



THE UNIVERSITY *of* EDINBURGH

Edinburgh Research Explorer

Two levels for definiteness

Citation for published version:

Cheng, LL-S, Heycock, C & Zamparelli, R 2017, Two levels for definiteness. in M Yoshitaka Erlewine (ed.), *Proceedings of GLOW in Asia XI: MIT Working Papers in Linguistics*. vol. 1, MIT Working Papers in Linguistics, vol. 84, MIT, USA, pp. 79-93.

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Publisher's PDF, also known as Version of record

Published In:

Proceedings of GLOW in Asia XI

General rights

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.



TWO LEVELS FOR DEFINITENESS*

LISA LAI-SHEN CHENG
LUCL, Leiden University

CAROLINE HEYCOCK
PPLS, University of Edinburgh

ROBERTO ZAMPARELLI
CIMEC/DiPSCo, Università di Trento

1 Introduction

Recent research on definiteness has shown that languages can distinguish between an *anaphoric* and a *uniqueness-based* notion of definiteness. This distinction may be marked by using different forms of the article, as in Fering, or no determiner in one of the two cases (Hausa, Mandarin): see Schwarz 2009, 2013. Anaphoric (aka “strong”) definites, illustrated in (1a), refer to objects that have been introduced in the (discourse) context, possibly via various types of bridging relation (see again Schwarz 2009, Jenks 2017, Simpson and Biswas 2016 for discussion on the nature of these relations, an issue which we will not address in this contribution). Unique (“weak”) definites, as in (1b), on the other hand, pick up a referent which is the single or maximal element in the property denoted by their restrictor.

- (1) a. I bought a book and some candies. When **the author** wrote **the book** . . .
b. **the president** of this country / **the closest star** / **the moon** . . .

In this paper we will map the anaphoric/unique distinction to another well-known semantic distinction, that between denoting *individuals* or *singleton/maximal* properties. This choice will in turn be mapped onto two distinct syntactic levels, a s(trong)DP and a w(eak)DP projection, whose heads may be filled or empty. If the head is empty, we propose that the projection can still be semantically active if material of the appropriate type moves to its Head or Specifier, licensing the layer and making it visible for interpretation.

*We would like to thank the audience of GLOW ASIA 2017 for their useful comments, as well as audiences at the Universities of Frankfurt, Hamburg and QMU where previous versions of some of these ideas were presented. We also thank Sze-Wing Tang, Joanna Sio for discussing their Cantonese judgements, and Yang Yang and Deng Dun for discussing their Mandarin judgements. All remaining errors are entirely our own.

Copyright 2017 the author(s).

In *Proceedings of GLOW in Asia XI*, volume 1, edited by Michael Yoshitaka Erlewine.

MIT Working Papers in Linguistics #84. Cambridge, MA: MIT Working Papers in Linguistics.

In many languages, strong definiteness is expressed by means of a (bleached) *demonstrative*. This is sometimes an option also in Romance and Germanic languages such as Italian and English, as illustrated in (2), but these languages normally use *definite articles*, as in (1), for both types of definites.

(2) John bought a dog and a cat. The/*this* dog was very shy.

At first glance, languages that do not have definite articles, like Mandarin or Cantonese, present a very different picture. In Mandarin, demonstratives are normally used for anaphoric definites, much as in Jenks (2017), but a simple bare nominal is used for all other cases—see (3a). In Cantonese, definiteness is normally expressed with bare Cl[assifier] phrases (nominals consisting of a classifier plus a noun: Cl-N henceforth) as in (3b): see Cheng and Sybesma (1999).¹

- (3) a. {Nà-zhī gǒu / Gǒu} hěn pàxiū. *Mandarin*
 {that-CL dog / dog} very shy
 ‘the dog_{strong} / the dog_{weak} is very shy’
- b. Zek³ gau² hou² paa³cau². *Cantonese*
 Cl dog very shy

However, even in languages that have a definite article, like English and Italian, there are other ways in which a definite interpretation can arise. English noun phrases with pre-N genitives (so-called “Saxon genitives”) in argument position—(4a)—are known to get a definite interpretation, and hence are impossible when the context provides more than one possible antecedent, as in (4b).

- (4) a. John bought a dog and Marc did, too. ... **John’s dog** was very shy.
 b. John bought two dogs. ... ***John’s dog** was very shy.

Less well-known is that the coordination of bare (determinerless) NPs in a number of languages, including English and Italian, can—and in the count singular cases, must—trigger definiteness, as discussed in Heycock and Zamparelli (2003) and Roodenberg (2004).

- (5) a. John bought a dog and a cat on Monday.
 Later that week, he took **cat and dog** to the vet. = *the cat and dog*
 b. John bought two cats and two dogs on Monday.
 #Later that week he took **cat and dog** to the vet.
- (6) Un gatto ed un cane si azzuffavano. **Cane e gatto** erano ugualmente luridi. *Italian*
 a cat and a dog were fighting dog and cat were equally filthy
 ‘A cat and a dog were fighting. **Cat and dog** were equally filthy.’

When the strategies used by English and Italian to encode definiteness without an article are taken into account, some interesting similarities between Germanic, Romance and Chinese begin to emerge. The remaining non-lexical differences—we hope to show—are confined to a domain which has been neglected in the research on noun phrase structure, namely the domain of predicative cases, and point to a deeper regularity in the way functional projections are licensed.

¹We set aside cases where Cantonese uses bare nouns to refer to broad-context unique objects, like the moon. Our hunch is that these cases, like the Italian nouns discussed in connection with (25b) might be assimilated to proper names.

