QP for Indefiniteness:

With special reference to Sinhala and Chinese

Jiajuan Xiong and Chu-Ren Huang

Abstract

This paper proposes a QP account for indefiniteness in a range of languages, with QP being situated between DP and NumP. This proposal differs from the traditional DP framework crucially in two aspects: (i) definiteness and indefiniteness are expressed by DP and QP, respectively, and their co-occurrence is theoretically allowed, under due circumstances; (ii) both [Spec, DP] and [Spec, QP] can serve as the landing sites for an XP under a *wh*-movement, which can thus be associated with both definiteness and indefiniteness. Crucially, the postulation of QP accounts for several nominal phenomena in the Sinhala language, which pose serious challenges to the traditional DP framework.

First, Sinhala features the existence of indefinite articles as well as the absence of definite ones; second, an indefinite article can co-occur with a demonstrative in one and the same nominal phrase; third, NP necessarily precedes [numeral + (classifier)], regardless of its (in-)definiteness; fourth, indefinite quantifiers exhibit disparities along the line of their (in-)sensitivity towards the feature of animacy. All these phenomena can be adequately captured by the proposal of QP; specifically, the first three are explained by the DP-QP division whereas the fourth one by the QP-NumP distinction. The DP proposal is further supported by the need to have both DP-QP and QP-NumP divisions in the Chinese language, as well as the intuitive account it provides for the "double definiteness" in Scandinavian languages. In sum, the QP postulation is strongly motivated by cross-lingual evidence for the account of definiteness and indefiniteness as two separate but related unary features instead of binary value of the same feature, e.g. [+/-DEF].

Key words: QP; indefiniteness; Sinhala; Chinese; DP; NumP.

1. Indefiniteness in Nominal Phrases

The DP framework for nominal phrase structures has been well-discussed in the literature, such as in Giorgi & Longobardi (1991), Bernstein (1993), Longobardi (1994), Chierchia (1998), Alexiadou (2001), Bošković (2005, 2008), Heycock & Zamparelli (2005), Alexiadou, Haegeman & Stavrou (2007), Lohrmann (2010), Hofherr & Zribi-Hertz (2013) and Giusti (2015), to list just a few. The simplified version of DP is presented in (1).[1]

(1) The nominal phrase structure:

$[_{DP} D^0 [_{NumP} Num^0 [_{CLP} CL^0 [NP]]]]$

Generally speaking, both definiteness and indefiniteness are subsumed under DP, regardless of whether DP has a single layer or multiple layers.[2] This account basically assumes that indefiniteness either lacks definiteness (missing the feature [+DEF]) or has an opposite property of definiteness ([-DEF]). Thus, DP for both definiteness and indefiniteness has two important predictions: first, an indefinite article and a definiteness-encoding element, e.g., a demonstrative or a definite article, are not expected to co-exist in one and the same nominal phrase, as co-occurrence would lead to feature clashes ([+/-DEF]) in DP; second, a null projection of DP is usually indefinite, whereas an overtly projected DP is usually associated with definiteness.

The first prediction is borne out in English and French. The examples in (2) and (3) illustrate the exclusivity between an indefinite article and a definite one.

(2) English:

*the a book

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[1] The list of the abbreviations in this paper is presented as below:

CL: classifier; DE: possessive marker in Chinese; DEF: definite; DEM: demonstrative; DET: determiner; DP: determiner phrase (for definiteness); DUR: durative; F: feminine; INDEF: indefinite article; M: masculine; N: neuter; NOM: nominative; NumP: number phrase; PERF: perfective; PL: plural; QP: quantity phrase (for indefiniteness); SG: singular; SFP: sentence final particle; W: weak inflection.

[2] Definiteness and indefiniteness are treated as opposite to each other, though they may form a semantic continuum. Moreover, we do not distinguish specificity, familiarity and uniqueness throughout the paper.

(3) French:

   *le   un   livre

    DET INDEF   book

As for the second prediction, it has been employed as a default principle to explain the contrastive encoding mechanisms for definiteness and indefiniteness in some languages. For example, in Mandarin Chinese, the absence of a demonstrative is usually associated with indefinite meaning, whereas the presence of a demonstrative gives rise to a definite meaning. A minimal pair is shown in (4a, b).

(4) Mandarin Chinese:

  a. san   ge   xuesheng   (indefinite)

     three CL   student

     'three students'

  b. zhe/na   san   ge   xuesheng   (definite)

     Dem   three CL   student

     'these/those three students'

A similar line of reasoning is adopted in the analysis of (in-)definiteness in Bengali. As exemplified in (5), the distinction between definiteness and indefiniteness is encoded by the contrastive word order. Specifically, [numeral + classifier + NP] as in (5a) is indefinite, whereas [NP + numeral + classifier] as in (5b) is definite.

(5) Bengali:

  a. tin   ta   boi   (indefinite)

     three CL   book

     'three books'

  b. boi tin   ta   (definite)

     book three CL

     'the three books'

74   According to Bhattacharya (1999) and Dayal (2012), a null DP leads to an indefinite reading.

75   By contrast, the overt spell-out of [Spec, DP], by means of NP-to-[Spec, DP] raising

76   movement, expresses definiteness.

77   The above analyses hinge upon the nominal phrase structure of (1), which features the

78   convergence of definiteness and indefiniteness to D. This nominal structure, however, runs

79   into serious difficulty in our attempt to analyze the (in-)definiteness in Sinhala, as shown in

80   Section 2. In order to capture Sinhala nominal data, we propose a revised nominal phrase

81   structure by positing a functional projection of QP for indefiniteness, as elaborated in

82   Section 3. In Section 4, the postulation of QP is further supported, as evidenced by both

83   the DP-QP distinction and the QP-NumP division in Chinese. Apart from encoding

84   indefiniteness, QP can help to explain "double definiteness" in Scandinavian languages, as

85   illustrated in Section 5. Finally, Section 6 summarizes the major findings.

86

87   2. Indefiniteness in Sinhala Nominal Phrases

88   In this section, we illustrate how indefiniteness is expressed in the case of numerical

89   quantification as well as in the case of approximate quantification in Sinhala, the majority

90   language in Sri Lanka. They are shown in 2.1 and 2.2, respectively.

91

92   2.1 Indefiniteness in numerical quantification

93   In Sinhala, the contrast between definiteness and indefiniteness in numeral-(classifier)

94   nominal phrases is expressed by the absence or presence of -*ek* and -*ak*. Specifically,

95   definite nominal phrases take the form of [NP$_{ANIMATE}$ + numeral + CL] or [NP$_{INANIMATE}$ +

96   numeral], whereas indefinite phrases are encoded by the presence of -*ek* or -*ak*, as in

97   [NP$_{ANIMATE}$ + numeral + CL + -*ek*] or [NP$_{INANIMATE}$ + numeral + -*ak*]. They are illustrated in

98   (6a-d). When a head noun is quantified by the cardinal number *eka* 'one', the indefinite

99   marker -*ek* or -*ak* also needs to be present, as exemplified in (6e, f).

