

THE INDONESIAN DP

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In this paper¹ I explore the constituent order within the Indonesian DP and argue that Indonesian employs two kinds of definite articles : (i) an anaphoric article, and (ii) a uniqueness article, which have different semantic properties (along the lines of Schwarz 2009) and are encoded in two different DP-layers. My proposal has interesting typological implications, since it suggests that in addition to NP and DP languages (e.g., Bošković (2008), Despic (2011), there are also languages with a layered DP structure. I also argue that the uniqueness DP layer and ClassifierP are in fact one and the same phrase. This is supported by the fact that the uniqueness definite article and classifiers are in complementary distribution; that classifiers are closely related to the uniqueness DP layer has also been suggested elsewhere. My proposal also derives in a natural way the order of DP-internal elements in Indonesian, and provides further support for Cinque's (2005) roll-up theory of the DP.

1. Introduction

Indonesian, the language that I will be exploring in this paper has an overt definite article in the form of a suffix *-nya*. Many scholars like Abney (1987) have suggested, on the basis of English data, that the definite article, indefinite article, possessives and demonstratives are all the head of a single DP projection, collectively categorized under the umbrella term Determiner (D). This theory has been challenged by many other scholars on the basis of various data from languages other than English where these types of determiners can co-occur with each other (Cinque (2005) is an example). Even scholars working with English have also posited more than one DP projection category for the language.

Heycock and Zamparelli (2003, 2005) have posited 3 DP layers: DP, NumberP and PIP. In their analysis, DP is the layer that contains the strong determiners universally in all languages; these are elements like the definite article, demonstratives and quantifiers. NumberP is the locus of cardinality and contains numerals, as well as weak determiners like the indefinite article. Lastly, the PIP is the projection that is responsible for plurality. In their analysis, definite articles can occur both in PIP and in DP; while the indefinite article can only occur in the PIP.

¹ I would like to thank my Q-paper chair, Miloje Despic, who has helped me develop the ideas and concepts discussed in this paper; also I would like to thank my A-paper chair, John Whitman, who has proof-read and helped me in writing this paper. Also equally helpful in the development of the ideas here are my committee members John Bowers, Molly Diesing and Abby Cohn.

Borer (2005), on the other hand, claims that the 3 maximal projections needed in a layered DP should be the DP, #P and ClassP. In her analysis, she claims that all nouns are mass, and that they need to be portioned out before they interact with the counting system. This portioning out is done by the classifier in classifier languages like Mandarin, but through plural morphology in languages like English. #P is the quantity phrase for Borer; and the indefinite article can be either in ClassP or #P; the definite article can be associated with all three projections.

These arguments for the existence of a universal layered DP are mainly based on the idea that different semantic meanings should be translated into different maximal projections in the syntactic structure. Ihsane and Puscas (2001), for example, are among the scholars who have argued that definiteness can be divided into specificity and definiteness, and that these semantic differences should be encoded into the syntax in the form of a split/layered DP, with each layer having distinct semantic content. More recently, Schwarz (2009) has also claimed that there are two kinds of definite articles in German; he extends this to a cross-linguistic claim in his subsequent publications, although he has not made any claims about how the semantics of definiteness should be translated into the syntactic structure.

In Indonesian, there is also evidence for two types of definite articles, one denoting the absolute or situational uniqueness of its referent, and another one denoting definiteness of its referent by way of strict co-indexation of repeated occurrences of the same noun within the same discourse. Sometimes the use of both kinds of definite article can overlap in Indonesian, but there are cases where one type of article is at least preferred to the other. Interestingly, the two kinds of definite article can also co-occur.

I will give a brief description of the Indonesian NP data in the next subsection. Then, in section 2 of the paper, I will expand on the use and co-occurrence possibilities of both kinds of definite article, as well as explain in more detail the structure of the layered DP that I am proposing. In section 3 of the paper, I will then discuss the co-occurrence impossibility of the article *-nya* and the number (and classifier). Then in section 4, I will provide some evidence supporting Cinque's (2005) claim that various attested surface DP orders in natural languages are the result of phrasal movements.

1.2. The Indonesian DP in a nutshell

The general word order in the Indonesian DP is such that all noun modifiers like adjectives and determiners are placed post-nominally, with the exception of number and classifier. The ordering of the post-nominal elements is the opposite of the DP word order in English.

The number of direct attributive adjectives that can be placed post-nominally is limited to a maximum of two and the order of post-nominal adjectives in Indonesian is the mirror order of prenominal adjectives in English, similar to

what others have observed in Romance languages and other languages with post-nominal adjectives.