2 Definiteness and Its Positions

2.1 Subject/Object Asymmetries

In English or Italian (and in Mandarin, when demonstratives are used), definites do not give rise to subject/object asymmetries. The definiteness of subject or object *the*-nominals, as in (7), or Saxon genitive nominals, as in (8), is the same.

- (7) [Il cane] inseguì [il gatto]. *Italian*
 the dog chased the cat
- (8) [John's cat] chased [Mary's dog]

Cantonese CI-N and Mandarin NP, on the other hand, have different interpretive possibilities depending on their position. In Cantonese, for instance, a bare CI-N in object position can be interpreted either as a definite or an indefinite—(9a). In subject position, however, a Cantonese CI-N is always interpreted as a definite, as in (9b) (see Cheng and Sybesma 1999 and Cheng et al. 2012).²

- (9) a. ngo⁵ gam¹jat⁶ maai⁵-zo² **bun² syu¹** *Cantonese*
 I today bought-PERF CL book
 'I bought **a/the book** today.'
- b. **zek³ gau²** gam¹jat⁶ seng⁴jat⁶ hai² oi⁶min⁶ *Cantonese*
 CL dog today whole.day at outside
 '**The dog** was outside the whole day today.'

Both Cantonese and Mandarin display other subject/object asymmetries. Num-CI-N nominals are nearly always impossible in subject position³ (without a special verbal licensing element, e.g. *jau⁵* 'have' in Cantonese); they are possible—but always indefinite—in object position (10).

- (10) a. *ng⁵ bun² syu¹ hai² go² zoeng¹ toi² soeng⁵min⁶ *Cantonese*
 five CL book COP that CL table top
 Intended: 'Five books are on the table.'
- b. ngo⁵ gam¹jat⁶ maai⁵-zo² ng⁵ bun² syu¹ *Cantonese*
 I today bought-PERF five CL book
 'I bought 5 books today' (not '...the 5 books')

These asymmetries are reminiscent of similar cases found with Italian, Catalan and Spanish bare plurals (11), which may only appear in post-V (or post-P) positions.

²The definiteness of subjects is sometimes attributed to the idea that Chinese subject are always topics; but see Tsai (2001). However, in languages like Italian topics may easily be indefinites, so the conclusion does not immediately follow. Moreover, if topicality induced definiteness, it would remain unclear why this does not happen with numerals, as in (10a) below.

³For space reasons, we exclude from consideration vague amounts expression like Cantonese *hou² do¹* and certain subject Num-CI-Ns, which acquire a pure amount reading involving modals, see Tsai (2001).

- (11) a. ***Cani** sono onnivori *Italian*
 Dogs are omnivores
 b. Io allevo **cani** per lavoro *Italian*
 I breed dogs as a job

This distribution has been attributed by Contreras (1986), Longobardi (1994), Chierchia (1998), and others to the idea that such nominals have an empty D (D^e henceforth), which must be licensed by V or P under c-command (12). The same analysis can be directly extended to both Cantonese and Mandarin, assuming that even in cases in which we see a simple CI-N a more complex structure with a null head is present.

The null head cannot be a missing numeral since, as (10b) shows, even an *overt* numeral does not allow for a definite reading in object position, while this is one of the possible interpretations of CI-N. We propose, instead, that the empty head in need of licensing is D itself, in Cantonese and Mandarin just as in Italian.⁴

- (12) a. *<sub>[DP D^e dogs] V D^e unlicensed
 b. V _{[DP D^e dogs] D^e licensed by V}</sub>

The subject/object asymmetry in Chinese DPs is however different from that observed for DPs in Italian, since in Italian, like in English, the presence of a numeral (or another amount expression: *molti* ‘many’ *pochi* ‘few’, etc.) is sufficient to license an indefinite reading in any position: the fully acceptable *cinque libri sono sul tavolo* ‘five books are on the table’ contrasts, for example, with Cantonese (10a). Interestingly, both in Italian and English, numerals can follow a determiner (unlike, say **the every/most people*), but **must** be in DP-initial position if they occur in the absence of a determiner. Thus (13a) is well-formed because *those* licenses the D position, even though *two* appears below the adjective *wonderful*. (13b) shows that *wonderful* can introduce a bare plural.⁵ But if we try to combine a low *two* with the bare plural strategy, as in (13c), the result is sharply ungrammatical. Instead, a lone numeral must be in DP-initial position, as in (13d).

- (13) a. I remember [**those** wonderful **two** weeks spent together]. *(Crisma 1991)*
 b. I remember [wonderful weeks spent together].
 c. *I remember [wonderful **two** weeks spent together].
 d. I remember [**two** wonderful weeks spent together].

This suggests that a D^e may be licensed by an overt Num, or by its features, moving onto D^e from a ‘close enough’ position, with no material interfering. The ungrammaticality of (10a) suggests that this strategy is not available in Chinese, except in the special cases mentioned in footnote 3.

2.2 Possessives

As we have seen in (4), argumental possessives are interpreted as definites. Contrary to what is sometimes claimed or assumed, this cannot simply be accounted for in terms of ‘definiteness

⁴Note that we will define DP in essentially semantic terms, i.e. as a projection which has or can be converted to have as semantic type <e> (individual) or <<et>t> (Generalized Quantifier). In this sense, it is unclear how a language could ‘lack’ a category DP.

⁵As will be discussed later, we assume that the bare NP in (13b), adjective included, is raised to [Spec,D^e]: see (29a) below.

spreading” from the possessor to the whole possessive DP, or agreement in definiteness between the possessor in the specifier of the DP and its head.