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(6) <u>Sinhala</u>: (Chandralal 2010)

a. kurullo pasdenna (definite; animate)   b. putu   dekə (definite; inaminate)
   bird:PL five-CL   chair:PL   two
   'the five birds'   'the two chairs'

c. kurullo pasden**ek** (indefinite;animate)   d. putu   dek**ak**(indefinite;inanimate)
   bird:PL five-CL-IND**E**F   chair:PL two-IND**E**F
   'five birds'   'two chairs'

e. (eka) kurull**ek**   (indefinite; animate)   f. (eka) putuw**ak** (indefinite; inanimate)
    one bird:SG-INDEF   one chair-INDEF
    'one/a bird'   'one/a chair'

Chandralal (2010) points out that both *-ek* (animate) and *-ak* (inanimate) are etymologically related to the cardinal numeral *eka* 'one'. However, these two markers transcend the meaning of "oneness" and are applicable to both plural and singular cases, as shown in (6c-f). Thus, the presence of *-ek/-ak* is independent of number. The main function of their presence is to engender the meaning of indefiniteness. In this sense, *-ek/-ak* should be taken as genuine indefinite markers in Sinhala.

Apart from encoding indefiniteness, *-ek* and *-ak* are attested to be present in definite contexts as well. As exemplified in (7) and (8), *-ak* and *-ek* can, though not necessarily, co-occur with a demonstrative.

(7) <u>Sinhala</u>:[3]

a. mee poth   thuna   b. mee   poth   thun**ak**
   Dem book:PL   three   Dem   book:PL   three-IND**E**F
   'these three books'   'these three books'

(8) <u>Sinhala</u>:

a. mee lamai   tundenna   ekka   mata kisideyak   karanna   bee
   Dem children   three:CL   with   to_me anything   do   cannot
   'With these three children, I cannot do anything.' (neutral expression)

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[3] The Sinhala data in this paper, unless otherwise specified, are based on the first author's field work conducted in Sri Lanka.

127   b. mee lamai   tunden**ek**   ekka   mata kisideyak   karanna   bee

128   Dem children   three:CL:INDEF   with   to_me anything   do   cannot

129   'With these three children, I cannot do anything.' (complaint)

130 As shown in the translations of (7b) and (8b), the co-occurrence of a demonstrative and

131 an indefinite article gives rise to a definite reading. Our informants report some semantic

132 nuances between the cases with and without the indefinite articles. In the case of (7), if all

133 the three books are present, (7a) is preferred; and if one book is within the speaker's sight

134 and the speaker is asking for three copies of the same book, s/he may utter (7b). As for (8),

135 (8a) is a neutral expression whereas (8b) is likely to be interpreted as a complaint.

136 The Sinhala data presented in (6)-(8) pose theoretical challenges to the nominal phrase

137 structure of (1) whereby both definiteness and indefiniteness converge to D. First, given

138 the observation that indefinite articles, but not definite articles, are attested in the Sinhala

139 language, the default value of D should be analyzed as indefinite. That is, a null D should

140 be definite whereas a spelled-out D indefinite. This is the opposite of the cases of Chinese

141 and Bengali, in which a null D is considered indefinite, as shown in section 1. Given the

142 contrast, the default value of D is left indeterminate between definiteness and

143 indefiniteness across languages. However, any *ad hoc* stipulation on the value of D is

144 theoretically undesirable. Second, in consideration of the fact that Sinhala is a head final

145 language (Chandralal 2010), NP in both [NP + numeral + (classifier)] and [NP + numeral +

146 (classifier)] + -*ek/-ak*] should have undergone a raising movement, with its landing site

147 being [Spec, DP], according to the nominal phrase structure of (1). The ensuing puzzle is

148 why and how [Spec, DP] can be either definite or indefinite in one and the same language.

149 Third, since a demonstrative and an indefinite article can co-occur, as in (7) and (8), it is

150 not clear how these two elements can be simultaneously accommodated under DP,

151 without giving rise to feature clashes. Next, we move to the cases of approximate

152 quantifiers and examine how indefiniteness is encoded therein.

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154

2.2 Indefiniteness in approximate quantification

In Sinhala, there are several synonymous quantifiers referring to the meaning of 'some', such as *keepəyak, keepə denek, tikak, tika denek, wagəyak, saməhara, saməharak* and *saməharek*. All of them are indefinite but they differ in various aspects, notably, in whether they can be turned definite by morphological changes. To illustrate this point, their usages will be presented in turn.

The quantifiers *keepəyak* and *keepə denek* modify countable nouns, with the former one quantifying inanimate nouns while the latter one selecting animate nouns, as shown in (9a, b). These two quantifiers can be turned definite by dropping *-ek/-ak*, as illustrated in (10a, b).

(9) <u>Sinhala</u>:

   a. poth   keepəyak   b. lamai   keepə denek

     book:PL some-INDEF   child:PL some CL-INDEF

      'some books'   'some children'

(10) <u>Sinhala</u>:

   a. poth   keepəyə   b. lamai   keepə-dena

     book:PL   some   child:PL some-CL

     'the books'   'the children'

The similar morphological difference along the line between indefiniteness and definiteness applies to another pair of quantifiers, i.e., *tikak* and *tikə denek*, from which the removal of *-ak* or *-ek* leads to definite meanings. The contrast is shown in (11) and (12). Moreover, on a par with *keepəyak* and *keepə denek, tikak* and *tikə denek* also exhibit selectional restrictions on the animacy of the modified nouns, specifically, inanimate vs. animate nouns, as exemplified in (11a, b). However, it is *tikak*, but not *keepayak*, that can modify mass nouns, as illustrated in (11c).

180   (11) Sinhala:

181   a. poth   tikak   b. lamai   tika   denek

182   book:PL some-INDEF   child:PL some CL-INDEF

183   'some books'   'some water'

184   c. watura tikak

185   water some-INDEF

186   'some water'

187   (12) Sinhala:

188   a. poth   tikə   b. lamai   tikə-dena

189   book:PL some   child:PL some-CL

190   'the books'   'the water'

191   c. watura tikə

192   water some

193   'the water'

194   The above distinction between indefiniteness and definiteness cannot extend to *wagəyak*,
195   *saməhara*, *saməharak* and *saməharek*, which are exclusively indefinite. As for *wagəyak*, it
196   modifies count nouns only. Crucially, *wagəyak* is insensitive to animacy of nouns.
197   Specifically, regardless of animacy of nouns, -*ak* is indiscriminately applied. Furthermore, a
198   classifier is not needed, even in the case of animate nouns, which generally require the
199   presence of a classifier while being numerically quantified. The usages of *wagəyak* are
200   shown in (13a, b).

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203   (13) Sinhala:

204   a. poth   wagəyak   b. lamai   wagəyak

205   book: PL some-INDEF   child:PL some-INDEF

206   'some books'   'some children'

The quantifiers *saməhara*, *saməharak* and *saməharek* are applicable to count nouns only. As far as *saməhara* is concerned, it must precede the noun, as illustrated in (14a, b). If the word order is reversed, ungrammaticality would result, as shown in (14c, d). By contrast, *saməharak* and *saməharek*, which apply to animate and inanimate nouns respectively, can either precede or follow a noun, as shown in (15a-d). These quantifiers, on par with *wagəyak*, cannot derive their definite counterparts via morphological mechanisms.