- (1) Bola merah besar
ball red big
'big red ball'
- (2) * merah bola besar
red ball big
- (3) ? Bola besar merah
ball big red

This limitation to two postnominal adjectives only applies to direct attributive adjectives; predicative adjectives contained within a relative clause can be freely added with no restriction on their number. Relative clauses in Indonesian are headed by *yang*, a close equivalent to the English *that*.

- (4) ?Bola merah besar baru
ball red big new
'new red big ball'
- (5) Bola merah besar yang baru
ball red big that new
'the big red ball that is new'
- (6) Bola yang merah besar dan baru
ball that red big and new
'the ball that is big, red and new.'

From the contrast we see in (4),(5) and (6), it is clear that there is a difference between attributive and predicative adjectives. While attributive adjectives can directly modify the noun, predicative adjectives can only modify the noun indirectly from within a relative clause.

Possessive forms in Indonesian are identical to the pronouns: they are placed postnominally just like the adjectives. Possessives can co-occur together with the adjectives, and are placed after the adjectives.

- (7) Bola merah saya
ball red my
'my red ball'
- (8) Bola saya merah
ball my red
'my ball is red'

Even though most of the possessive forms in Indonesian are identical to their pronominal counterparts, there exists a special form of the third person singular possessive: *-nya*. The pronominal form of the third person singular is *dia*,

and when placed behind a noun, *dia* can also signal the third person singular possessive. However, as an alternative, *-nya* can also be used.

- (9) Bola merah dia
ball red his/her
'His or her red ball.'
- (10) Bola merah-nya
ball red his/her
'His or her red ball / the red ball'

There is no contrast between (9) or (10) in terms of signaling possession. However, there is ambiguity present in sentence (10) because *-nya* also happens to be the definite article in Indonesian. As such, sentence (10) can be interpreted as either 'his/her red ball' or 'the red ball' depending on the discourse. *-nya* cannot co-occur with other possessives, even when it is used as the definite article.

Then, there are two kinds of what people generally call "demonstratives" in Indonesian: *ini* 'this' and *itu* 'that'. The demonstratives can co-occur with the adjectives and the possessives; and are placed after the possessives.

- (11) Bola merah saya ini
ball red my this
'this my red ball'
- (12) Bola merah saya itu
ball red my that
'that my red ball'

Aside from serving as a demonstrative, *itu* can also be an anaphoric definite article. If a noun has been linguistically introduced in the discourse, then *itu* can be used as a definite article that refers to that specific noun.

- (13) Saya baru beli baju baru. Baju itu mahal sekali.
I just buy clothes new. Clothes DEF expensive very
'I just bought some new clothes. The clothes are very expensive.'

Although Austronesian languages typically have a vast variety of classifiers, the use of these classifiers has become very sparse in Indonesian especially in colloquial/everyday speech. Classifiers are often omitted with numerals that denote two or more, but they are still used very frequently when denoting the number one or when used with uncountable nouns.

When numbers and classifiers co-occur together, both are placed in front of the noun with the classifier placed between the number and the noun. Both numbers and classifiers can co-occur with all other elements in the DP except for the definite article *-nya*.

- (14) Tiga (buah) bola merah saya itu.
three class. ball red my that
'Those three balls of mine'
- (15) *satu (buah) matahari -nya
one class. sun DEF
'the one sun'
- (16) * Dua orang presiden -nya baru mendarat di Soekarno-Hatta.
two class. president DEF just landed at Soekarno-Hatta.
'The two presidents just landed at Soekarno-Hatta (the Jakarta airport)'
- (17) *Lima (buah) buku -nya mahal sekali
five class. book DEF expensive very
'The five books are very expensive.'

Even though the classifiers are not necessarily always pronounced, nothing can intervene between the number and the classifier, and not pronouncing the classifier does not change the order or co-occurrence possibilities of the number with other elements in the DP. The presence of the classifier *buah* in sentence (14) or (15), for example, does not really matter. As long as the numeral is present, *-nya* cannot be used. Thus, I conclude that even if the classifier is not pronounced at times, it is still present in the syntactic representation.

Also, to form the indefinite article, a reduced form of the numeral *satu* 'one', *se-* is used together with a classifier.

- (18) Saya baru membeli sebuah buku.
I just buy one-classifier book
'I just bought a book.'

Very often, the full numeral *satu* 'one' can also be used to replace the reduced form of one and classifier to form the indefinite article; in which case *satu* functions simply as an indefinite article on its own.