First, note that the internal nominal inside a partitive in sentences such as (14) is restricted to definites (Jackendoff, 1977).

(14) A few of {the books/those books/*books/*some books} were sold.

Now observe that a possessive DP placed in this position, as in (15), is perfectly acceptable, both when the possessor is definite, as in (15a), and—crucially—when it is indefinite, as in (15b,c):

- (15) a. Only [a few of {**my books/Maria’s books/that woman’s books**}] were damaged.
 b. Only [a few of **a partner’s friends**] really become your friends.
 c. I was watching [a few of **some guy’s videos**] a couple of months ago.

Second, as noted in McNally 1998, Dobrovie-Sorin 2000, Alexiadou 2005, among others, while an English possessive with an indefinite possessor does not identify a unique individual with respect to the context, it still encodes uniqueness/maximality with respect to a choice of value for the indefinite possessor. For instance, Dobrovie-Sorin points out that *a king’s four sons* has the same meaning as *the four sons of a king*.⁶ She points out that, in this respect, the English “Saxon genitive” contrasts with the Hebrew construct state, where maximality is not part of the interpretation when the possessor is not definite.

- (16) arba’a bney meleχ *Hebrew (Dobrovie-Sorin, 2000)*
 four sons king
 ‘four sons of a king’

These facts suggest that it is the structure of the nominal—here, we will argue, the position of the possessor—that generates the definite meaning, rather than some kind of definiteness feature inheritance/agreement, though as we will see later the full picture is actually more complex.

Cantonese possessives make the same point in a different way. In this language possessors may be placed between the classifier and the noun, as in (17a), or before the classifier, as in (17b). In the latter case, they always trigger a *definite* reading, even in object position.

- (17) a. ngo⁵ maai⁵-zo² bun² [Chomsky ge³] syu¹ *(possessor between Cl and N)*
 I buy-PERF CL [Chomsky GE] book
 ‘I bought one book of Chomsky’s.’
 b. ngo⁵ maai⁵-zo² Chomsky bun² syu¹ *(possessor above Cl-N)*
 I buy-PERF Chomsky CL book
 I bought Chomsky’s book. (the one salient in the conversation)
 Not: ‘I bought one book of Chomsky’s.’

⁶It should be observed that this uniqueness/maximality interpretation can co-exist with the appearance of the whole possessive nominal in an existential construction, often taken to be a diagnostic for indefiniteness (see McNally 1998 for discussion of possessives in existentials).

- (i) a. There were someone’s three-lettered initials on the license plate.
 b. Suddenly there were someone’s hands on my neck.

Note that there is an important difference between the effect of possessives like *John's* in *John's book* or *Chomsky* in (17b), and the effect of the numeral in (13d): the former trigger definiteness, the latter does not. Even in Romance and Germanic languages where bare numeral phrases are acceptable anywhere, *two weeks* cannot mean *the two weeks*.

2.3 Bare Nominal Conjunction

Heycock and Zamparelli (2003) (HZ03) observe that in Germanic and Romance, conjunctions of bare (determinerless) nominals (**B**[are]**N**[ominal]**C**[onjunction]s) give rise to an unexpected definite reading, whether in the singular (18a) or in the plural (18b) (see also Roodenburg 2004). This contrasts strongly both with non-conjoined bare plurals, which are notoriously unable to connect to previous antecedents even in their existential reading (Carlson, 1977), and with bare singular count nouns, which are simply ungrammatical in Germanic and Romance languages (18c). The examples in (18) are in subject position, but the situation is identical in object position, as shown in (19).

- (18) A refugees' ship just arrived in Puglia. (cf. HZ03, ex. (29))
- Captain and bosun are Serbian, the sailors are Albanian.
Only: 'the captain and the bosun...'
 - Sailors and passengers are Albanian; the captain is Serbian.
OK: 'the sailors and the passengers...'
 - Sailors are Albanian; *(the) captain is Italian.
Only: 'sailors in general...'
- (19)
- I spoke with captain and bosun. *Only '... the captain and the bosun'*
 - I spoke with sailors and passengers. *OK: '... the sailors and the passengers'*
 - I spoke with sailors. *Only 'some sailors or other'*

Just as we saw for Chinese nominals including numerals in (10b), here too nominals headed by numerals do not trigger definiteness, even when conjoined:

- (20) The pair of forks_i goes on the right and the pair of spoons_j, on the left. [(Two) forks and (*two) spoons]_{i+j} must match.

The same construction is present in Cantonese ((21)—note the absence of the Cl), and in Mandarin ((22)—note that this is an anaphoric case, in which a demonstrative would normally be used).

- (21) keoi⁵ bei²-zo² jat¹-tiu⁴ so²si⁴ tung⁴mai⁴ jat¹-fong¹ seon³ ngo⁵. **So²si⁴ tung⁴ seon³**
 he give-PERF one-CL key CONJ one-CL letter I key CONJ letter
 ngo⁵ dou¹ bei²-zo² uk¹zyu² laa³. *Cantonese*
 I DOU give-PERF landlord SFP
 'He gave a key and a letter to me. Key and letter, I have given both to the landlord.'
- (22) tā gěi-le yī-tiáo yàoshí gēn yī-fēn xìn gěi wǒ. wǒ bǎ xìn gēn yàoshí dōu
 he give-PERF one-CL key CONJ one-CL letter give I I BA letter CONJ key DOU
 gěi-le wūzhǔ le. *Mandarin*
 give-PERF landlord SFP
 'He gave a key and a letter to me. I have given both key and letter to the landlord.'

