The Syntactic Structure of Noun Phrases in Indonesian

by

Gina Loewen

**A Thesis submitted to the Faculty of Graduate Studies of
The University of Manitoba in partial fulfillment
of the requirements for the degree of**

MASTER OF ARTS

**Department of Linguistics
University of Manitoba
Winnipeg**

Abstract

Recent developments in linguistic theory carried out within the Minimalist Program (Chomsky 1995; Adger 2003;) provide a functional and concrete framework for an analysis of noun phrases in the Indonesian language, a Western-Malayo Polynesian sub-branch of the Austronesian language family. An analysis of Indonesian noun phrase structure within this framework demonstrates that the head noun occurs in a base-generated position, at the bottom of a DP, while pre- and post-nominal modifiers are contained within a number of additional projections that merge above the head noun. In this thesis, the proposal is made for a relatively unrestricted adjunction analysis, whereby head adjunction via Merge allows for the direct expansion of N^0 at various levels of the Indonesian DP. Evidence is presented to show that the adjoined status of attributive nouns and adjectives, a plural feature [PL], and the feature [DEF] generates a complex hierarchical structure in which there is no predefined order between a specifier or complement and the head noun. In addition, it is argued that bare nouns are neutral with respect to number and, given that number-marking, possession and (in)definiteness are optional, all projections that merge above N^0 are optional and context is needed to accurately interpret an Indonesian bare noun.

Acknowledgments

I am delighted to have this opportunity to express my deepest gratitude to my supervisor, Dr. Jila Ghomeshi, for her encouragement, patience and guidance throughout this process. Jila was instrumental not only in my undergraduate work, where her enthusiasm for teaching inspired my passion for syntactic analysis, but her own research in syntax and her willingness to take me on as a Master's student motivated me to pursue graduate studies at The University of Manitoba. Jila has been a brilliant mentor and friend. Not only was she accessible to answer questions by email or phone, she also made herself available to meet 'in a pinch' when I found myself frustrated and lacking direction in my research. We have had many conversations over a (cup of) coffee where she talked me through challenges, helped me put things into perspective, and sensitively nudged me forward. Jila has been prominent in helping guide this project to completion and I thank her for continually believing in me.

I would also like to thank Dr. Lorna MacDonald, one of my undergraduate professors, and Dr. Yuhko Kayama, instructor in Asian Studies, for taking the time to evaluate my thesis and for serving on my defense committee. Your valuable comments and linguistic knowledge helped strengthen my overall analysis.

Thank you to Dr. H. C. Wolfart, one of my graduate studies professors, for his keen attention to detail and sharp editing skills. During the course of my graduate coursework, Dr. Wolfart challenged me to become a more confident and succinct writer and provided me with tools to say more with less. Also, with his encouragement, I successfully submitted and presented a paper at the Proceedings of the Canadian Linguistics Association in May, 2007, which provided valuable experience and

networking opportunities.

A special thank you to Abigail Megawati, my native Indonesian-speaking consultant and friend, for being available at a distance to check the accuracy of my data, clarify its meaning, and confirm that I was communicating what I intended.

I gratefully acknowledge the Government of Manitoba and the Social Sciences and Humanities Research Council of Canada, who provided me with financial support during my first two years of graduate studies.

Most importantly, I wish to acknowledge the ongoing support, encouragement and prayers of my wonderful housemates and friends (too many to name here), my understanding and empathetic colleagues, and my loving family who never gave up on me. I cannot thank them enough for walking with (and sometimes carrying) me over hills and through valleys, helping me overcome obstacles, and sharing stories of their own challenges that motivated me to completion.

And finally, to my loving fiancé, John, who eventually confronted me with a reality that motivated me to attain the goal I originally set for myself when I began this project – thank you!