- (18') Saya baru membeli satu buku.
I just buy one book
'I just bought a book.'

Due to this close relationship between the number and classifier, I propose in this paper that the number and classifier are contained within one maximal projection.

The following points summarize the data in relation to the determiners:

- A. The demonstrative and definite article CAN co-occur.
- B. The possessives and the demonstrative CAN co-occur.
- C. The indefinite article and the possessives CAN co-occur.
- D. The indefinite article and the demonstrative CAN co-occur.
- E. The definite article *-nya* and possessives CANNOT co-occur.

- F. The definite article and indefinite article (as well as other Number+Classifier combination) CANNOT co-occur.

At first glance, it seems that there is a need for more than just one projection to “house” the determiner, but at the same time an overgeneration of maximal projections in the DP is also not desirable. Thus, in the following sections, I explore this data more in depth, and will propose which maximal projections are needed within the Indonesian DP.

1.3. My proposal in a nutshell

Considering the co-occurrence possibilities of the different determiners in Indonesian, I propose a need for 3 layers of DP: DP1, DP2 and the Possessive Phrase. I argue that there are two kinds of definiteness that can be conveyed in slightly different ways in Indonesian: strong definiteness (based on anaphoricity) and weak definiteness (based on situation). These different kinds of definiteness provide the basis for a layered DP in the syntactic structure. In my proposal, the DP layer with strong definiteness is the topmost layer DP1, and houses the strong article as well as demonstratives. The DP layer with the weak definiteness is DP2² and can be filled with either the weak article *-nya*, the indefinite article or the Number and Classifier. Based on this data and analysis, specifically based on the fact that elements occupying DP2 can surface either to the right or to the left of the Noun, I argue that Cinque’s rather complicated roll-up movement provides the best account of the surface order in the Indonesian DP.

2. Definite Articles & Demonstratives

2.1. Two Kinds of Definite Articles in Indonesian

The definite article *itu* is the preferred definite article for indicating anaphoricity, while *-nya* is the only article for definite descriptions that are used situationally and in bridging. Sentence (19) below (repeated from sentence (13) above) is an example of how *itu* is used anaphorically as a definite article.

- (19) Saya baru beli **baju baru**. **Baju itu** mahal sekali.
I just buy clothes new. Clothes DEF expensive very
‘I just bought some new clothes. The clothes are very expensive.’

Here, *itu baju* clearly denotes the *baju* that has already been concretely established in the course of this specific discourse. *-nya* can also be used anaphorically (sentence (19’) below), but *itu* is preferred. This is not surprising,

² This is a temporary naming that I have adopted. This layer can also simply be the NumP or ClassP layer, as has been suggested by many others and has been pointed out to me by a member of my Q paper committee, John Bowers.

because when an entity has been established in the discourse, then that entity also becomes the most salient entity in that particular situation; thus, it is expected that *-nya* should also be felicitous. This means that even though, *-nya* is felicitous in sentence (19') below, there is a different mechanism at play compared to sentence (19) above. I propose that in sentence (19) above, there is strict co-indexation of both occurrences of *clothes*, but in sentence (19') below the definite description picks up its referent because it is sufficiently "unique" in the discourse due to previous mention in the preceding sentence. In this case, definiteness is derived without co-indexation.

- (19') Saya baru beli baju baru. Baju -nya mahal sekali.
I just buy clothes new. Clothes DEF expensive very
'I just bought some new clothes. The clothes are very expensive.'

However, if a definite description refers back anaphorically to a preceding entity that has a different form in the utterance, only *itu* is felicitous.

- (20) Saya baru saja mengunjungi seorang **anggota DPR**.
I just visited a member parliament.
Politikus itu (?nya) sangat ramah.
politician DEF very friendly.
'I just visited a member of parliament. The politician was very friendly.'

Here, *the politician* refers back to *the member of parliament* that has been uttered in the discourse; and for this specific anaphoric use, only *itu* is grammatical. This is the case because *itu*, as I proposed above, picks up its referent by way of co-indexation (in this case between *member of parliament* and *politician*). *-nya*, on the other hand, must pick its referent by virtue of it being "unique" in the situation. Because there are a lot of members of parliament, and there are several types of politician in the world, this referent (*anggota DPR*) is not unique enough to be picked up by *-nya*. This shows that there is indeed a contrast between how *itu* and *-nya* pick up their referent in definite descriptions.

To indicate absolutely unique entities like *the sun*, however, the definite article *-nya* is used exclusively.

- (21) Matahari-nya(*itu) panas sekali hari ini.
sun DEF hot very day this
'the sun is very hot today.'