As observed in HZ03, naturally occurring cases are nearly all anaphoric, possibly across some bridging relation. New-mention definites whose uniqueness is guaranteed by a restriction—whether shared (23a) or distributed (23b)—are clearly degraded.

- (23) a. I didn't enjoy the film: *(the) man and woman in front of me were very tall.
 b. To even out the couples, *(the) shortest man and tallest woman should not partner.

This profile is of course the hallmark of strong/anaphoric definiteness.

To explain this set of facts we take the lead from the situation in Bangla, an Indo-Aryan classifier language. In Bangla, when a numeral is present the normal order is Num-Cl-N. When it is missing, the only grammatical order is N-Cl (see (24), from Simpson and Biswas 2016), and the nominal obligatorily gets a definite (according to Dayal 2012; specific, in Bhattacharya 1999) reading.

- (24) a. Ek Ta chabi
 1 Cl key
 a key
 b. chabi Ta
 key Cl
 the key

Following Dayal (2012) and Chacòn (2011), whose accounts are in turn based on Bhattacharya (1999), we will assume that the definiteness is triggered by NP raising to some higher DP layer.⁷

Similar facts have been reported in Longobardi (1994) for certain Italian nouns (*casa* 'house/home', *camera* 'room', names of days of the week): overt N raising above the possessive adjective yields a 'rigid designator' meaning, as in (25b). In the context of strong/weak definiteness distinction, the latter meaning could be seen as having a speaker-oriented deictic component—hence, a strong definite.

- (25) a. Carlo voleva la sua casa
 Carlo wanted the his house
 Possible reading: 'He wanted a private house.'
 b. Carlo voleva casa sua
 Carlo wanted house his
 Only reading: 'Carlo wanted his own house (the one he had before).'

This suggests that in the absence of a determiner-like element, definiteness can be obtained by having a nominal category of the appropriate type merged or re-merged at the top of the DP. This movement may be visible, as in the Bangla or Italian cases shown above, or—we propose—string vacuous, in Cantonese and Mandarin.

To spell out this idea, let us start with a base structure as in (26) for all the languages under consideration (this structure will be slightly revised later). CIP is a Classifier Phrase, probably equivalent to Pl(urality)P in Heycock and Zamparelli (2005) (HZ05); PredP/NumP is equivalent to Zamparelli's (1996/2000) PDP). We assume that when a projection has no overt realization and no semantic effect it may be omitted, so it does not need to be licensed.

⁷Simpson and Biswas (2016) show that this move gives anaphoric definiteness, while for uniqueness definiteness a nominal without Cl is used, much as in Mandarin. For reasons of space we will not discuss this aspect here.

(26) [DP D [_{Prep/NumP} Numeral [_{CIP/PIP} (Classifier) [_{NP} (Adjectives) N]]]]

D, however, is semantically active (see footnote 4), and when it is not occupied by a demonstrative or a definite article it must be licensed by some other means. One is the presence of a ‘high’ possessor:

(27) [DP [_{DP} Possessor] (‘s) [_{NumP/PrepP} Numeral [_{CIP/PIP} (Classifier) [_{NP} N]]]] *English/Chinese*

In non-possessive DPs, licensing strategies take two different courses: head-movement of a functional element to D^e (blocked by an intervening head), or phrasal movement of a CIP/PIP or NP to [Spec,D^e] (creating a situation similar to (27)). The first route would be realized by (a) CI moving to D in Cantonese as in (28a) (see also Simpson 2005); (b) the BNC coordination head moving covertly to D^e, and taking scope there, as in (28b); or finally (c), Num’s ϕ -features moving to D^e, as in (28c), to generate the kind of structure exemplified earlier in (13d) in English or Italian (but not Chinese, possibly for lack of ϕ -features on Num).⁸

(28) a. [DP CI_i+D^e ... [_{CIP} t_i [_{NP} N]]] *Cantonese definites (Object-level)*
 b. [DP and_i+D^e ... [_{NP} N] t_i [_{NP} N]]] *LF scope in all BNC languages*
 c. [DP D^e + ϕ [_{NumP} Num ϕ ... [_{NP} N]]] *English/Italian numerals, see (13d)*

Turning to phrasal movement, we propose that kind-denoting bare NPs are raised to [Spec,D^e] for interpretation, as in Borer (2004), and license D^e as a side effect: see (29a). This strategy seems to be common to Mandarin, Cantonese and English (though restricted to plural or mass Ns in the latter), but we do not discuss it any further here. To derive Mandarin object-level definites, Zamparelli (2013) proposes that CIP/PIP raises to [Spec,D^e], after N has raised to license an empty CI head, as shown in (29b) (see the similar approach to Bangla in Chacòn 2011).

(29) a. [DP [_{NP} N]_i D^e ... t_i] *Cantonese/Mandarin/English (Kind-level) e.g. (13b)*
 b. [DP [_{CIP} N_i [_{NP} t_i]]_j D^e ... t_j] *Mandarin, Object-level definites*

Alternative derivations are possible: Cantonese bare CI-N definites might be derived not by head movement, as depicted in (28a) above, but rather by phrasal movement, as in (30a) (cf. Dayal’s 2012 NP-raising approach for Bangla). Conversely, Mandarin definite bare nouns might be derived not by phrasal movement as in (29b), but rather by head-movement of N to D via an empty (but semantically active) CI^e, as in (30b) (note, however, that N is not functional). We leave these possibilities open for now.