Table of Contents

List of Abbreviations

1	first person	MDT	Morphological Doubling Theory
2	second person		
3	third person	N	noun
ADJ	adjective	NEG	negative
AP	adjective phrase	NOM	nominal
C	complementizer	NP	noun phrase
CARD	cardinality	OP	operator
CardP	cardinality phrase	P	preposition
CL	classifier	PL	plural
COP	copula	POL	polite
CP	complementizer phrase	POSS	possessor
D	determiner	PossP	possessor phrase
DEF	definite	PP	prepositional phrase
DEM	demonstrative	PROG	progressive
DM	Distributed Morphology	Q	quantifier
DP	definite phrase	RC	relative clause
EXC	exclamation	RED	reduplication
EXCL	exclusive	REL	relative
FP	functional phrase	SC	small clause
H	head	SG	singular
MA	massifier	SPEC	specifier
MAN	manner	V	verb
		VP	verb phrase

Section 1: Introduction

An analysis of the internal structure of noun phrases in various languages provides

linguists with an intriguing set of data. Noun phrases in Indonesian are no exception,

demonstrating a number of unique distributional and syntactic characteristics.

Historically, syntax has dictated the properties of head-complement structure and, in turn,

linear order, and linguists continue to debate the most efficient syntactic process for

generating structures with the correct linear order. In this thesis, I propose an adjunction

analysis that accounts for the distributional facts of Indonesian noun phrases. I argue that

the head noun occurs in a base-generated position, whereas all noun modifiers are join

the structure above the head noun. Adopting a Minimalist approach (Adger 2003;

Chomsky 1995), whereby the operations Merge and Adjoin generate a complex

hierarchical structure, I claim that adjunction is relatively unrestricted in Indonesian and

allows for the direct expansion of the head noun at various levels. I demonstrate that, in

addition to attributive nouns and adjectives, the adjunction of various features produces a

structure in which a specifier or complement can occur on either side of the head noun.

Furthermore, I argue that Indonesian bare nouns are neutral for number and, given that

number-marking, possession and (in)definiteness are optional, all projections that merge

above the head noun are optional.

1.1 Purpose

This discussion of Indonesian noun phrase structure is centred around the distribution and

syntax of pre- and postnominal modifiers, with the assumption that the Indonesian head

noun occurs in a base-generated position. In this introductory section, I provide some

background of the Indonesian language and briefly describe the two varieties of

Indonesian. I then present the modifying elements that appear within the noun phrase and show their basic linear order relative to the head noun. Finally, I outline the formal theory used as the basis for my overall analysis, followed by an outline of the organization of the thesis.

1.2 Background

The official language of Indonesia is *Bahasa Indonesia* ('language of Indonesia'), a member of the Western-Malayo Polynesian sub-branch of the Austronesian language family. Indonesian developed as a variety of Malay and initially served as a *lingua franca* among speakers of hundreds of languages in the Indonesian archipelago. Indonesian was established as the primary language of Indonesia in 1928, when Indonesia was declared one nation with one language, and gained its status as the national language when Indonesia first gained independence from Dutch rule in 1945 (Macdonald 1976:1). Following Indonesian independence, Malaysia became an independent nation with *Bahasa Melayu* as one of its official languages. Thus, the Indonesian and Malaysian languages are "essentially one and the same language, [and] have become of marked importance in the area of South-East Asia" (Macdonald 1976:2).

There are two distinct varieties of Indonesian, formal (also referred to as 'standard') and informal, and for a majority of Indonesians this distinction creates added linguistic complexity.[1] The formal variety of Indonesian is regarded as a superior form of the language and proficiency in formal Indonesian typically marks the educational level of a speaker. Formal Indonesian is the product of deliberate language planning and is regarded as the language of the media, government, administration, and all levels of

---

[1] Halim (1981, as quoted in Sneddon 2006:6) comments that formal and informal Indonesian vary "to such an extent that an attempt to account for both by a single unified approach would be extremely complex, if not impossible".

education. However, Sneddon (2003:10) points out that "although the formal variety has [great] prestige, many people feel alienated from it", since colloquial speech is the primary and most pervasive form used in daily interaction.