And, if there is only one table in a room where a conversation takes place, then when referring to that specific table in the room, the discourse participant would also use *-nya* (assuming that *the table* has never been verbally mentioned in the conversation). This is expected because in sentences (21)-(22), coindexation is not possible and *-nya* requires some sort of uniqueness entailment.

- (22) Mejanya (*itu) besar sekali
table DEF big very
'The table is very big.'

For bridging uses, only *nya* can be used (See sentence (23) below).

- (23) Budi baru membeli **sepasang sepatu. Designer-nya** (*itu) terkenal di Paris.
Budi just buy a pair shoes designer DEF famous in Paris.
'Budi just bought a pair of shoes. The designer is famous in Paris.'

From the sentences above, it is clear that *itu* has a more "anaphoric" use where it can only describe the definiteness of an entity that has been linguistically introduced in a specific conversation (indicating strong familiarity and requiring strict coindexation)³. On the other hand, *-nya* can pick out a unique entity in a particular situation, even if this entity has not been concretely introduced in the conversation (only requiring weak familiarity). As demonstrated in sentences (13) and (13'), both types of definite articles can overlap in their use, but for strictly situational use (as demonstrated in sentences (20) and (21)), *itu* cannot be used.

Schwarz (2009), in his dissertation also argues that there are two kinds of definiteness in German. I reproduce the data below taken from his dissertation to show some parallelism with the Indonesian data:

- (24) Hans ging zum Haus.
Hans went to-the weak house
'Hans went to the house.'
- (25) Hans ging zu dem Haus.
Hans went to the strong house
'Hans went to the house.'

In Schwarz's theory, the contracted form of the definite article (in (24)) is called the weak article; it is characterized as requiring uniqueness (relativized to a situation). The non-contracted form of the article (in (25)), on the other hand, is the strong article, which is used anaphorically. When we consider how strong definiteness is realized, it makes sense to have this clear division. Used anaphorically, an article signals strong definiteness, where the definiteness does not depend on a situation. Revisiting my sentence (13), for example, the identity of the clothes that the speaker talks about is fixed; and even if she/he buys many more clothes in the future, or conducts the conversation on Mars, the definiteness of the clothes does not change because all that matters is the coindexation of both instances of *clothes* in the utterance. The definiteness indicated in sentence (21) above, however, may change depending on the context. If, one were to imagine the

³ At this point, I cannot explain why nested coindexation is not allowed in sentence (23).

conversation taking place in another galaxy (not the Milky Way), then *the sun* that the speaker refers to might change.

Interestingly, *itu* and *-nya* can also both co-occur as definite articles in Indonesian. However, when *itu* and *-nya* co-occur, for both elements to be interpreted as the definite articles, the context must be clear. If we take sentence (26), for example, I would first have to have already introduced a bicycle in the discourse to make the sentence felicitous (shown in sentence (26')).

- (26) ?Sepedanya itu baru dicuri orang
bicycle DEF DEF just stolen person
'The bicycle just got stolen by someone.'
- (26') Ali baru beli sepeda baru, tapi sepeda(-nya) itu sudah dicuri orang
Ali just buy bicycle new but bicycle DEF DEF already stolen person
kemarin.
yesterday.
'Ali just bought a new bicycle, but that bicycle has been stolen by someone
yesterday.'

When there is double occurrence of the two different kinds of definite article, the meaning of the noun phrase becomes more specific. With *-nya* added to *itu*, as seen in sentence (26') above, the speaker isn't just picking out a specific bicycle, but he/she seems to also be familiar (either has seen, or has ridden, etc) with the bicycle. This means that definite article doubling is not merely an instance of morphological doubling, and supports the argument that both kinds of definite article have their own semantic meanings that are different. *Itu* picks out the previously mentioned bicycle via coindexation, while *-nya* also picks out the very same bicycle by way of it being unique (from the standpoint of speaker knowledge). Thus, there is the added layer of definiteness present in the sentence.

From the data in this section, it seems that there are these two kinds of definiteness that, in Indonesian, can be expressed by two different definite articles: i) *itu* is used more for anaphoricity (strong definiteness) and must derive definiteness from strict coindexation; while ii) *-nya* is used more for situational and bridging purposes. Ihsane and Puscas (2001) and Alexiadou (2014), among others, have suggested that in cases where there are different kinds of definiteness, as we have seen is the case in Indonesian, the DP should be split into different categories to represent the different semantic meanings. Following this line of analysis, I posit two layers of DP. I propose calling these two layers DP1 and DP2 (See Figure 1 below). DP1 represents strong definiteness; and DP2 represents weak definiteness.