(30) a. [DP [_{CIP} CI N]_i D^e ... t_i] *Cantonese (alternative to (28a))*
 b. [DP N+CI^e_i+D^e ... [_{CIP} t_i [_{NP} t]]] *Mandarin (alternative to (29b))*

Note that in Mandarin an overt classifier is nearly always preceded by a numeral (see Cheng and Sybesma 1999), while this isn’t the case in Cantonese. If, as it seems, numerals block raising, a derivation like (28a) or (30a) is excluded for Mandarin. As for Cantonese, we can hypothesize that

⁸While the first two instances of movement to D trigger definiteness, this last type does not, suggesting that the relevant ϕ -features (probably those for semantic plurality, i.e. +LATT in the system of Heycock and Zamparelli 2005) are not sufficient to trigger an anaphoric reading of sD^e.

this language does not have the null active CI^e needed to obtain object readings with the structure in (29b)—ruling out this possible derivation.

Finally, Italian bare plurals and Chinese numeral indefinites are cases where nothing can be raised, and D^e must be licensed by a verb under sisterhood. Note that our current proposal for BNC is different from the one in HZ03 (XP-movement of the whole NP conjunction to [$Spec, D^e$]). We discuss the rationale for this new analysis at the end of the paper.

3 Definiteness and Predicativity

While the proposal above gives us the distribution of definiteness, it still does not give us a distinction between ‘strong’ and ‘weak’ definiteness. In order to investigate this, we need to consider what happens when various types of definite phrases are used as *predicates*. Our diagnostic for predicative status is the possibility of occurring in small clauses, e.g. the complements of *consider* (31) or absolutive *with* (32). The predicates in such small clauses may be introduced by various determiners, including *the*, and possessives:

- (31) a. I consider John {a / the / Mary’s} real problem.
 b. I consider these {two / the / Mary’s} real problems.
- (32) a. With Mary {a / the / the teams’s} midfielder, we are bound to score.
 b. With those women { \emptyset / two / the / the team’s / the team’s two} substitutes ...

Some other determiners, on the other hand, cannot appear in these configurations:⁹

- (33) a. *I consider John {that / this / every} real problem.
 b. *I consider these {most / many / few} real problems.
- (34) a. *With Mary {that / this / every} midfielder we are bound to score.
 b. *With those women {most / many / few / those / these} substitutes ...

The outcome is clear: demonstratives, the prototypical case of strong definiteness, do not make good predicates, while at least some *the*-nominals do.

Turning to possessives, Zamparelli (1996/2000) observes that the maximality presupposition active in argumental possessives—(35a)—is lost in predicative position. Thus (35b) may be uttered in a context in which there are various tools belonging to John scattered around. But, as (35c) shows, maximality reappears when a numeral is present.

- (35) a. ??John’s tools are here and John’s tools are also there. *maximal*
 b. These are John’s tools, and those are also John’s tools. *no maximality*
 c. ??These are John’s four tools, and those are also John’s four tools. *maximal*

His interpretation is that in (35b) the possessor is realized at the level normally reserved for numerals, which does not trigger definiteness. The presence of a numeral (which presumably competes for position with ‘s or, on an alternative analysis, the head assigning genitive) forces the possessor into a higher position at the DP level.

⁹A possible objection is that some of these cases may occur in copular sentences: e.g. *John is that person*. Due to the possibility of equative or specificational readings in cases like *the problem is that person* (Moro, 1997), we find this construction to be less reliable than small-clauses as a real test for predicativity.

While definiteness—in the sense of a maximality presupposition—returns with the numeral in examples like (35c), the predicative status is preserved, as shown by examples such as (36) (see also the discussion in Julien 2005, 2006).

- (36) a. Narcissism and sensitivity to criticism: I consider these John’s two main weaknesses.
b. With bankruptcy or flight their two remaining options, they were near despair.

Again, the situation is replayed in Cantonese (37) and Mandarin (38).

- (37) li¹-di¹ hai⁶ aCan² ge³ (??loeng⁵ zung²) gong¹geoi⁶; go²di¹ dou¹ hai⁶ aCan² ge³
this-CL COP Can GE two type tool; that-CL DOU COP Can GE
(??loeng⁵ zung²) gong¹geoi⁶ *Cantonese*
two type tool
‘These are Mr. Can’s (??two types of) tools; those are also Mr. Can’s (??two types of) tools.’
- (38) zhè-xiē zhì Zhāngsān de (??liǎng zhǒng) gōngjù; nà-xiē yě shì Zhāngsān de
this-CL COP Zhangsan DE two type tool; that-CL YE COP Zhangsan DE
(??liǎng zhǒng) gōngjù *Mandarin*
two types tool
‘These are Zhangsan’s (??two types of) tools; those are also Zhangsan’s (??two types of) tools.’

As well as demonstrating that possessives (like *the*-nominals) can retain a maximality interpretation even while functioning as predicates rather than arguments, these data also confirm that there is nothing intrinsically “definite” about possessors, since even the maximality interpretation is absent when the possessor can appear in a low position. This latter point is reminiscent of the situation in Cantonese that we observed in (17), where a lower (post-Cl) possessor again did not yield maximality.

Importantly, however, in Chinese the loss of maximality in predicates extends to all cases of bare Cl-N (Cantonese) and bare NP (Mandarin). (39) exemplifies for Cantonese: in Context A, Cl-N may be used as an indefinite predicate, but in Context B, where the context requires that the predicate be unique, Cl-N does not have the desired meaning.