Informal varieties, on the other hand, vary considerably throughout the Indonesian archipelago. Considered to be more grammatically 'tolerant', informal Indonesian is "marked by a relaxing of the externally-imposed, prescriptive norms of "standard" Indonesian" (Englebretson 2003:5). According to Sneddon (2006), the migration of Indonesian families to the larger cities is causing the demise of regional languages as an esteemed variety of informal Indonesian is developing into a standard colloquial variety among the middle class. Despite its widespread use, however, language planning authorities have not "shown any interest in informal varieties of the language, either in cultivation or description. These have consequently remained largely undescribed and unstandardised" (Sneddon 2006:4).

For purposes of this discussion, I focus on the formal variety of Indonesian and the various constituents that function as modifiers within the noun phrase.

1.3 Basic Constituent Order

Indonesian is an isolating language with SVO word order. The head noun in Indonesian typically appears at the left edge of the noun phrase and can be followed by a number of modifying elements, such as adjectives (1a), possessors (1b), prepositional modifiers (1c), and demonstratives (1d).[2]

1)   a. anjing *hitam*
         dog   black
          'a/the black dog'

---

[2] All non-referenced data is taken from my notes accumulated during a one-year residency in Indonesia and confirmed by personal correspondence with native Indonesian speakers thereafter.

b. anjing *Edy*
　　　　　dog　　Edy
　　　　　'Edy's dog'

　　　　c. murid　*dari　Jepara*
　　　　　student from Jepara
　　　　　'a/the student from Jepara'

　　　　d. anjing *itu*
　　　　　dog　　DEM
　　　　　'that dog'

However, Indonesian noun phrases differ from a majority of head-initial languages in that

quantifiers and numerals precede the head noun, as in (2).

　2)　　a. *dua* anjing
　　　　　two dog
　　　　　'two dogs'

　　　　b. *beberapa* murid
　　　　　several　　student
　　　　　'several students'

In addition, (3) shows that number can also be expressed by means of reduplication.

　3)　　*anjing-anjing* itu
　　　　dog.PL　　　　DEM
　　　　'those dogs'

　　　As we will see in the subsequent discussion, linear order is central to the

relationship between modifying constituents and the head N in Indonesian, not only in

terms of grammaticality but also as a means for disambiguating the function of a modifier.

1.4 Theoretical Assumptions

In this section, I discuss the properties of bare phrase structure that comprise the

theoretical framework for my analysis of noun phrases in Indonesian. Following Adger

(2003), I adopt a Minimalist approach as proposed by Chomsky (1995), which stands in

contrast to other theories of formal syntax, such as Lexical Functional Grammar (LFG)

and Head Driven Phrase Structure Grammar (HPSG). Minimalism provides a framework within which to develop a syntactic theory that uses as few basic principals as possible.

In Minimalism, the syntactic operation MERGE joins two SYNTACTIC OBJECTS[3] to form a new syntactic object, thus generating a complex hierarchical structure. This new object can be referred to as a CONSTITUENT and IMMEDIATELY CONTAINS both original objects. Each syntactic object is made up of a bundle of MORPHOSYNTACTIC FEATURES (henceforth, FEATURES), abstract properties that affect both the semantic and syntactic interpretation of the object. In tree diagrams, a NODE represents a bundle of features and the primary feature of each bundle determines the label that is used to represent the node. This is shown in (4).

4)   Z
       ⟋   ⟍
   X [X, V, Q, …]   Y [Y, W…]
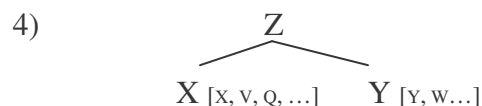
Merge is driven by the need to check features, meaning that the features on one node in syntax must be checked by a matching feature on another node. The types of features and the distance between them are specified by the theory. One type of CHECKING is the process whereby the feature [Y] of one syntactic object matches the uninterpretable C-SELECTIONAL FEATURE [uY] of another syntactic object. A c-selectional feature refers to the categorial feature of a lexical item that determines the category of other objects that can merge with it. The CHECKING REQUIREMENT states that "[u]ninterpretable (c-selectional) features must be **checked**, and once checked, they can delete" (Adger 2003:85). When two syntactic objects merge they become SISTERS; the

---

[3] The term SYNTACTIC OBJECT corresponds to the use of MORPHEME in Distributed Morphology (see Harley and Noyer (1999)), or what used to be called a WORD. For the purposes of this paper, I use the term syntactic object to refer to this abstract grammatical representation.

uninterpretable c-selectional feature of object X is checked by the matching feature of its sister Y. This process, referred to as CHECKING UNDER SISTERHOOD, is shown in (5).