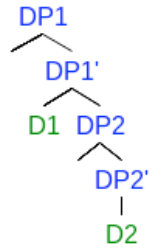


Figure 1: A layered DP

This split in the DP to house strong and weak articles is not a novel idea. Borer (2005), Heycock & Zamparelli (2003), and others, have also proposed that the strong article like the definite article should be housed in a different maximal projection than the weak articles like the indefinite article.

2.2. Demonstratives

Now, looking at the function of the demonstratives in Indonesian, I hesitate to group the two demonstratives *ini* ‘this’ and *itu* ‘that’ into the same category. If they are both demonstratives, then we would expect them to function similarly as regards their usage as an anaphoric definite article. However, this is not the case in Indonesian: *ini* cannot be used anaphorically in the language.

- (27) Saya baru beli baju baru di Mangga dua. Baju baru itu (?ini)
 I just buy clothes new in Mangga dua. Clothes new DEF (?this)
 murah sekali
 cheap very
 ‘I just bought some clothes in Mangga dua (a famous retail shopping place in Jakarta). The clothes are very cheap.’

From this, it has to be concluded that *ini* is a purely demonstrative element, whereas *itu* has an additional meaning in its semantics that allows it to be an anaphoric definite article. Also, *ini* can only be used demonstratively to point to the most recently mentioned entity in a preceding sentence.

- (28) Dono punya seekor kucing putih dan seekor kucing hitam. Kucing hitam
 Dono has a cat white and a cat black cat black
 ini lebih lama dipelihara Dono dibandingkan kucing-kucing lainnya.
 ini more long taken care Dono compared cats other
 ‘Dono has a white cat and a black cat. Dono has taken care of this black cat for a longer time compared to his other cats.’

- (28') *Dono punya seekor kucing putih dan seekor kucing hitam. Kucing putih
Dono has a cat white and a cat black cat white
ini lebih lama dipelihara Dono dibandingkan kucing-kucing lainnya.
ini more long taken care Dono compared cats other
'Dono has a white cat and a black cat. Dono has taken care of this white cat
for a longer time compared to his other cats.'

In sentences (28) and (28') there is an obvious contrast. The more recently mentioned cat is the black cat; *ini* can only be used to refer to this particular cat. When *ini* is combined with the earlier expression *white cat*, the sentence becomes ungrammatical (28'). With *itu*, however, the situation is very different. *Itu* can be used to denote either the black cat or the white cat.

- (28'') Dono punya seekor kucing putih dan seekor kucing hitam. Kucing hitam
Dono has a cat white and a cat black cat black
(kucing putih) itu lebih lama dipelihara Dono dibandingkan kucing-
cat white itu more long taken care Dono compared cats
kucing lainnya.
cat other
'Dono has a white cat and a black cat. Dono has taken care of the black
cat/white cat for a longer time compared to other cats.'

This data shows that there are definite contrasts between *ini* and *itu*, with *ini* behaving much more like a demonstrative, while *itu* patterns much more like a definite article. One of my language consultants also argues that the following sentence is ungrammatical or odd with *ini* because the fact that the bicycle has been stolen means that it is no longer there. Thus, one cannot refer to it by way of *ini* anymore. This suggests that *ini* is very strictly related to location, but *itu* is used in a totally different way.

- (29) Ali baru beli sepeda baru, tapi sepeda itu (*ini) sudah dicuri orang
Ali just buy bicycle new but bicycle DEF DEF already stolen person
kemarin.
yesterday
'Ali just bought a new bicycle, but that bicycle has been stolen by someone
yesterday.'

Interestingly, the same kind of contrast exists in English between *this* and *that*. *This*, for example is only felicitous in cases where there are contrastive differences.

- (30) I saw one quilt which was quite abstract, with lots of asymmetric diagonals. **Another** was more traditional, worked in an old Amish pattern. **This quilt** was less busy than the other, but just as bold.

(Roberts 2002)

English *this* is also not the preferred or default anaphoric article, as is the case in Indonesian.

- (31) I saw a movie about frogs. This movie about frogs was really good.⁴

Many scholars (Roberts (2002), Wolter (2006)) have also discussed in detail the use of demonstrative *that* as a special subtype of definite article. Roberts (2002) also observes, however, that in English *that*, with two equally possible antecedents, is unacceptable as an anaphoric definite description, while a demonstrative description necessarily refers to the most recently mentioned potential antecedent.

