[18]

(43)   DP → D^0 , NP   NP → N^0
         ↑=↓   ↑=↓   ↑=↓

The OT-LFG of the distributive pluralizer *taq* in the DP in (1) is shown in tableau 1. But tableau 1 is suboptimal because it produces no optimal or winning candidate.

Tableau 1 DP ⇒ Det N + *taq* (PL)

taq Det N	*EDGE	ALIGN-ADJ	ALIGN-LEX
a. *taq* Det N	*!	*	*
b. Det *taq* N		*!	*
c. Det N *taq*	*!	*	

Ineffability   Ineffability occurs when the candidates violate the constraints so egregiously that no optimal output is produced. In tableau 1, which shows DP ⇒ Det N, no output is optimal, and the result is ineffability. But ineffability can be accounted for using Prince and Smolenski's (2004) constraint MPARSE, which penalizes no output. Essentially all candidates compete with the null parse candidate 'Ø,' which satisfies all constraints, except for the constraint MPARSE.

An OT-LFG account of the DP ⇒ Det N in (1) pluralized with the distributive pluralizer *taq* is shown with the constraint MPARSE in tableau 2. Tableau 2 indicates that the optimal candidate is candidate (d), which represents the null parse candidate Ø. Therefore the output is null. Nonetheless tableau 2 remains well-formed with an optimal output, unlike tableau 1, which is ineffable.
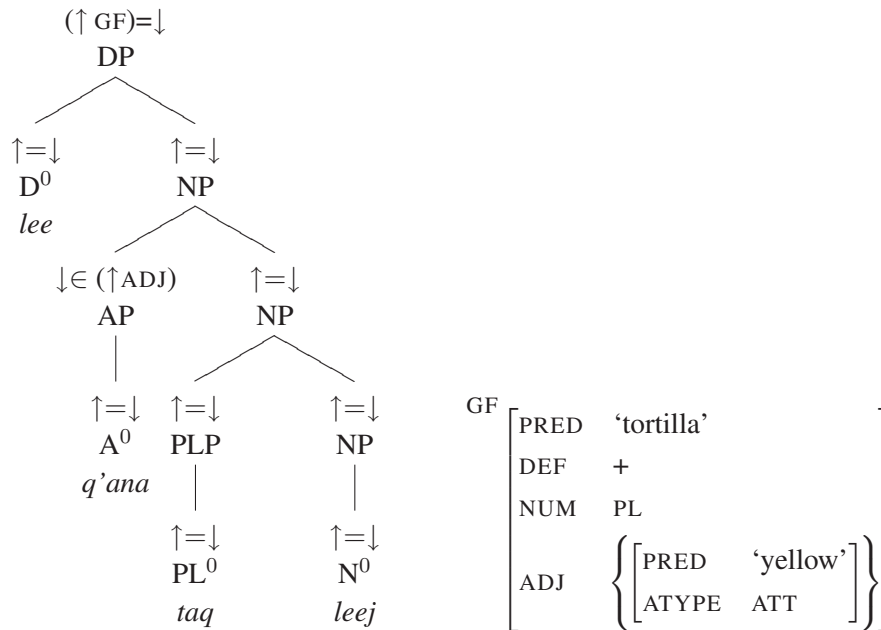
Tableau 2 DP ⇒ Det N + *taq* (PL)

taq Det N	*EDGE	MPARSE	ALIGN-ADJ	ALIGN-LEX
a. *taq* Det N	*!		*	*
b. Det *taq* N			*!	*
c. Det N *taq*	*!		*	
☞ d. Ø		*		

Consider the DP in (3) configured as 'Det Adj N.' The phrase structure rules in (43) added to (44) license 'Det Adj N' pluralized by the distributive pluralizer *taq*:

(44)   NP → NP , AP   PLP → PL^0
         ↑=↓   ↓∈ (↑ADJ)   ↑=↓

---

[18] In this paper, all phrase-structure rules are unordered.