5)   Z

          X [X; *uY*]   Y [¥]
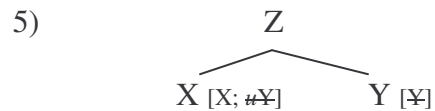
If the c-selectional features of a syntactic object are not satisfied after first merge, the constituent must merge with another object bearing a matching feature. When all uninterpretable c-selectional features have been checked and the derivation contains only interpretable features, the semantic interface rules apply. It is at this point that the conditions of FULL INTERPRETATION are satisfied (Adger 2003).

The syntactic structure of a lexical item is closely linked to its semantic interpretation. It is understood that, because certain lexical items cannot stand on their own as syntactic objects, they need to combine with other syntactic objects to generate a well-formed structure (Adger 2003). Therefore, the merging of objects is not only driven by syntactic features, but is also influenced by the semantic CONCEPT(S) associated with individual lexical items. Over time, concepts are permanently associated with an item, at which point the linguistic meaning is said to be LEXICALIZED. "The concepts that are lexicalized in a particular language are called **predicates**" (Adger 2003:78). It is often necessary for a predicate to combine with another concept in order to be semantically interpretable. In this way, Merge is a process that can be triggered by semantic information.[4]

Merge is a recursive operation; it requires that at least two lexical items combine in order to activate recursion (Hornstein, 2005). Predicates influence how often Merge

---

[4] In addition to predicate-argument selection and checking, there are other semantic notions that involve the checking of semantic features (e.g. determiner-noun relations).

must apply for any given lexical item. If a lexical item is characterized as a one-place predicate, Merge need only apply once and forms a simple structure. However, a two-place predicate requires two other constituents. The predicate X first merges with the constituent Y to form a new constituent. This new constituent then combines with another lexical item to form an even larger unit. In this way, the original lexical item determines the number of constituents with which it must combine, thus affecting the building up of syntactic structures.[5]

Predicates form a variety of semantic sub-classes, characterized by the type of constituent(s) with which each predicate combines. These semantic properties of the predicate are referred to as THEMATIC ROLES (henceforth, THETA-ROLES). The UNIQUE θ GENERALIZATION states that "[e]ach theta-role must be assigned but a constituent cannot be assigned more than one theta-role" (Adger 2003:81). Previously we established that a one-place predicate combines with one other constituent. Given the term theta-role, we can now say that a one-place predicate has one theta-role to assign. Similarly, a two-place predicate assigns two theta-roles. Theta-roles are purely a semantic concept, but clearly have an effect on the syntax in that they trigger the operation Merge. Given this interface between semantics and syntax, we will now return to our discussion about the syntactic properties of lexical items.

A HEAD is the syntactic object that contains a set of c-selectional features to be checked; it is the object that selects in a Merge operation. As Merge builds up larger structures, the features of the head project upward and the dominant feature of the head becomes the label for the phrasal node. Thus, in an analysis of noun phrases, the tree in (5) can be modified to appear as in (6).

---

[5] This also demonstrates that Merge generates binary branching structures.

6)

NP
     N [N; ~~uY~~]   Y [~~Y~~]
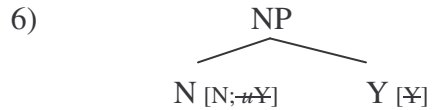
An object that merges with the head and, as its sister, checks the features of the head, is called the COMPLEMENT. A complement is the first object to join with the head in any Merge operation, forming the primary relationship known as HEAD-COMPLEMENT structure. The complement may be a head or a phrase that satisfies the c-selectional features of the head. In (6), the object Y is the complement to the head N; both objects are immediately contained within a noun phrase (NP).