213   (14) Sinhala:

214   a. saməhara   poth   b. saməhara lamai

215   some   book:PL   some   child:PL

216   'some books'   'some children'

217   c. *poth   saməhara   b. *lamai   saməhara

218   book:PL some   child:PL some

219   intended: 'some books'   intended: 'some children'

220   (15) Sinhala:

221   a. saməharak   poth   b. saməharek   lamai

222   some-INDEF book:PL   some-INDEF child:PL

223   'some books'   'some children'

224   c. poth   saməharak   d. lamai   saməharek

225   book:PL some-INDEF   child:PL some-INDEF

9

226 'some books'   'some children'

227 The above examples illustrating the usages of the quantifiers *keepəyak, keepə denek, tikak,*

228 *tika denek, wagəyak, saməharak, saməharak* and *saməharek* lead to the following

229 questions: (i) why can some of the quantifiers undergo morphological changes to derive

230 their definite counterparts while others cannot? (ii) why do some of the quantifiers

231 discriminate between -*ek* and -*ak*, depending on the animacy of head nouns, while others

232 do not? (iii) why do some of the quantifiers require the presence of a classifier in animate

233 cases, whereas others do not? If all the quantifiers are analyzed to be generated in [Spec,

234 NumP], according to the nominal structure of (1), the answers to the above questions

235 remain quite elusive. In order to explain the nominal data in Sinhala, as presented in 2.1

236 and 2.2, we are motivated to modify the nominal phrase of (1) by postulating a separate

237 layer of QP for indefiniteness. The new proposal will be elaborated in Section 3.

238

239 3. The Postulation of QP: with special reference to Sinhala

240 In view of the predicament we encountered in explaining (i) the default value of D, (ii) the

241 inconsistent (in)definiteness values of [Spec, DP], (ii) the co-occurrence between an

242 indefinite article and a demonstrative, (iv) the inconsistent morphological and syntactic

243 behaviors of indefinite quantifiers, we propose to revise the nominal phrase structure with

244 special regard to the (in)definiteness features. Specifically, we advance the projection of

245 QP, between DP and NumP, to encode indefiniteness, as shown in (16).

246   (16) The revised nominal phrase structure:

247        $[_{DP}\ D^0\ [_{QP}\ Q^0\ [_{NumP}\ Num^0\ [_{CLP}\ CL^0\ [NP]]]]]$

248 It is important to note that the proposal of additional positions within DP has many

249 precedents, such as Borer (2005), Heycock & Zamparelli (2005), and Bernstein (1993). Yet,

250 unlike the current paper, those proposals typically deal with multiple determiners

251 (Alexiadou 2014) or polydefinites (Lekakou and Szendrői 2012).[4] By contrast, the basic idea

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[4] We will compare our QP account with double-definiteness accounts based on Scandinavian languages in section 5.

252 of this proposal is to syntactically differentiate between definiteness and indefiniteness by
253 positing two independent projections, viz., DP and QP. This revised nominal phrase
254 structure of (16) differs from the nominal phrase structure of (1) in at least two aspects:
255 Firstly, the postulation of QP provides a separate syntactic position for indefinite articles,
256 as distinct from a syntactic position for definite articles and demonstratives. Secondly, the
257 structure of (16) provides a new syntactic position, i.e., [Spec, QP], to either host a raised
258 XP in the case of a *wh*-movement or accommodate indefinite quantifiers. In what follows
259 in this section, we will show that (i) authentic indefinite articles are accommodated by QP;
260 (ii) DP-QP distinction is postulated so that definiteness and indefiniteness are encoded by
261 DP and QP, respectively, which, as a consequence, allows the co-occurrence between an
262 indefinite article and a demonstrative in one and the same phrase; (iii) QP-NumP division
263 explains the heterogeneous properties of indefinite quantifiers.

264

265 ### 3.1 The reality of Q: Authenticity of indefinite articles

266 Lyons (1999) proposes that "indefinite articles" are not genuine indefinite articles, as they
267 are generally restricted to [+SG] cases. This observation holds true to *a/an* in English and
268 *un/une* in French. However, it fails to capture -*ek/-ak* in Sinhala, as they are required to be
269 present whenever indefiniteness is intended, regardless of number. As exemplified in (6c-
270 f) and reproduced here as (17a, b), both plural and singular nominal phrases require the
271 presence of -*ek* or -*ak*, the selection of which depends on the animacy of nouns, to express
272 indefiniteness.

273 (17) Sinhala:

274 a. kurullo   pasden**ek** (indefinite;animate)   b. putu   dek**ak** (indefinite;inanimate)
275   bird:PL   five-CL-INDEF   chair:PL   two-INDEF
276   'five birds'   'two chairs'

277 c. (eka) kurull**ek** (indefinite; animate)   d. (eka) putuw**ak** (indefinite; inaminate)
278   one bird:SG-INDEF   one chair-INDEF
279   'one/a bird'   'one/a chair'

280 These examples show that -*ek* and -*ak* defy Lyons's (1999) number restriction and should
281 be considered as genuine indefinite articles in Sinhala.

282 In fact, even though some indefinite articles are restricted in number, such as their
283 restriction to [+SG] cases, they should also be counted as genuine indefinite articles, given
284 the fact that functional morphemes within nominal phrases can take up additional features.
285 For example, the classifiers in Cantonese can take the [+DEF] feature and the plural marker
286 *ɕiɛ* in Chengdu Chinese carries an inalienable [+DEF] feature (Cheng and Sybesma 2008;
287 Author et al. 2019). In view of these, it does not come as a surprise that indefinite articles
288 are associated with extra features, e.g., [+SG] or [-SG], in different languages. These
289 additional features do not undermine their indefinite article-hood but contribute to their
290 restricted ranges of distribution, in one way or another.

291 This said, it is particularly meaningful to posit an independent QP, which is distinct from
292 DP, to accommodate indefinite articles. With the postulation of QP, the task to determine
293 the value of D is dissolved, as D is invariably definite and Q always indefinite.

294

295 ## 3.2 DP vs. QP: Sinhala Nominal Phrases

296 The distinction between DP and QP helps us explain the (in-)definiteness in Sinhala
297 nominal phrases. First, when a nominal phrase is indefinite, QP is projected, with an
298 indefinite article being situated in Q. In the case of definite nominal phrases, DP is projected,
299 with D being null or spelled out by a demonstrative. That is to say, indefiniteness and
300 definiteness are associated with QP and DP, respectively, without having to relying on a
301 default value of D. Second, XP-raising (e.g., NP-raising or NumP-raising) in a nominal
302 phrase can end up being in one of the two different landing sites, viz. [Spec, DP] and [Spec,
303 QP], with the former being definite while the latter indefinite. Thus, XP-raising is not
304 necessarily tied with definiteness. As for Sinhala, the obligatory XP-raising in both definite
305 and indefinite cases can be analyzed as NP moving to [Spec, DP] and [Spec, QP],
306 respectively. Third, the co-occurrence between a demonstrative and an indefinite article in
307 one and the same nominal phrase follows from the fact that they are situated in DP and

12

308 QP, respectively. That being said, the postulation of DP and QP for definiteness and

309 indefiniteness in (16) should be superior to the structure of (1), in order to capture Sinhala

310 data. It is worth noting that the DP-QP nominal phrase structure of (16) takes definiteness

311 and indefiniteness as two unary features (i.e., [DEF] and [INDEF]) taken care of by the two

312 independent layers of DP and QP, instead of two binary values of the same feature (i.e.,

313 [+DEF] and [-DEF] under DP). This proposal patterns with the analysis put forward in Huraki

314 and Levine (1989) and has the advantage of capturing typologically different data without

315 resorting to further stipulation, e.g., the default value of D. Thus, this analysis is preferred

316 by Occam's razor.