- (39) **Context A:** I am telling a friend about my colleague’s children:
a. Kim hai⁶ go³ nam⁴zai²; Jan hai⁶ go³ nei⁵zai²
Kim COP CL boy Jan COP CL girl
‘Kim is a boy and Jan is a girl.’
- Context B:** We have been talking about pupils who will be chosen to meet the prime minister. There will be exactly two pupils chosen: one boy and one girl
b. #Kim hai⁶ go³ nam⁴zai²; Jan hai⁶ go³ nei⁵zai²
Kim COP CL boy Jan COP CL girl
‘Kim is a boy and Jan is a girl.’ (not the felicitous: ‘Kim is the boy, Jan is the girl.’)

The closest equivalents of ‘*Kim is the boy and Jan is the girl*’ involve either making the Cl-N the subject, or adding a demonstrative before each Cl-N (and possibly turning the predication into some kind of identity statement). The absence of a “definite” (maximality) interpretation for the

CI-N sequence here is striking given that in other contexts such an interpretation is either possible (in object position) or obligatory (in subject position)—see (9a) and (9b) above.

The following table sums up the meaning distribution so far (blank cells not tested here).

	Subject	Object	Pred
Demonstratives	<i>def</i>	<i>def</i>	* (in Small Clauses)
Mandarin NP / Cantonese CI-N NP&NP (<i>singular</i>)	<i>def</i> <i>def</i>	<i>def/indef</i> <i>def</i>	<i>indef</i>
English / Chinese Poss (no Num) English/Chinese Poss (above Num)		<i>def</i> (above CI)	<i>indef</i> <i>def</i>

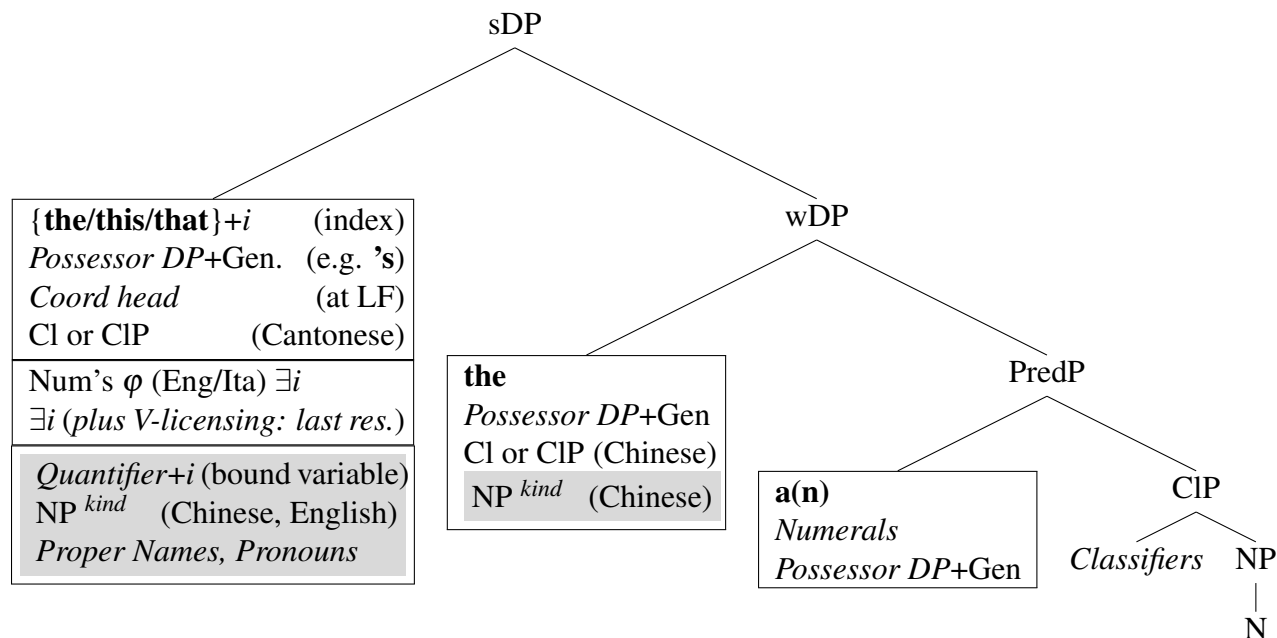
4 Analysis

4.1 Nominal Structure

We propose that this distribution follows from three main assumptions:

- The two types of definiteness correspond to different projections: a high s(trong)DP, with a pronominal index i (argumental), and a lower w(eak)DP (predicative/argumental). Syntactically, both D heads, when null, can be licensed by receiving an operator or a fully-licensed nominal XP. Semantically, sDP will be of type $\langle e \rangle$, or $\langle \langle et \rangle t \rangle$ if it contains a quantifier; wD will be of type $\langle et \rangle$, denoting the identity function $\lambda P.P$, but with the presupposition that P is unique or maximal (i.e. $\exists x[\text{Max}(P)=x]$).
- Language uses the smallest category which (i) can accommodate all the material in the numeration; (ii) has or can be converted to the appropriate semantic type ($\langle e \rangle$ or $\langle \langle et \rangle t \rangle$ for arguments, $\langle et \rangle$ for properties) (the MINIMIZE STRUCTURE principle).
- A free type-shifting operator, MAX, is available to take singleton/maximal properties and return their unique/maximal element. Thus, MAX will be able to apply to the output of wDP, given its presuppositions, but not to NumP. So, sDPs are born arguments, wDPs can become arguments via MAX, but NumP or lower projections cannot acquire an argument interpretation in this way.