SPECIFIERS form the secondary relationship with a head; they join the structure on second Merge and satisfy the features of the head that have not yet been checked by the complement. A specifier is the daughter to a MAXIMAL PROJECTION. The tree in (7) shows that the specifier Q checks the uninterpretable feature [Q] remaining on the head N after it merges with object Y.

7)

NP
     Q [~~Q~~]   N'
             N [N; ~~uY~~, ~~uQ~~]   Y [~~Y~~]
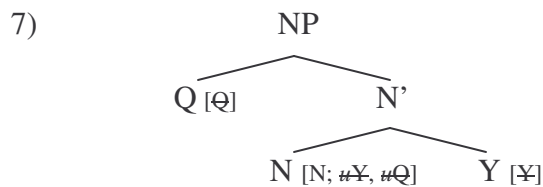
As demonstrated in (7), an intermediate projection (N') is required to accommodate the specifier.

As we have seen thus far, Minimalist phrase structure consists of three levels. To explain the relationship between these levels, I assume the definitions from Hornstein et al. (2005:197) given in (8-10).

8)   *Minimal Projection: X^0*
      A minimal projection is a lexical item selected from the numeration.[6]

---

[6] Numeration refers to the unordered set of lexical items available to generate a structure.

9) *Maximal Projection: XP*
A maximal projection is a syntactic object that doesn't project.

10) *Intermediate Projection: X'*
An intermediate projection is a syntactic object that is neither an X^0 nor an XP.

Identifying an object as a MINIMAL PROJECTION is the equivalent to calling it a head, which projects its features to become a phrasal object. A minimal projection can be a head at the same time as it is a MAXIMAL PROJECTION. A head becomes a maximal projection – a phrasal object – when there are no more uninterpretable c-selectional features to be checked (Adger 2003).

ADJUNCTS are modifiers of the head that do not participate in feature-checking. Adjuncts combine with a maximal projection outside of the head-complement relationship via the operation ADJOIN. Adjoin adds one phrasal object to another phrasal object without changing its category. Since no selectional features are satisfied, adjunction simply establishes a sisterhood relationship with a phrasal node (XP), as shown in (11).

11)

(taken from Adger 2003:111)
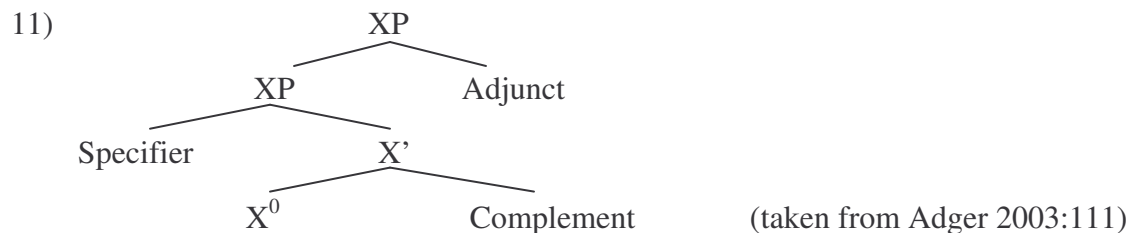
According to Adger (2003:112), Adjoin "does not create a new object, [but] expands one of the old ones by stretching its outermost layer into two parts and inserting the adjoined object between them." As a result, adjuncts can be joined to any maximal projection and can appear on either side of the phrase, unless explicit restrictions are stated. Furthermore,

the phrasal node may iterate as often as necessary in order to accommodate any number

of adjuncts to be included in the structure.[7]

HEAD ADJUNCTION[8] is a specific type of adjunction that expands a syntactic object

at the level of the head X^0. A key implication of head adjunction for Indonesian noun

phrase structure is that the syntactic object that is adjoined consists of a head without c-

selectional features and which therefore does not take a complement, as shown in (12).