$(\uparrow\text{GF})=\downarrow$
DP

$\uparrow=\downarrow$
D^0
lee

$\uparrow=\downarrow$
NP

$\downarrow\in(\uparrow\text{ADJ})$
AP

$\uparrow=\downarrow$
NP

$\uparrow=\downarrow$
A^0
q'ana

$\uparrow=\downarrow$
PLP

$\uparrow=\downarrow$
NP

$\uparrow=\downarrow$
PL^0
taq

$\uparrow=\downarrow$
N^0
leej

$$\text{GF}\begin{bmatrix} \text{PRED} & \text{'tortilla'} \\ \text{DEF} & + \\ \text{NUM} & \text{PL} \\ \text{ADJ} & \left\{\begin{bmatrix} \text{PRED} & \text{'yellow'} \\ \text{ATYPE} & \text{ATT} \end{bmatrix}\right\} \end{bmatrix}$$

(a) *Lee q'ana taq leej*　　　　(b) 'The yellow tortillas'

Figure 1 DP $\Rightarrow$ Det Adj N

$$\text{NP} \rightarrow \begin{array}{cc} \text{NP} & , & \text{PLP} \\ \uparrow=\downarrow & & \uparrow=\downarrow \\ & & (\uparrow\text{NUM})=\text{PL} \end{array} \qquad \text{AP} \rightarrow \begin{array}{c} A^0 \\ \uparrow=\downarrow \end{array}$$

An OT-LFG account of DP $\Rightarrow$ Det Adj N pluralized by *taq* is shown in tableau 3.

Tableau 3 DP $\Rightarrow$ Det Adj N + *taq* (PL)

taq Det Adj N	*EDGE	MPARSE	ALIGN-ADJ	ALIGN-LEX
a. *taq* Det Adj N	*!		*	*
b. Det *taq* Adj N			*!	*
☞ c. Det Adj *taq* N				
d. Det Adj N *taq*	*!		*	
e. Ø		*!		

The c-structure and f-structure in figure 1 show candidate (c) of tableau 3.

Possessive DPs (N [DP$_{\text{Pos}}$])　　Consider the possessor DP in (7) pluralized by the distributive pluralizer *taq*. The possessed DP (Possessum/POSM) is the entity possessed, and is the head of the possessive construction. The semantic role possessor (syntactic genitive) is the entity that possesses the possessum. The genitive posses-

sor is designated as DP_{Pos}.[19] Using prefixed 'set A' possessive morphology, the possessum agrees with the number and person of the possessor.

The phrase-structure rules in (45) license possessor DPs. The possessor DP itself is functionally annotated with ($\uparrow$ POSS)=$\downarrow$:

(45)　　NP $\rightarrow$ N^0 , DP$_{Pos}$　　　　DP$_1$ $\rightarrow$ DP$_2$, PLP
　　　　　　　　$\uparrow$=$\downarrow$　($\uparrow$ POSS)=$\downarrow$　　　$\uparrow$=$\downarrow$　　$\uparrow$=$\downarrow$
　　　　　　　　　　　　　　　　　　　　　　　　　　　($\uparrow$ NUM)=PL

An OT-LFG account of the possessor DP (DP $\Rightarrow$ N DP$_{Pos}$) pluralized by the distributive pluralizer *taq*, is shown in tableau 4.

Tableau 4 DP $\Rightarrow$ N DP$_{Pos}$ + *taq* (PL)

	taq N DP$_{Pos}$	*EDGE	MPARSE	ALIGN-ADJ	ALIGN-LEX
a.	*taq* N DP$_{Pos}$	*!		*	*
☞ b.	N *taq* DP$_{Pos}$			*	
c.	N DP$_{Pos}$ *taq*	*!		*	
d.	Ø		*!		

The c-structure in figure 2 shows the optimal candidate (b) in tableau 4 of the possessor DP pluralized by the distributive pluralizer *taq*.

DP phrasal compound　Phrasal compounds include [A N], where the initial word is a restricting adjective (see (13)). An OT-LFG account of the DP $\Rightarrow$ Det Adj [A N] pluralized by *taq* is shown in tableau 5. Although candidate (c) is the winner in tableau 5, candidate (d) does also account for well-formed data. The alternation probably represents another ideolect or dialect, or stylistic variation.

Tableau 5 DP $\Rightarrow$ Det Adj [A N] + *taq* (PL)

	taq Det Adj [A N]	*EDGE	MPARS	ALIGN-ADJ	ALIGN-LEX
a.	*taq* Det Adj [A N]	*!		*	*
b.	Det *taq* Adj [A N]			*!	*
☞ c.	Det Adj *taq* [A N]				
☞ d.	Det Adj [A *taq* N]				
e.	Det Adj [A N] *taq*	*!		*	
f.	Ø		*!		