Glossing over the head/specifier distinction, we obtain the following structure along with its possible occupants at each level. $\exists i$ stands for the existential closure of index i (a last resort). Quantifiers such as *every*, *some*, *a* bind the index at sD—cf. Heim's 1982 Q-construal—but for reasons of space we do not discuss these and other cases here (greyed out boxes).



In the simplest case, DP layers are projected by lexical items, some of which may however be compatible with multiple layers: definite articles may appear at sDP and wDP, possessors at sDP, wDP and PredP. When there is no lexical head, the projection can still be licensed when certain items are inserted in the specifier, or moved to it, or from the verb as a last resort. Note that one of sDP or wDP (the latter converted by MAX) must always be present to create an argument. To make a predicate, one of wDP, PredP, CIP, and perhaps NP will do, but language will always pick the smallest level compatible with the lexical items it needs to insert (MINIMIZE STRUCTURE): wDP if *the* is present, PredP if there is a possessor—but wDP if there is both a possessor and a Numeral. Let's now see how the data presented so far follow from this structure.

4.2 Arguments: Strong and Weak Definites

Definites can appear anywhere as arguments, provided they are licensed by one of the means above. MINIMIZE STRUCTURE dictates that they should be wDPs if possible, sDPs if maximality cannot be presupposed or an antecedent is found in discourse, possibly via bridging.

The perfect candidate for wDP definites are of course *superlatives*, since their ordering guarantees maximality. Interestingly, they resist having an antecedent:

- (40) Marc_i, from Serbia, was taller than any other living person. Unsurprisingly, [the tall(?est) Serbian]_i was a basketball player.

The situation with indefinites is more complex. By definition, they cannot be maximal, therefore cannot be wDPs or tolerate an active wDP layer; they must be sDPs. But then, indefinite lexical elements must either be interpreted at the sD head, yielding GQ meanings, or at least (in languages like Italian or English) license an sD^e via movement of their ϕ -features. In this case, sD^e must be bound by Existential Closure within VP (à la Diesing) or by an adverb of quantification. The last possibility, and the only one available to all Chinese indefinites and to Romance bare plurals, is that sD^e is licensed by a c-commanding verb. This gives rise to the

subject/object asymmetries we have seen in Italian (11) and Chinese (9)-(10). English bare NP have been assumed to move to [Spec,D^e], so no asymmetry is expected.

4.3 Predicative Cases

Things change in predicative cases: here the minimal <et> structure is PredP (or lower): it can accommodate possessors, but has no maximality. wDP is projected only if *the* is in the numeration, or if the possessive marker is forced to be high by the presence of a numeral which preempts Pred (35c).

Crucially, an empty wDP layer cannot be projected as a predicate if the only possible licenser is movement of CIP/NP, as happens in Chinese. PredP is already a correct type, nothing in the numeration forces projecting wDP, and MINIMIZE STRUCTURE militates against it. So no predicative maximality arises in these languages, as we saw in (39b) above. Note that it would be very difficult to obtain this pattern if Cantonese CIPs were just optionally marked +DEFINITE.

5 A Consequence: Collapsible Individuals

Normally, a conjunction of proper names or definites in argument position cannot ‘collapse’ onto a single individual and trigger singular agreement, even in a favourable pragmatic context and with compatible properties.

- (41)
- a. Dr. Jekyll and Mr. Hyde are/*is clearly deeply conflicted.
 - b. [That famous linguist and that political commentator] have/*has been invited.
 - c. [The well-known linguist and the world-famous left-wing commentator] were/??was here for a talk.

Such ‘joint’ readings (in the terminology of HZ05) are possible with appositions (42a), or DP-internal conjunctions (42b), suggesting that *properties* may be collapsed, but <e>-type individuals may not.

- (42)
- a. Noam Chomsky, [the well-known linguist and the world-famous left-wing commentator] was here for a talk.
 - b. That famous [linguist and commentator] has been invited.

Now superlatives, prime candidates for a wDP meaning, are among the best cases of arguments which allow a joint interpretation:

- (43)
- a. [The best cook in town] and [the nicest person I know] is visiting us tonight.
 - b. [The two best cooks in town] and [the two authors of “New Food Bible”] are noone but my friends John and Jack.

In our framework, wDPs natively denote properties with a maximal element (singletons, in the singular), so their conjunction can take place before MAX applies. (43a) is interpreted as:

- (44) $\text{MAX}_{[\&P]} [\text{wDP the best cook}] \& [\text{wDP the nicest person}] = \text{MAX}(\{a\} \cap \{a\}) = a$

Recall now that BNCs behave as anaphoric definites, so sDPs. This correctly predicts the strong contrast between the N&N used as an apposition (45a) (joint possible), and the same N&N used in a BNC (45b) (joint impossible).

- (45) a. Jane Smith_i, [friend and colleague]_i of the deceased, gave a speech.
 b. *At the end of the function, [friend and colleague]_i was in tears.

BNCs were analyzed as cases where *and* took scope at DP, licensing sD^e. This means that (46a) gets interpreted as (46b), i.e. as a non-joinable conjunction of sDs, each anaphoric to a distinct individual (however such ‘non-Boolean’ conjunctions should be obtained).

- (46) a. [_{sDP} &_i+sD^e ... [_{&P} [_{NP} friend] t_i [_{NP} colleague]]]
 b. [_{&P} [_{sDP} sD^e ... [_{NP} friend]]] & [_{sDP} sD^e ... [_{NP} colleague]]]

This effect was not achieved in HZ03, where coordination remained at the level of properties/NPs, but the NP conjunction raised as a phrase to license D^e, much as in (29b).