- (32) A woman_i entered from stage left. Another woman_j entered from stage right.
a. #The woman/That woman_j/She_j was carrying a basket of flowers.

Thus, we see that while *that* can be used as a definite article, there are instances where it shows more demonstrative properties (as seen in (32)). In Indonesian, however, the use of *itu* instead of *-nya* does not improve on the grammaticality of the sentence. Below I reproduce sentence (32) in Indonesian. This means that *itu* “fails” to function as a demonstrative that refers to the most recently mentioned potential antecedent.

- (32') Seorang wanita masuk dari kiri. Seorang wanita_j lain masuk dari kanan.
A woman enter from left a woman other enter from right
'A woman entered from the left. Another woman entered from the right.'
a. #Wanita-nya/ #Wanita itu membawa satu keranjang bunga.
Woman – nya woman itu bring a basket flower
'The woman / that woman brought in a basket of flower.'

Thus, it seems that *itu* is not really synonymous with the English demonstrative *that*, and behaves a little more like the English definite article *the*.

3. Num+Class, the Weak Article *-nya* and the Possessives

Next I reproduce my earlier example illustrating that co-occurrence of the weak article *-nya* and the Num+Class (which can also signal indefiniteness) is impossible.

⁴ This sentence was suggested to me by my committee member Molly Diesing.

- (33) *satu (buah) matahari -nya
one class. sun DEF
'the one sun'

Since *-nya* indicates absolute or situational uniqueness, this complementarity is not surprising. A DP cannot be both indefinite and unique in a specific situation, thus, the Num+Class complex that can also indicate indefiniteness cannot co-occur with the weak definite article *-nya*. Syntactically, this begets the question of whether or not there is a need to generate two separate maximal projections at all. Of course, this incomplementarity can simply be due to the semantics. However, even when we have numbers other than one occurring with the classifier, we still cannot have Num+Class co-occurring with the weak article *-nya*. Below I reproduce my earlier sentence from the introduction to illustrate this.

- (34) *Dua orang presiden -nya baru mendarat di Soekarno-Hatta.
two class. president DEF just landed at Soekarno-Hatta.
'The two presidents just landed at Soekarno-Hatta (the Jakarta airport).'
- (35) *Lima (buah) buku -nya mahal sekali
five class. book DEF expensive very
'The five books are very expensive.'

From this, it is clear that the co-occurrence impossibility we observe cannot be due to the semantics; and can only be syntactic. Assuming that the syntax avoids redundancy and favors simplicity, I propose that the maximal projection containing either the weak article *-nya* or the Num+Class complex is one and the same projection. Following my naming convention in the previous section, I will call this DP2.

Here, I reiterate that I treat the number and classifier in this language as a complex that occupies the Spec and Head position of the same projection. I have pointed earlier to the fact that the Num+Class complex forms the indefinite article as the main reason for believing that the number and classifier are contained within the same projection. However, the number and classifier are also the only elements that are to the left of the noun in the Indonesian DP.

- (36) Tiga buah bola merah besar saya yang bulat ini.
three (class) ball red big my that round this.
'These three red big ball that is round that belong to me'

Since they are the same projection (DP2) in the structure in my theory, they should branch in the same way. However, the DP word order is such that ClassP is prenominal and DP2 is post-nominal. Below I reproduce some example sentences from the introduction to illustrate this.

- (37) Bola merah-nya
ball red his/her
'His or her red ball / the red ball'
(38) **Tiga (buah)** bola merah saya itu.
three class. ball red my that
'Those three balls of mine'

To account for the different branching of *-nya* and the Num+Class, I adopt Cinque's roll-up movement (see section 4 below).

Another co-occurrence impossibility that must be briefly addressed here is that of the weak definite article *-nya* and other possessives.

- (39) *Jam tangan-nya kamu.
Watch DEF you.
'The your watch'

The possessive can, however, co-occur with the Num+Classifier.

- (40) Sebutir telur Rina.
A egg Rina
'Rina's one egg.'

As such, I cannot posit that the possessive is also in the DP2 projection. There needs to be a separate DP projection for the Possessives. I propose that the weak article *-nya* that may itself function as a possessive is always base generated in this possessive projection. If *-nya* moves up into DP2, then it gets interpreted as the weak article. This is why we cannot get the possessive and the weak article co-occurring together.

4. Cinque's Roll Up Movement

Cinque (2005) utilizes Kayne's LCA in deriving the attested and unattested orders within the DP cross-linguistically. Cinque argues that elements that modify the noun are base generated pre-nominally in the strict order of Dem > Num > Adj > N. These maximal projections, in his theory, are also uniformly left-headed; DP-internal configurations other than the one base generated are derived by movement.