---

[19] Possessors can extract to e-topic position adjoined to CP. The binding relation remains in effect because of agreement morphology on the possessum that co-indexes the possessor's person/number.
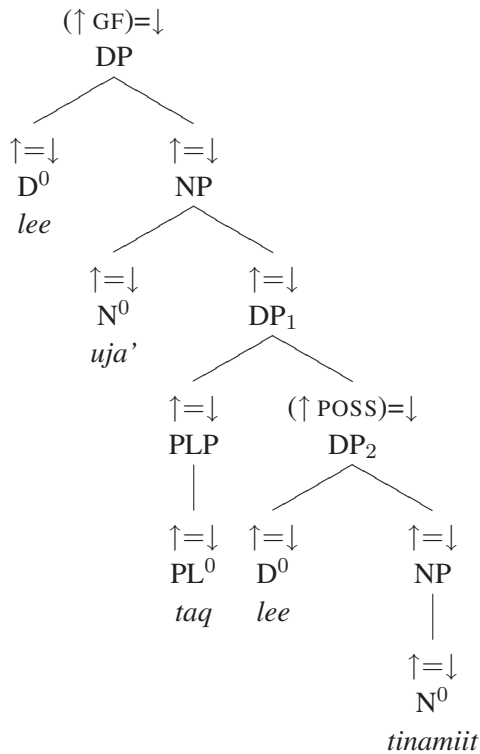
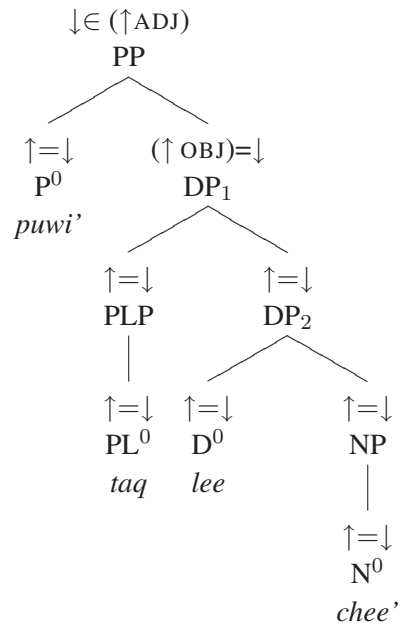**Figure 2** Possessive DP and *taq*: 'The water of the towns'

Figure 3 Complement DP and *taq*: 'Above the trees'

Prepositional phrases The phrase structure rules in (46) license the PP in (14) with a DP complement pluralized by the distributive pluralizer *taq*:[20]

(46) PP → P⁰ , DP
    $\uparrow=\downarrow$ $(\uparrow \text{OBJ})=\downarrow$

The PP can pluralize its object complement DP by placing the distributive pluralizer *taq* immediately after the preposition. The PP in (14) has a DP configured as 'Det N' without an attributive adjective. An OT-LFG account of the PP ⇒ P Det N whose object complement is pluralized by *taq* is shown in tableau 6.

The optimal or winning candidate, candidate (b), can also be presented in a constituent structure, which encodes the phrase structure's constituency and its ID rules. The c-structure in figure 3 shows candidate (b) of tableau 6.

In tableau 6, the object complement of a PP can be pluralized by placing the distributive pluralizer *taq* after the preposition. The DP complement in (16) is pluralized by immediately placing *taq* after the attributive adjective. So in (16) for example, the pluralizer can follow both the preposition and the attributive adjective or just the attributive adjective. But the distributive pluralizer *taq* cannot only follow

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[20] Add to (46) the phrase structure rules shown in (43), (44), and (45).

Tableau 6 PP ⇒ P Det N + *taq* (PL)

taq P Det N	*EDGE	MPARSE	ALIGN-ADJ	ALIGN-LEX
a. *taq* P Det N	*!		*	*
☞ b. P *taq* Det N			*	
c. P Det *taq* N			*!	*
d. P Det N *taq*	*!		*	
e. Ø		*!		

the preposition if there is an attributive adjective modifying the DP complement's nominal head. The PP in (16) has an object complement with an attributive adjective and is configured as 'P Det Adj N.' An OT-LFG account of the PP ⇒ P Det Adj N pluralized by the distributive pluralizer *taq* is shown in tableau 7.

Tableau 7 PP ⇒ P Det Adj N + *taq* (PL)

taq P Det Adj N	*EDGE	MPARSE	ALIGN-ADJ	ALIGN-LEX
a. *taq* P Det Adj N	*!		*	*
b. P *taq* Det Adj N			*!	
c. P Det *taq* Adj N			*!	*
☞ d. P Det Adj *taq* N				
e. P Det Adj N *taq*	*!		*	
f. Ø		*!		