317 With the outline presented above, we move to the analysis of Sinhala nominal structures

318 with regard to its (in-)definiteness. Sinhala is a language in which nouns morphologically

319 discriminate between singular and plural cases. Thus, it is a number-marking language. In

320 the meantime, a classifier is obligatorily required to occur in a post-numeral position, when

321 the head noun at issue is animate and especially masculine. That is to say, a number marker

322 and a classifier can co-exist in one and the same nominal phrase in Sinhala. This

323 phenomenon is incongruous with Chierchia's (1998) generalization of mutual exclusivity

324 between number markers and classifiers. In the literature, the mutual exclusivity between

325 number markers and classifiers is explained by the Head Movement Constraint (Travis

326 1984), on the ground that the presence of CL^0 interrupts the immediate contiguity between

327 Num^0 (where a plural marker lies) and the head noun and thus blocks the realization of a

328 number marker on the head noun. This Head Movement Constraint, however, is well

329 circumvented, due to the fact that NP necessarily moves to [Spec, NumP], as shown by the

330 blue line of ① in (18). This NP movement is obligatory, regardless of whether CLP is

331 overtly projected or not. For example, as in the inanimate cases where a classifier is not

332 needed at all, an NP raising is also required. In other words, NP movement is not motivated

333 by the circumvention of the Head Movement Constraint. We argue that, this obligatory NP

334 movement may correlate with another fact that plural marking in Sinhala takes various

335 morphological forms, without any unified plural morphemes being identified. For instance,

336 the change of the word-final vowel, i.e., [a]-to-[o] conversion, is applied to (a number of)

337 animate nouns to indicate plurality. Alternatively, the deletion of word-final syllable [wə] is

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338 utilized to encode plurality for (a group of) inanimate nouns. These unconventional plural
339 marking mechanisms may serve to motivate NP-raising with the effect of highlighting the
340 special morphological variations of plurality in this language. The operation of this
341 movement is significant, as it circumvents the Head Movement Constraint and thus licenses
342 the co-occurrence of a plural marker and a classifier in one and the same nominal phrase
343 in Sinhala. Once number marking is accomplished, the whole NumP, taking the linear order
344 of [NP + numeral + (CL)], moves further up to land either in [Spec, DP] or in [Spec, QP],
345 for definite and indefinite meanings, respectively, as shown by the purple lines ② and ③
346 in (18). It is the second step of moving that realizes either the definite or indefinite meanings.

347 (18) The nominal structure of Sinhala:
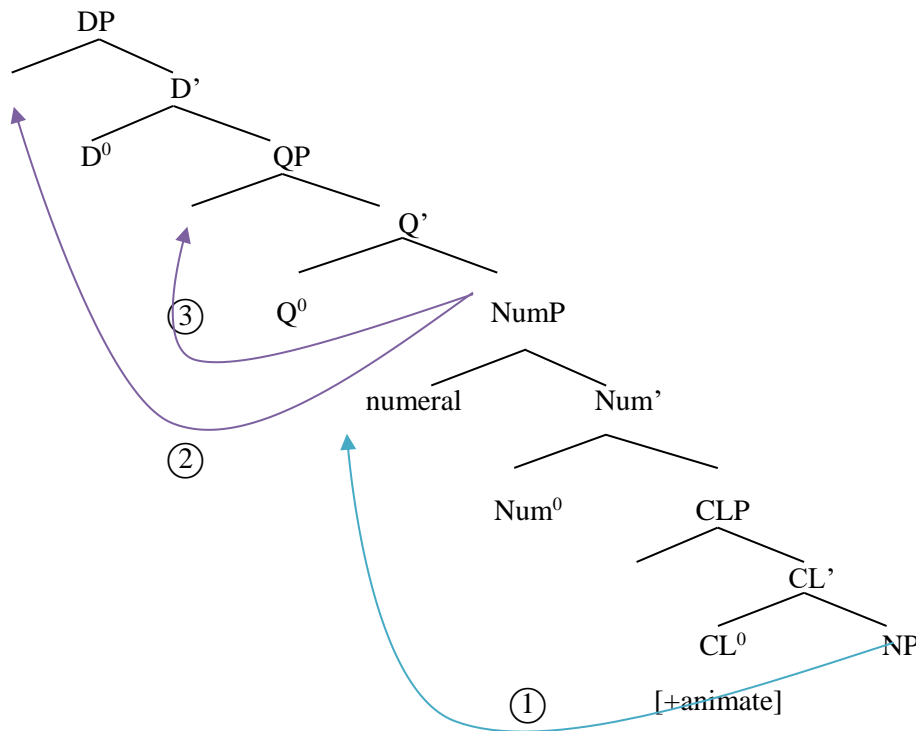
348

349 Given the above analysis, the encoding mechanisms for (in)definiteness in Sinhala are
350 summarized in (19) and (20).

351 (19) <u>Definiteness encoding in Sinhala (DP)</u>:

352 $[_{DP} [_{NumP_i} NP_j Num^0 [_{CLP} CL^0 [t_j]]] D^0 [_{QP} Q^0 [t_i]]]$

353 (20) <u>Indefiniteness encoding in Sinhala (QP)</u>:

354 $[_{QP} [_{NumP_i} NP_j Num^0 [_{CLP} CL^0 [t_j]]] Q^0 [t_i]]$

355 Furthermore, the DP-QP distinction captures the co-occurrence between a demonstrative

356 and an indefinite article in one and the same nominal phrase in Sinhala, as shown in (7b)

357 and (8b) in section 2.1. Since a demonstrative and an indefinite article are taken care of by

358 two separate layers of DP and QP, respectively, their co-occurrence is syntactically allowed.

359 However, when they co-occur, a definite reading results, as corroborated in (7b) and (8b).

360 This can be explained by the selectional relation between QP and DP.[5] Specifically, D

361 selects Q, but not vice versa. Therefore, when a definiteness marker and an indefinite

362 marker co-occur in one and the same nominal phrase, a definite meaning, but never an

363 indefinite meaning, is expected and further corroborated in Sinhala. In this connection, we

364 need to address the cases where definite articles and indefinite articles cannot co-occur,

365 as illustrated in (2) and (3), which are reproduced in (21) and (22) below.

366 (21) <u>English</u>:

367   *the a book

368 (22) <u>French</u>:

369   *le   un   livre

370   DET INDEF book

371 It is worth pointing out that the positing of DP and QP does not mean that both of them

372 need to be spelled out simultaneously. Although their co-occurrence is syntactically

373 licensed, it may be barred due to semantic reasons. We argue that the crux of this issue

374 lies in the number feature of indefinite articles. For example, the indefinite articles *a/an* in

375 English and *un/une* in French, whenever used referentially, are restricted to singular cases,

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[5] We thank one of the reviewers for referring us to the "selectional relation" between D and Q to account for the definite meaning in the case of co-occurrence between a definite marker and an indefinite marker in one and the same nominal phrase.

376 whereas the indefinite articles -*ek* and -*ak* in Sinhala are number neutral.[6] It seems that

377 plural indefinite articles, as opposed singular ones, are more likely to allow their co-

378 occurrence with demonstratives. In this regard, Sinhala can serve as an ideal testing ground,

379 as its indefinite articles -*ek/-ak* can be either plural or singular. When -*ek* or -*ak* occurs in

380 a singular context, as in (23a, b), the presence of a demonstrative cannot be acceptable

381 until it is interpreted as a presentative sentence.

382   (23) <u>Sinhala</u>:

383   a. **mee** poth**ak**   b. **mee** kurull**ek**

384   Dem book-INDEF   Dem bird-INDEF

385   'This is a book.'   'This is a bird.'

386   *'this book'   *'this bird'

387 To sum up, the co-occurrence between a demonstrative and an indefinite article is attested

388 in plural cases, but never in singular ones, as exemplified by the contrasts between (7b) -

389 (8b) and (21) - (23). This contrast can be explained by the ontological differences between

390 singular and plural nouns. Specifically, when it comes to one single item, its

391 (in-)definiteness is a binary decision and the co-occurrence of a demonstrative and an

392 indefinite article will result in semantic clashes between definiteness and indefiniteness.