12)
$$
\begin{array}{c}
N^0 \\
N^0 \qquad X^0
\end{array}
$$
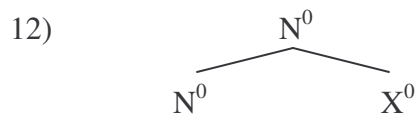
In contrast, if the adjoined syntactic object comprises a head with c-selectional features

that are satisfied by a complement, then the object must be phrasal (and maximal), as in

(13).

13)
$$
\begin{array}{c}
NP \\
NP \qquad XP
\end{array}
$$
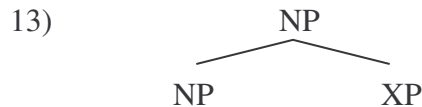
In addition to Minimalism, I draw from the framework of Distributed Morphology

(DM) as originally proposed by Halle & Marantz (1993; see also Harley and Noyer 1999).

DM generates structures by combining morphosyntactic features via Move and Merge,

selecting these features from the inventory available and subjecting them to the principles

and parameters governing such combinations (Harley and Noyer 1999). One core concept

of DM that I adopt is LATE INSERTION. Late Insertion assumes nodes as abstract syntactic

---

[7] While the difference between Merge and Adjoin is still a topic for debate, Hornstein et al. (2005) concur
that the difference between these operations reflects the different nature of the grammatical relations
each establishes; neither operation imposes any restrictions on linear order.

[8] HEAD ADJUNCTION typically occurs via the operation MOVE, a feature-checking operation that allows
one syntactic object (e.g. a head) to move up and adjoin to another syntactic object, but is constrained in
a way that requires an object to move into the nearest relevant position (SHORTEST MOVE PRINCIPLE).
In this thesis, I propose a reinterpretation of Ghomeshi (1997; see also Travis 1998) and assume that
head adjunction for Indonesian occurs via Merge and does not require the operation Move. Although I
do not rule out movement within Indonesian phrase structure, I assume base-generated head adjunction
as a more economical approach that is consistent with the goals of Minimalism.

categories – bundles of features – that are phonologically realized only after syntax. In other words, syntax first derives a complex head which is then matched to an appropriate phonological piece to produce a VOCABULARY ITEM. According to Harley and Noyer (1999:5), this phonological piece is inserted into a syntactic object if it

> matches all or a subset of the grammatical features specified in the terminal [node]. Insertion does not take place if the Vocabulary Item contains features not present in the [node]. Where several Vocabulary Items meet the conditions for insertion, the item matching the greatest number of features specified in the terminal [node] must be chosen.

The late insertion of a specific vocabulary item is known as SPELLOUT.

In Indonesian noun phrases, we will see that complements can appear on both the left and right side of the head. Historically, syntax has dictated the properties of head-complement structure and, in turn, linear order, and movement was necessary to generate structures with the correct linear order. However, in this paper I claim that, since there is no predefined order between a specifier or complement and the head, and neither Merge nor Adjoin set parameters to specify linear order (Adger 2003), an additional operation is needed. I propose that, as Late Insertion produces vocabulary items after syntax (at Spellout), linear order is realized only after syntax in order to establish accurate head-complement relations between vocabulary items. This post-syntactic operation is referred to as LINEARIZATION. I will not be discussing linearization in this paper but will, by convention, present syntactic structures that reflect linear order.

1.5 Organization of Thesis

Given these theoretical assumptions, I now turn to an analysis of the distribution and structure of noun phrases in Indonesian. Following Adger (2003), I assume that noun phrases are dominated by a DP, which operates as the maximal projection headed by a

functional element of category D. In contrast to the DP HYPOTHESIS put forward by Abney

(1987), which states that a determiner takes a noun phrase as its complement, I argue that

the functional head D in Indonesian is the 'locus of definiteness' (Carson 2000) and, thus,

the uppermost projection of the noun phrase is a Definiteness Phrase. Assuming a DP

analysis, I also propose a number of additional projections that host information for

various noun modifiers. I put forward the structure in (14).