6 Conclusions

Our proposal has various novel aspects. First, the semantic distinction between ‘strong’ and ‘weak’ definites is reduced to the well-known distinction between arguments and (maximal) properties, with predictions for their distribution: strong definite must be arguments, weak ones may be arguments or predicates, lower projections must be predicates. We propose that only weak definites or other properties may be conjoined with a joint reading.

Second, we propose a connection between three apparently very distant cases of ‘positional definiteness’: high possessors in English or Chinese, DP-scoped coordinations of bare nominals and CI(P)-raising in Chinese. The latter case, combined with the MINIMIZE STRUCTURE principle allowed us to explain on general grounds the lack of definite bare predicates in Chinese. Note, finally, that these results can be achieved only by allowing some lexical items to appear in multiple positions, with their final semantic effect determined by a combination of lexical and positional factors.

References

- Alexiadou, Artemis. 2005. Possessors and (in)definiteness. *Lingua* 115:787–819.
 Bhattacharya, Tanmoy. 1999. The structure of the Bangla DP. Doctoral Dissertation, University College London.
 Borer, Hagit. 2004. *Structuring sense: In name only*. Oxford: Oxford University Press.
 Carlson, Gregory. 1977. A unified analysis of the English bare plural. *Linguistics and Philosophy* 1:413–457.
 Chacòn, Dustin Alfonso. 2011. Head movement in the Bangla DP. *Journal of South Asian Linguistics* 4:3–25.
 Cheng, Lisa Lai-Shen, Jenny Doetjes, Rint Sybesma, and Roberto Zamparelli. 2012. On the interpretation of number and classifiers. *Italian Journal of Linguistics* 24:175–194.
 Cheng, Lisa Lai-Shen., and Rint Sybesma. 1999. Bare and not-so-bare nouns and the structure of NP. *Linguistic Inquiry* 30:509–542.

- Chierchia, Gennaro. 1998. Reference to kinds across languages. *Natural Language Semantics* 6:339–405.
- Contreras, H. 1986. Spanish bare NPs and the ECP. In *Generative studies in Spanish syntax*, ed. I. Bordelais, H. Contreras, and K. Zagona. Dordrecht: Foris.
- Dayal, Veneeta. 2012. Bangla classifiers: Mediating between kinds and objects. *Rivista di Linguistica/Italian Journal of Linguistics* 24:195–226.
- Dobrovie-Sorin, Carmen. 2000. (In)definiteness spread: From Romanian genitives to Hebrew construct state nominals. In *Comparative studies in Romanian syntax*, ed. Virginia Motapanyane. Elsevier.
- Heim, I. 1982. The semantics of definite and indefinite noun phrases. Doctoral Dissertation, University of Massachusetts at Amherst.
- Heycock, Caroline, and Roberto Zamparelli. 2003. Coordinated bare definites. *Linguistic Inquiry* 34:443–469.
- Heycock, Caroline, and Roberto Zamparelli. 2005. Friends and colleagues: Plurality, coordination, and the structure of DP. *Natural Language Semantics* 13:201–270.
- Jackendoff, Ray. 1977. *X'-syntax: A study of phrase structure*. Cambridge: MIT Press.
- Jenks, Peter. 2017. Articulated definiteness without articles. Ms. To appear in *Linguistic Inquiry*.
- Julien, Marit. 2005. *Nominal phrases from a Scandinavian perspective*. John Benjamins.
- Julien, Marit. 2006. Nominal arguments and nominal predicates. In *Comparative studies in Germanic syntax: From Afrikaans to Zurich German*, ed. Jutta M. Hartmann and László Molnárfi, *Linguistik Aktuell/Linguistics Today*, 115–140. John Benjamins Publishing Company.
- Longobardi, Giuseppe. 1994. Reference and proper names: a theory of N-movement in syntax and logical form. *Linguistic Inquiry* 25:609–665.
- McNally, Louise. 1998. Existential sentences without existential quantification. *Linguistics and Philosophy* 21:353–392.
- Moro, Andrea. 1997. *The raising of predicates: Predicative noun phrases and the theory of clause structure*. Cambridge: Cambridge University Press.
- Roodenberg, Jasper. 2004. French bare arguments are not extinct: the case of coordinated bare nouns. *Linguistic Inquiry* 35:301–313.
- Schwarz, Florian. 2009. Two types of definites in natural language. Doctoral Dissertation, UMass Amherst.
- Schwarz, Florian. 2013. Two kinds of definites cross-linguistically. *Language and Linguistics Compass* 7:534–559.
- Simpson, Andrew. 2005. Classifiers and DP structure in Southeast Asia. In *Handbook of comparative syntax*, ed. G. Cinque and R.S. Kayne, 806–838. Oxford University Press.
- Simpson, Andrew, and Priyanka Biswas. 2016. Bare nominals, classifiers and the representation of definiteness in Bangla. *Linguistic Analysis* 40.
- Tsai, Wei-tien Dylan. 2001. On subject specificity and theory of syntax-semantics interface. *Journal of East Asian Linguistics* 10:129–168.
- Zamparelli, Roberto. 1996. Layers in the Determiner Phrase. Doctoral Dissertation, University of Rochester. (Published by Garland, 2000).
- Zamparelli, Roberto. 2013. Form and interpretation in Chinese nominals. In *Le parole del pensiero. Studi offerti a Nestore Pirillo*, ed. Fabrizio Meroi, 329–354. Pisa: Edizioni ETS.