393 Therefore, although D selects Q, their co-projection is generally confined to plural cases.

394 In section 3.3, we will show that, apart from DP-QP distinction, NumP-QP distinction is also

395 real, as it successfully captures the inconsistent syntactic behaviors of indefinite quantifiers

396 in Sinhala.

---

[6] As pointed out by one of the reviewers, the indefinite articles in English can be employed to encode generic meanings (Burton-Roberts 1976), as shown by the underlined nominal phrase below:

(i)   <u>A whale</u> is a mammal.

Our point is that, an indefinite article in English, whenever used referentially, is restricted to singular meanings.

397 ## 3.3 NumP vs. QP: Indefinite quantifiers in Sinhala

398 We present the data of Sinhala indefinite quantifiers as well as their inconsistent syntactic

399 behaviors in section 2.2. In consideration of their contrastive morphological and syntactic

400 behaviors, we group the indefinite quantifiers into three categories. The first category is

401 shown in Table 1, in which the indefinite quantifiers can be turned definite by dropping -

402 *ek/-ak*. We propose that these indefinite quantifiers, i.e., *keepəyak, keepə denek, tikak, tika*

403 *denek*, have their base forms as *keepə-* and *tikə-*, which are base-generated in [Spec,

404 NumP] and indeterminate between definiteness and indefiniteness. These base forms

405 acquire their indefiniteness by moving to QP and consequently taking up the *-ak/-ek*

406 indefinite markers. Alternatively, they move to DP to encode definiteness, without bearing

407 any markers. Thus, indefinite quantifiers of this category are termed *ak/ek*-induced

408 indefinite quantifiers.

409

410 Table 1 *ak/ek*-induced Indefinite Quantifiers in Sinhala

quantifiers		countability	Animacy	classifier	Indefinite marker	position
keepə- (neutral)	*keepəyak*	count	inanimate	N/A	*-ak*	post-nominal
	keepə denek	count	animate	√	*-ek*	post-nominal
tikə- (neutral)	*tikak*	count	inanimate	N/A	*-ak*	post-nominal
		mass	inanimate	N/A	*-ak*	post-nominal
	tikə denek	count	animate	√	*-ek*	post-nominal

411

412 The second category, as shown in Table 2, contains the indefinite quantifier *wagəyak* 'some'

413 which is obligatorily indefinite without any morphological changes. Given this, the

17

414 indefinite quantifier *wagəyak* is analyzed to be base-generated in QP. In other words, it is
415 its syntactic position that renders it indefinite.

416

417 <div align="center">Table 2 Syntactically Indefinite Quantifiers in Sinhala</div>

quantifiers	countability	animacy	classifier	indefinite marker	position
wagəyak	count	inanimate	N/A	*-ak*	post-nominal
		animate	X	*-ak*	

418

419 The third type of indefinite quantifiers include *saməhara*, *saməharak* and *saməharek*, as
420 shown in Table 3. Apparently, the indefinite articles *-ak/-ek* can be removed. However, the
421 *-ak/-ek*-less form, i.e., *saməhara*, is also indefinite. In other words, there is no
422 morphological alternation between definite and indefinite forms. Thus, this type of
423 indefinite quantifiers is considered to be inherently indefinite, regardless of the presence
424 of an indefinite article.

425

426 <div align="center">Table 3 Inherently Indefinite Quantifiers in Sinhala</div>

quantifiers	Countability	Animacy	classifier	indefinite marker	position
saməharak	count	inanimate animate	N/A	*-ak*	pre-nominal post-nominal
saməharek	count	animate	X	*-ek*	pre-nominal post-nominal
saməhara	count	inanimate animate	X	X	pre-nominal

427

428   Having presented the three categories of quantifiers, we examine their differences and

429   analyze the sources for those differences. Firstly, we draw a comparison between the

430   quantifiers in Table 1 and the quantifier in Table 2, as follows: (i) The quantifiers in Table 1

431   have both indefinite and definite members, depending on the presence and absence of

432   the indefinite markers -*ek* or -*ak*. By contrast, the quantifier in Table 2 is invariably indefinite

433   and the presence of -*ak* is required all of the time. (ii) The quantifiers in Table 1 require the

434   presence of a classifier when the head noun is animate, whereas the quantifier in Table 2

435   require no company of any classifiers even for animate nouns. (iii) The indefinite markers

436   for quantifiers in Table 1 alternate between -*ak* and -*ek*, with the former being inanimate

437   while the latter animate; however, -*ak* is invariably used for the quantifier in Table 2,

438   regardless of animacy. These differences can be explained by resorting to the revised

439   nominal phrase structure of (16), in particular, the postulation of QP. Specifically, we

440   propose that the quantifiers in Table 1 represent the NumP-level quantifiers whereas the

441   quantifier in Table 2 instantiates the QP-level quantifier. Syntactically speaking, the NumP-

442   level quantifiers occupy the [Spec, NumP] position and thus pattern with numerals, in terms

443   of their syntactic behaviors. Consequently, the quantifiers in Table 1 are grammatically

444   sensitive to animacy; in particular, they demand the presence of a classifier and select the

445   -*ek* indefinite article in animate cases. Moreover, the NumP-level quantifiers, like numerals,

446   are indeterminate between definiteness and indefiniteness. They can be rendered

447   indefinite by undergoing the NumP-to-QP movement, which leads to the acquisition of

448   the -*ek/-ak* articles, depending on the animacy of nouns. Alternatively, NumP-level

449   quantifiers can encode definiteness by experiencing the NumP-to-DP movement, without

450   any noticeable morphological changes. By contrast, the QP-level quantifier, as exemplified

451   by *wagǝyak*, is syntactically indefinite, by virtue of being base-generated under QP. Being

452   syntactically higher than NumP-level quantifiers, QP-level quantifiers need no company of

453   any numeral classifiers whatsoever, even in the case of animate nouns. Since animacy plays

454   no role, the -*ek/-ak* distinction is not triggered, as shown in Table 2.

455   Secondly, we now turn to analyzing the quantifiers in Table 3. *Samǝhara*, together with

456   *samǝharak* and *samǝharek*, exhibits some chameleon features of both NumP-level

457   quantifiers and QP-level quantifiers. On the one hand, *samǝhara*, *samǝharak* and

samǝharek cannot be turned definite by any morphological changes, nor do they take any classifiers for animate nouns. These features align *samǝhara*, *samǝharak* and *samǝharek* with the QP-level quantifier *wagǝyak*. On the other hand, *samǝhara*, *samǝharak* and *samǝharek* pattern with the NumP-level quantifiers in that they distinguish between *-ek* and *-ak* for animate and inanimate nouns, respectively, though this variation is not obligatory. In view of these features, we analyze *samǝhara* as an indefinite quantifier of an adjectival nature, in the sense that they occupy the syntactic position for adjectives, which is lower than CLP. The source for its indefiniteness lies in the semantics of *samǝhara*. Thus, it is dubbed as an inherently indefinite quantifier. Because of its NP-internal syntactic position, the projection of a classifier is not activated. Another piece of evidence is that *samǝhara*, unlike other quantifiers and numerals, occurs in a pre-nominal but not a post-nominal position. As for the optional addition of *-ek/-ak* to *samǝhara*, it may result from morphological reanalysis, due to its semantic analogy with other indefinite quantifiers. Alternatively, we may analyze *samǝhara* to optionally undergo a movement from within NP to [Spec, QP] to check its [INDEF] feature. These two possibilities can be supported by the two possible syntactic positions for *samǝharak* and *samǝharek*, viz. both the pre-nominal position and the post-nominal position, as shown in (15).