PP phrasal compound The PP's object complement in (21) whose head is a phrasal compound can be pluralized with *taq*. The phrasal compound is composed of two nouns [N N], typed and ordered. An OT-LFG account of the PP ⇒ P Det [N N] pluralized by the distributive pluralizer *taq* is shown in tableau 8. Nonetheless tableau 8 is somewhat problematic because although candidate (b) is supported empirically, candidate (d) is not (see (21b)).

The object complement of the PP in (22) whose head is a phrasal compound modified by an attributive adjective can also be pluralized by the distributive pluralizer *taq*. The phrasal compound is composed of two nouns [N N] modified by a pre-head attributive adjective. An OT-LFG account of the PP ⇒ P Det Adj [N N] pluralized by the distributive pluralizer *taq* is shown in tableau 9.

Non-verbal predicates To pluralize the non-verbal predicate's subject in (26) with *taq*, the non-verbal predicate must immediately be followed by the distributive

Tableau 8 PP $\Rightarrow$ P Det [N N] + *taq* (PL)

	taq P Det [N N]	*EDGE	MPARSE	ALIGN-ADJ	ALIGN-LEX
a.	*taq* P Det [N N]	*!		*	*
☞ b.	P *taq* Det [N N]			*	
c.	P Det *taq* [N N]			*!	*
☞ d.	P Det [N *taq* N]			*	
e.	P Det [N N] *taq*	*!		*	
f.	Ø		*!		

Tableau 9 PP $\Rightarrow$ P Det Adj [N N] + *taq* (PL)

	taq P Det Adj [N N]	*EDGE	MPAR	ALIGN-ADJ	ALIGN-LEX
a.	*taq* P Det Adj [N N]	*!		*!	*
b.	P *taq* Det Adj [N N]			*!	
c.	P Det *taq* Adj [N N]			*!	*
☞ d.	P Det Adj *taq* [N N]				
e.	P Det Adj [N *taq* N]			*!	
f.	P Det Adj [N N] *taq*	*!		*	
g.	Ø		*!		

pluralizer *taq*. An OT-LFG account of the non-verbal predicate $\Rightarrow$ Pred Det N whose subject is pluralized by the distributive pluralizer *taq* is shown in tableau 10.

Tableau 10 Non-verbal predicate $\Rightarrow$ Pred Det N + *taq* (PL)

	taq Pred Det N	*EDGE	MPARSE	ALIGN-ADJ	ALIGN-LEX
a.	*taq* Pred Det N	*!		*	*
☞ b.	Pred *taq* Det N			*	
c.	Pred Det *taq* N			*!	*
d.	Pred Det N *taq*	*!		*	
e.	Ø		*!		

If the non-verbal predicate's subject is modified by a pre-head attributive adjective, the subject can be pluralized by the distributive pluralizer *taq* (27). However the distributive pluralizer *taq* must follow the pre-head attributive adjective, not the non-verbal predicate. An OT-LFG account of the non-verbal predicate $\Rightarrow$ Pred Det Adj N whose grammatical subject is pluralized by *taq* is shown in tableau 11.

Tableau 11 Non-verbal predicate ⇒ Pred Det Adj N + *taq* (PL)

taq	Pred Det Adj N	*Edge	Mpar	Align-adj	Align-lex
a.	*taq* Pred Det Adj N	*!		*	*
b.	Pred *taq* Det Adj N			*!	
c.	Pred Det *taq* Adj N			*!	*
☞ d.	Pred Det Adj *taq* N				
e.	Pred Det Adj N *taq*	*!		*	
f.	Ø		*!		

3 Conclusion

This paper has investigated the distributive pluralizer *taq* (PL) of K'ichee' Mayan. While little has been said about the non-bound morpheme *taq* as a nominal pluralizer in the Mayanist literature, virtually nothing has been said about its use as a distributive (DISTR). Employing a variety of data and linguistic constructions, I demonstrate conventional usage of the distributive pluralizer *taq* and show the categories of words that it associates with and the positions that it occupies in phrases. I argue that the distributive pluralizer *taq* is a phrasal particle that (left) adjoins to string-adjacent constituents. This contrasts with the distributive *taq* (DISTR), which I contend elsewhere is a non-projecting particle that head-adjoins to verbs only. The complex phrasal distribution of the distributive pluralizer *taq*, which remains unaccountable using phrase-structure rules alone, can be straightforwardly modeled using OT-LFG and a modest number of universal constraints.

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