The following are the principles of Cinque's analysis:

- (a) The underlying hierarchical order in the extended projection of the noun is Agrw>W>AgrX>X>AgrY>Y>N where Y hosts AP in its specifier, X hosts NumP in its specifier and W hosts DemP in its specifier;
- (b) all (relevant) movements move a subtree containing N;
- (c) all movements target a c-commanding position;

- (d) All projections are modelled on the template (Kayne (1994)): [XP Spec [XP X0 Compl]]

To derive all and only the attested order of DP configurations, Cinque has to make a few more assumptions:

- (A) Merge order of the elements is Dem>Num>A>N
 (B) Parameters of movements:
 (i) No movement (unmarked)
 (ii) Movement of NP + pied-piping of the whose picture type (unmarked)
 (iii) Movement of NP without pied-piping (marked)
 (iv) Movement of NP + pied-piping of the picture of who type (more marked)
 (v) Total (unmarked) vs. partial (marked) movement of NP with or without pied-piping
 (vi) Neither head movement nor movement of phrase not containing NP is possible

Cinque's theory essentially involves different kinds of phrasal movements that move in succession through the Spec position of Agr in a roll- up fashion.

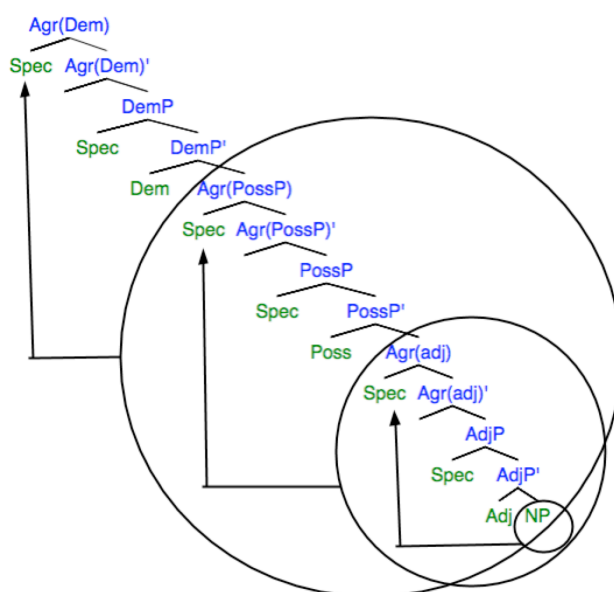


Figure 2: Cinque's roll-up movement

Under Cinque's theory, the fact that numbers and classifiers are prenominal while other elements are post-nominal means that Indonesian has to employ two types of pied-piping movements:

- (ii) Pied-piping of constituents of the whose picture type that is responsible for the postnominal order of elements that is the mirror image of the prenominal order seen in English.
 (iv) Pied-piping of constituents of the picture of who type that is responsible for the placement of numbers and classifiers prenominally.

If, as I mentioned earlier in the previous section, number and classifier are contained within the same projection (and Number is specifically in the Spec Agr of the classifier projection), then the Spec of Agr(ClassP) is always necessarily filled by the numeral; and we can arrive at a natural explanation of why movement type (ii) cannot happen; and why movement type (iv) must happen whenever Classifiers are present: because the presence of the numeral blocks movement type (ii) in Cinque's theory.