Lastly, the study of Sinhala quantifiers has a bearing on our understanding of classifiers, as the data provide straightforward support for Bale and Coon's (2014) proposal that classifiers are for numerals, but not for nouns. Furthermore, as against Chierchia's (1998) generalization, classifiers and plural markers are proved not to be mutually exclusive. Specifically, as long as the Head Movement Constraint is not triggered, the co-occurrence between a classifier (CLP) and a plural marker (NumP) can be properly licensed. In this sense, our proposal aligns itself with Krifa's (1995) and Bale & Coon's (2014)'s analyses of classifiers.

Given the above analyses, we establish a tripartite classification of indefinite quantifiers in Sinhala, viz. NumP-level quantifiers, QP-level quantifiers and AP-level quantifiers, as illustrated in Table 4.

487 Table 4 Three types of quantifiers in Sinhala

quantifiers	example(s)	Animacy	classifier	indefinite	definite
NumP-level	keepə	inanimate	N/A	keepəyak	keepəyə
		animate	√	keepə denek	keepə dena
	tikə	inanimate	N/A	tikak	tikə
		animate	√	tikə denek	tikə dena
QP-level	wagəyak	inanimate	N/A	wagəyak	X
		animate	X		X
AP-level	saməhara	inanimate	N/A	saməhara saməharak	X
		animate	X	saməhara saməharak saməharek	X

488

489   It is the postulation of QP between NumP and DP that nicely captures the commonality as
490   well as the differences of indefinite quantifiers in Sinhala. Therefore, the projection of QP
491   is proven to be both real and necessary in nominal phrase structures.

492

493   4. More on QP: additional evidence from Chinese

494   In this section, we adduce data from Chinese, in an attempt to illustrate that both DP-QP
495   distinction and NumP-QP division are real.

496

497   4.1 Q in Chinese: an indefinite article

498   An indefinite article has been attested in Chinese, including Mandarin Chinese and some
499   other varieties of Chinese. Specifically, *yi* 'one; indefiniteness' in Mandarin Chinese,
500   together with *i* 'one; indefiniteness' in Chengdu Chinese and *iʔ5* 'one; indefiniteness' in
501   Shiposheng Chinese, has been proven to be able to function as an indefinite article (see
502   Yang 2001; Zhang, Cheng, Tang & Liu 2015; Author et al. 2019). Form-wise, the indefinite

503 article *yi* is identical with the numeral *yi* 'one'. Semantically, the indefinite article *yi* differs

504 from the numeral *yi* 'one', notably in terms of number, as the former occurs in plural cases,

505 specifically, amount-based plural cases, as opposed to unit-based plural cases (Author et

506 al. 2019). The indefinite *yi* and the numeral *yi* are exemplified by (24a, b) and (24c, d),

507 respectively. The indefinite article *yi* cannot be a numeral, as it defies any numerical

508 replacements as shown in (24a, b). This stands in contrast to the numeral *yi* 'one', which

509 can be substituted by other numerals, as exemplified in (24c, d).

510   (24) Mandarin Chinese:[7]

511   a. yi/*san   xie shu   b. yi/*san   xie shui

512   INDEF/three some book   INDEF/three some water

513   'some books'   'some water'

514   c. yi/san   ben shu   d. yi/san   di shui

515   one/three CL book   one/three drop water

516   'one/three book(s)'   'one/three drop(s) of water'

517 Given the contrasts above, the grammatical status of the indefinite article of *yi* is

518 established in Chinese.

519

4.2 DP vs. QP in Chinese

521 The division between DP and QP can be supported by two pieces of evidence: first, the

522 indefinite article can co-occur with a demonstrative in one and the same nominal phrase;

523 second, the presence of an indefinite article can trigger an intervention effect to block a

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[7] In this study, *yi* 'INDEF' and *xie* 'some' are analyzed to occupy different syntactic positions, viz., Q^0 and [Spec, NumP], respectively. This analysis cannot be undermined, even though *yi-xie* 'INDEF-some; some' is considered to be one single word. Word-hood is a controversial issue in Chinese linguistics (see Author[2] et al 2013) and, crucially, a word is allowed to have their composing morphemes distributed in two different syntactic positions. For example, *ta-men* 's/he-PL; they' is usually taken as a word but, according to Li's (1999) analysis, *ta* 's/he' is base-generated in D^0 whereas *men* 'PL' is located in Num^0.

524 [+DEF]-carrying plural marker to undergo the Num^0-to-D^0 movement. These two
525 phenomena are to be elaborated in 4.2.1 and 4.2.2, respectively.

526 ### 4.2.1 DP-QP co-occurrence

527 The co-occurrence between a demonstrative and an indefinite article is attested in Chinese,
528 as shown in (25).

529 (25) Mandarin Chinese:
530   **zhe/na** (*yi*) xie xuesheng
531   Dem INDEF some student
532   'these/those students'

533 Unlike the co-occurrence between a demonstrative and an indefinite article in Sinhala, this
534 phenomenon in Chinese seems not to lead to any noticeable semantic differences.[8]

535 This co-occurrence supports the DP/QP division of (16), as a demonstrative and an
536 indefinite article are taken care of by D and Q, respectively. Crucially, DP is syntactically
537 higher than QP and thus overwrites QP, when they are both overtly projected.
538 Consequently, a nominal phrase featuring such a co-occurrence is definite, as proven by
539 (25).

540

541

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[8] We check the data from the CCL corpus constructed by the Center for Chinese Linguistics of Peking University. It shows that both the proximal demonstrative *zhe* 'this/these' and the distal demonstrative *nei* 'that/those' can co-occur with the indefinite article *yi*. In both cases, the absence of *yi* is significantly preferred, without any perceivable differences. Their usages are illustrated in Table i below.

Table i: The co-occurrence of a demonstrative and an indefinite article in Chinese

Structure	Example	Token
[Dem$_{PROXIMAL}$ + quantifier]	*zhe-xie* 'this/these-some; these'	215626
[Dem$_{PROXIMAL}$ + *yi* + quantifier]	*zhe-yi-xie* 'these-indef-some; these'	264
[Dem$_{DISTAL}$ + quantifier]	*na-xie* 'that/those-some; those'	69966
[Dem$_{DISTAL}$ + *yi* + quantifier]	*na-yi-xie* 'those-indef-some; those'	64

4.2.2 QP-triggered Intervention Effect

Although Chinese is a classifier language, plural markers have been attested in different varieties of Chinese, such as -*men* in Mandarin Chinese and -*ɕiɛ* in Chengdu Chinese, as illustrated in (26a, b).

(26) <u>Chinese</u>:

    a. xuesheng-men   (Mandarin Chinese)

      student-PL

      'the students'

    b. ɕosən-ɕiɛ   (Chengdu Chinese)

      student-PL

      'the students'

It is important to note that nominal expressions suffixed by -*men* in Mandarin Chinese and -*ɕiɛ* in Chengdu Chinese are necessarily definite, as shown by the above translations. Given this, the realization of plural markers in Chinese relies on the Num^0-to-D^0 movement (Li 1999; Author et al. 2019). However, such a realization is barred by the presence of an indefinite article, as exemplified in (27a, b).

(27) <u>Chinese</u>:

    a. yi   xie   xuesheng-(*men)   (Mandarin Chinese)

      INDEF   some student-PL

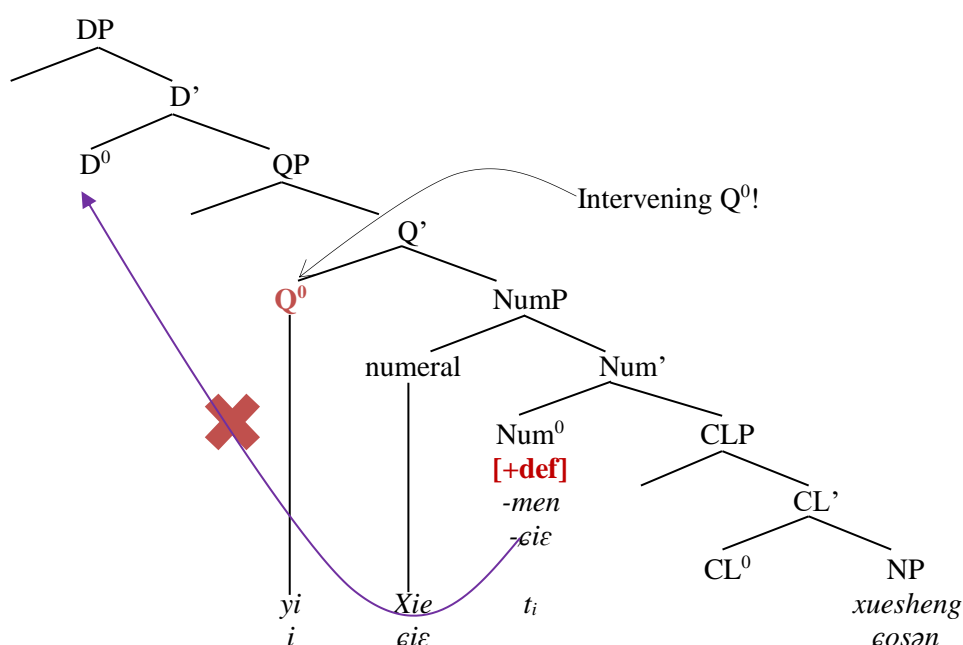   'some students'

    b. i   ɕiɛ   ɕosən-(*ɕiɛ)   (Chengdu Chinese)

      INDEF some student-PL

564   'some students'

565 The overt projection of QP, as evidenced by the indefinite article, triggers an intervention
566 effect, whereby a plural marker, such as -*men* in Mandarin Chinese and -*ɕiɛ* in Chengdu
567 Chinese, is blocked from raising from Num^0 to D^0 to realize its [+DEF] feature (Li 1999;
568 Author et al. 2019). This blocking effect is based on the head movement constraint (Travis
569 1984; Chomsky 1986), as shown in (28).

570   (28). <u>The Intervention Effect of QP</u>: (adapted from Author et al. 2019)

DP
 D'
  D^0 QP
   Q'
    Intervening Q^0!
    Q^0 NumP
     numeral Num'
      Num^0 CLP
      [+def]
      -men CL'
      -ɕiɛ
       CL^0 NP
       xuesheng
       ɕosən
 yi *Xie* t_i
 i *ɕiɛ*

571

572 The intervention effect lends credence to the postulation of QP in nominal phrase
573 structures. In Section 4.3, we will show that QP can be further distinguished from NumP.

574

575 4.3 NumP vs. QP in Chinese

576 Without the presence of an indefinite article, NumP and QP may take the same surface
577 form. Therefore, a sequence of [numeral + calssifier + NP] may be ambiguous, depending
578 on whether they instantiate a NumP or a QP, as shown in 4.3.1. Then, in Ssection 4.3.2, we
579 will show that the presence of an indefinite article, i.e., an overt projection of QP, can

25

580   disambiguate between the two readings, clearly showing the division between NumP and
581   QP.

4.3.1 The contrasts between NumP and QP

583   Li (1998) proposes that a NumP, while serving as an argument, encodes a quantity reading,
584   as shown in (29a), in which the underlined phrase *san ge ren* 'three persons' is not
585   referential but indicates the quantity of "three". By contrast, the phrase *san ge ren* 'three
586   persons' in (29b) is referential and instantiates an indefinite DP, in Li's (1998) term. Along
587   the line of our proposal in this paper, Li's (1998) indefinite DP should be rephrased as QP,
588   as the division of labor is clearly made between DP and QP, for definiteness and
589   indefiniteness, respectively.

590   (29) Chinese: (Li 1998)

591   a. San   ge   ren   tai bu dong zhe jia gangqin.   (quantity-reading; NumP)

592   three   CL people lift not move this CL piano

593   'Three people cannot lift up this piano.'

594   b. Lai   le   san ge ren.   (entity-reading; QP)

595   come PERF three CL people

596   'Here came three persons.'

597   Moreover, Wei (2007) points out that, when certain conditions are met, a NumP can
598   function as a nominal predicate, as exemplified by the underlined phrase in (30a).
599   Alternatively, as exemplified in (30b), the underlined nominal phrase can serve as a
600   complement and thus represents a DP, in Wei's (2007) term. Once again, Wei's (2007) DP
601   is equivalent to QP in our framework, due to its indefiniteness.

602   (30) Chinese: (Wei 2007)

603   a. Tamen yi   qun   shagua.   (nominal predicate; NumP)

604   they   one group fool

605   'They are one group of fools.'

606   b. Tamen shi yi   qun   shagua.[9]   (complement; QP)

607   they   be one group fool

608   'They are one group of fools.'

609   The above two differences between NumP and QP are summarized in Table 5.

610   Table 5 The contrasts between NumP and QP in Chinese

	argument-hood	predicate-hood
NumP	quantity-reading	√
QP	entity-reading	X

611

612

4.3.2 NumP vs. QP in the case of *yi* 'one, indefinite'

Due to the dual status of *yi* as an indefinite article as well as a numeral "one" in Chinese, it can serve as a good testing ground for the distinction between NumP and QP. Specifically, an indefinite article *yi* unambiguously leads a QP, whereas the numeral *yi* projects either a NumP or a QP (with a null Q). In the latter case, a NumP and a QP, albeit being superficially identical, differ in that a NumP is predicative while a QP referential. Given the contrasts shown in Table 5, we expect a QP containing an indefinite article to defy both a quantity reading and predicate-hood. These expectations are indeed verified.

First, the nominal phrase containing the numeral *yi*, as underlined in (31a, b), can give rise to both a quantity-reading and an entity-reading, depending on the contexts. However,

---

[9] In this sentence, *yi-qun shagua* 'a group of fools' is indefinite but specific.

27

when it comes to the indefinite article *yi*-headed QP, as exemplified in (32a, b), it disallows a quantity-reading but leads to an entity reading.

(31) Chinese (the numeral *yi*):

    a. Yi   zu   xuesheng zuo yici   baogao.   (NumP; quantity-reading)

       one group student   make once presentation

       'Each group of students gives a presentation once.'

    b. Lai   le   yi zu   xuesheng.   (QP; entity-reading)

       come PERF one group student

       'Here come a group of students.'

(32) Chinese (the indefinite article *yi*):

    a. *Yi   xie xuesehng zuo yici   bagao.   (QP; *quantity-reading)

       INDEF some student   make once   presentation

       Intended: 'Some students give a presentation once.'

    b. Lai   le   yi   xie   xuesheng.   (QP; entity-reading)

       come PERF INDEF   some student

       'Here come some students.'