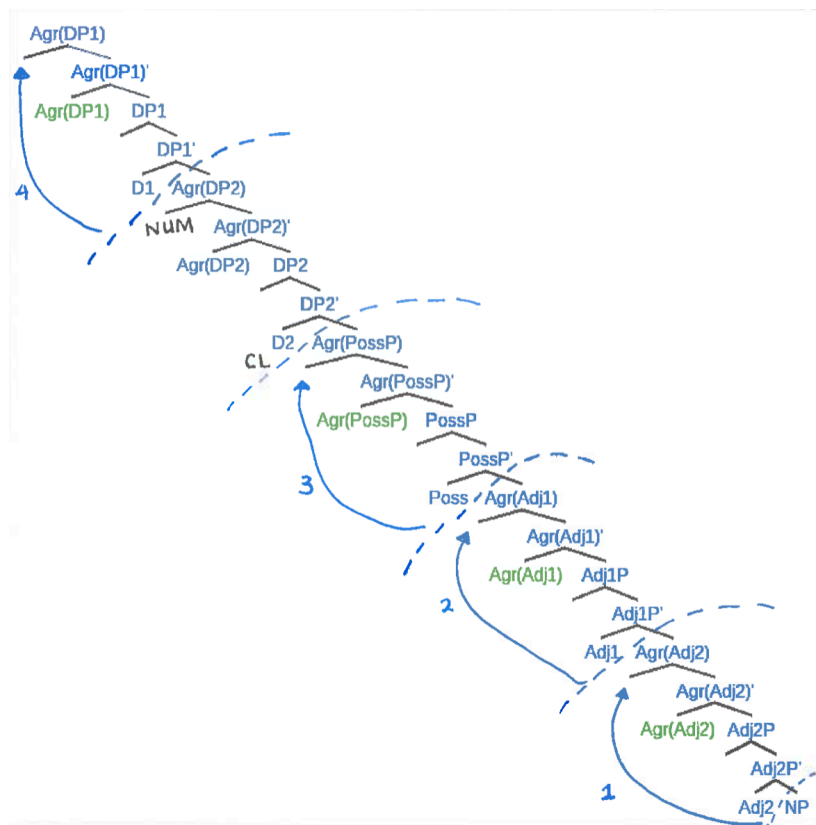


Figure 3: Roll-over movement for Indonesian with Num+Class

In the event that DP2 is filled with *-nya* instead of number and classifier, the Agr of DP2 is not filled with anything; and the roll-up movement can go through the Agr of DP2 without any hindrance, placing *-nya* to the right of the noun.

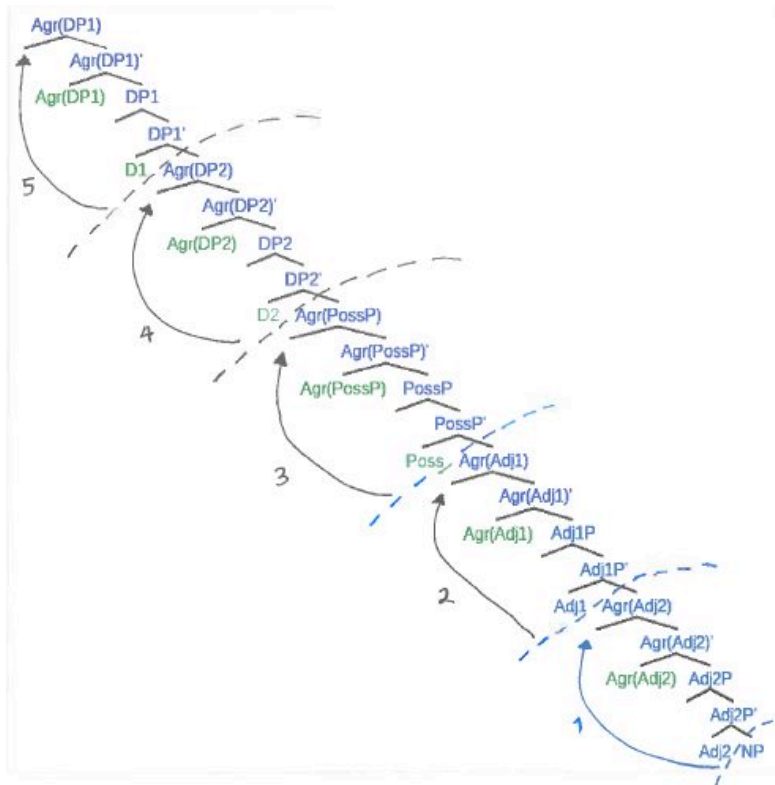


Figure 4: Roll-up movement for Indonesian DP with *-nya* in DP2.

We see thus that Cinque's derivational account provides an explanation for the positions of the Num+Class and *-nya* in the syntax. A base generation account (Abels & Neeleman 2012) would, in contrast, find it difficult to explain the data.

5. Conclusion

Following the line of analysis adopted by other proponents of a layered categorical DP (Borer (2005), Heycock & Zamparelli (2003), et al), I propose 3 layers of DP in Indonesian: DP1, DP2; and the Possessive Phrase. I do not, however, make the claim that this structure should be universal. Instead, it is fully possible that this is a syntactic parameter, similar to what Boskovic (2008) and Despic (2011) have suggested for DP and DP-less languages.

Further research needs to be done, especially since I have omitted quantifiers from the discussion of Indonesian determiners in this paper. Also, while a preliminary comparison between A&N's theory and Cinque's theory seems to favor Cinque's theory in general, I have not been able to provide solutions to the problem of Cinque's heavy reliance on Agr projections and the assumptions of cartographic theory.

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