Second, a nominal phrase containing the numeral *yi* can serve as a nominal predicate, as shown in (33a). By contrast, a nominal phrase containing the indefinite article *yi* fails to function as a nominal predicate, as shown in (33b).

(33) Chinese (nominal predicates):

    a. Tamen yi   qun   shagua.   (NumP)

       they   one group fool

645   'They are one group of fools.'

646   b. *Tamen <u>yi   xie   shagua</u>.   (QP)

647   they   INDEF some full

648   Intended: 'They are some idiots.'

The above syntactic behaviors fit well into the contrastive features of NumP and QP, as presented in Table 5. Without resorting to the QP-NumP division, the systematic contrasts of the two *yi*s in terms of their syntactic behaviors would be left unaccounted for.

5 More on QP: Double Definiteness in Scandinavian Languages

In the previous sections, the postulation of QP mainly serves the purpose of accommodating indefinite articles. In this section, we will show that QP can also contribute to the accommodation of definite articles, especially when more than one definite article is present in one and the same nominal phrase, as in the case of "double definiteness", which is well observed and widely discussed in Scandinavian languages, notably, in Norwegian, Swedish and Faroese (Julien 2005; Lohrmann 2011; Roehrs 2009; Stroh-Wollin 2011). Specifically, the "double definiteness" refers to co-occurrence of a suffixal definite article and a free-standing definite article, as exemplified in (34)-(36).

(34) <u>Norwegian</u>: (Julien 2005: 26)
     den   gul-e   skjort-a
     DEF.SG   yellow:W   shirt-DEF.F.SG
     'the yellow shirt'

(35) <u>Swedish</u>: (Julien 2005: 27)
     det   gul-a   hus-et
     DEF.N.SG yellow-W   house-DEF.N.SG
     'the yellow house'

29

670 (36) <u>Faroese</u>: (Julien 2005: 27)

671   tann   svart-i   kettlingur-in

672   DEF.M.SG.NOM   black-W.M.SG.NOM   kitten-DEF.M.SG.NOM

673   'the black kitten'

674 In order to capture this phenomenon, Julien (2005) and Roehrs (2009) propose an
675 intermediate projection between DP and NumP, i.e., nP and ArtP, respectively, to explain
676 how the two types of definite articles are simultaneously present. Specifically, Julien (2005)
677 proposes a DP-nP distinction to accommodate the free-standing determiner and the
678 suffixal determiner, respectively, whereas Roehrs (2009) puts forward a DP-ArtP distinction
679 and analyze both determiners to be base-generated under ArtP. Their analyses are
680 illustrated in (37a) and (37b).

681 (37) "Double definiteness" in Scandinavian:

682   a. [$_{DP}$ D [$_{n\text{P}}$ NP-Num-n-suffixal [$_{NumP}$ ~~Num~~ [~~NP~~]]]] (Julien 2005)

683   b. [$_{DP}$ D$_i$ [$_{ArgP}$ [$_{ArtP}$ ~~t~~$_i$ + ~~t~~$_k$ [NP + suffixal$_k$]]]] (Roehrs 2009)

684 Julien (2005) and Roehrs (2009) are similar in their analyses of the suffixal determiner but
685 differ in their treatment of the free-standing determiner, which is placed under D^0 by Julien
686 (2005) but undergoes the Art^0-to-D^0 head movement by Roehrs (2009). Details aside, both
687 nP and ArtP are syntactically indefinite, as the determiners under them need to acquire
688 their definiteness either by a head movement to D or by a *wh*-movement to [Spec, DP].
689 Crucially, when DP is overtly projected, another definiteness-encoding article can remain
690 in the intermediate nP and ArtP, as its [+DEF] feature can be checked by agreeing with an
691 overt projection of DP. In this sense, an indefinite layer between DP and NumP can function
692 as a buffer zone to accommodate articles, be they definite or indefinite, and this indefinite
693 projection further interacts with definite DP to realize the (in-)definite feature of a nominal
694 phrase. Significantly, nP and ArtP are in essence in the vein of our proposal of QP.

695 Note that the postulation of an indefinite projection to account for "double definiteness"
696 stands in contrast to another proposal of multiple DPs. For example, Lohrmann (2011)
697 employs DP2 and DP1 to accommodate the two types of definite determiners, whereas

698 Stroh-Wollin (2011) adopts DP and dP to explain the same phenomenon. The postulation

699 of an indefinite layer, we argue, would be more desirable than the stacking of DP, as the

700 latter incurs another theoretical issue, viz., how many definite layers should be created to

701 accommodate various types of definiteness-encoding elements, such as pronouns,

702 demonstratives, definite determiners, etc. Theoretically speaking, the multiplicity of DPs is

703 not in the minimalist spirit. By contrast, the postulation of an indefinite layer, i.e., QP in our

704 term, can achieve two goals: first, it hosts indefinite articles and/or indefinite quantifiers;

705 second, it can accommodate definiteness-encoding determiners, as long as their

706 [DEF]/[INDEF] feature can be properly checked, such as by an overt projection of DP, as in

707 the case of "double definiteness".

708

709 6. Concluding Remarks

710 In this paper, we propose the projection of QP between DP and NumP. QP differs from DP

711 mainly along the line of (in-)definiteness, with the former being indefinite while the latter

712 definite. The division of labor is significant, as it achieves the following goals: first, QP

713 provides a syntactic position for authentic indefinite articles, such as -*ek* and -*ak* in Sinhala

714 and *yi* in Chinese. Second, DP-QP distinction provides two different landing sites for NP-

715 raising, i.e., [Spec, DP] and [Spec, QP], and, consequently, XP-raising (notably, NP-raising)

716 is no longer obligatorily associated with definiteness. This is verified by the fact that NP

717 invariably precedes [numeral + (classifier)] in both definite and indefinite cases in Sinhala.

718 Third, DP-QP distinction allows co-occurrence between demonstratives and indefinite

719 articles, as attested in both Sinhala and Chinese. These phenomena, however, pose serious

720 challenge to the DP theory in which both definiteness and indefiniteness are subsumed

721 under DP.

722 Furthermore, QP is proved to be significantly different from NumP, based on the data

723 adduced from Sinhala and Chinese. In Sinhala, indefinite quantifiers exhibit contrastive

724 syntactic behaviors, especially with regard to their (in-)sensitivity to animacy. We show that

725 QP-level quantifiers are insensitive to animacy, whereas NumP-level quantifiers, on par

726 with numerals, are sensitive to animacy in terms of their requirement for classifiers and

727　their selection between animate *-ek* ending and inanimate *-ak* ending. Without the
728　postulation of QP, these contrasts can hardly be captured. In Chinese, QP-NumP
729　distinction can be shown in at least two ways: first, QP, in contrast to NumP, cannot serve
730　as a nominal predicate; second, QP, unlike NumP, defies a quantity reading.

731　Thus, both the DP-QP distinction and QP-NumP distinction are proven to be linguistically
732　realized. Apart from taking care of indefiniteness, QP can further function as a buffer zone
733　to accommodate definiteness-encoding determiners, given that their [DEF] feature can be
734　properly checked by the overt projection of DP, as in the case of "double definiteness" in
735　Scandinavian languages.

736　To sum up, QP as a syntactic layer which is situated between DP and NumP is strongly
737　motivated by the need to treat indefiniteness as a property semantically related to but
738　syntactically independent of definiteness. Both the DP-QP distinction and NumP-QP
739　distinction have been validated with strong empirical evidence in this paper. It is hoped
740　that this proposal will pave the way for further studies on indefiniteness.

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