14)

```
                              DP
                     ┌─────────┴─────────┐
                  PossP                  D⁰
              ┌─────┴──────┐            [DEF]
           PossP          CP (=RC_ADJ)
         ┌───┴────┐      ┌──┴───┐
      Poss'       DP    OP_i    C'
    ┌───┴────┐          ┌──┴───┐
  CardP    Poss⁰       REL     SC
           LINK/LIG          Ø_i + predicate
 ┌──┴──┐
numeral/Q  Card'
        ┌───┴────┐
     Card⁰      N⁰_i
     CL/MA    ┌──┴───┐
     [PL]   N⁰_i    A⁰
```
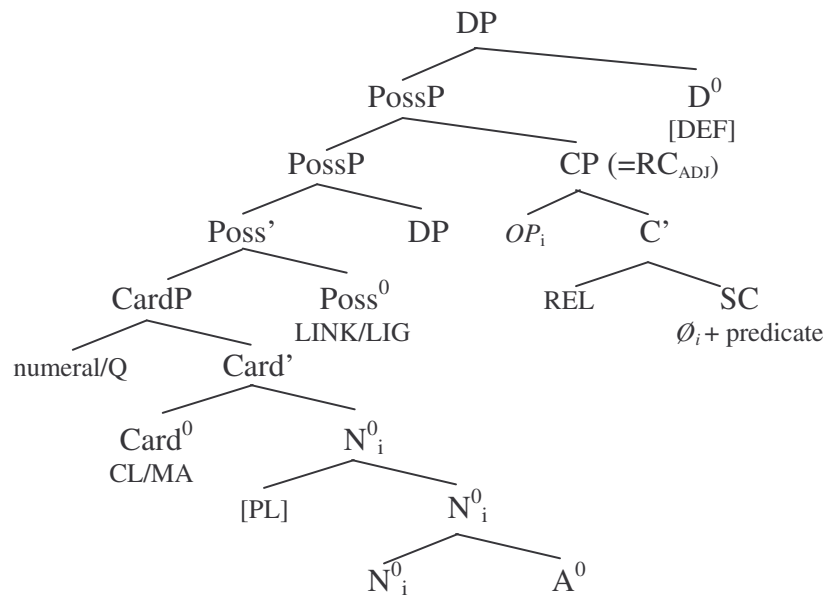
I examine the details of this structure in the following sections.

In Section 2, I look at the distribution and structure of attributive noun phrases

(NPs). I provide data to show that Indonesian has two types of juxtaposed noun (N)

constructions, compound and attributive. I demonstrate that attributive N modifiers adjoin

to N in different ways and an adjunction analysis allows for recursion. Furthermore, I

argue that head adjunction accounts for a relatively free ordering of Ns and ADJs and

indicates the distinction between compound Ns and attributive N modifiers.

Section 3 examines the distribution and syntax of adjectives (ADJ). I argue that

there are two positions for ADJs in Indonesian, depending on the overall number of ADJs

present in a phrase. I demonstrate that, instead of heading their own projection, direct adjectival modifiers merge with the head N, whereas indirect adjectival modification is expressed by means of an adjectival relative clause (RC$_{ADJ}$) generated higher in the DP structure.

Section 4 focuses on bare Ns, prenominal modifiers and plural marking in Indonesian. In this section, I establish that bare Ns can refer to one or more than one entity and, thus, are neutral with respect to number. In addition, I show that, in contrast to other N modifiers, numerals and quantifiers (Q) occur prenominally to make N countable; two types of classifiers follow a numeral or Q, one that names the unit of a count N and another that creates a unit out of a mass N. In terms of structure, I propose a Cardinality Phrase (CardP) projection that contains prenominal modifiers and merges directly with the N head; numerals and Qs occur in the specifier (SPEC) of CardP, while classifiers fill the head of CardP. I also claim that reduplication is the primary means for marking plural in Indonesian and is expressed as a feature [PL] that adjoins to items bearing the feature [N].

In Section 5, I look at the distribution of possessors relative to the head N. I introduce two types of possession – clause-level and nominal – focusing primarily on the elements and structure of nominal possession. I identify three types of nominal possessive constructions and argue that all three have the same underlying structure. I propose that possession is marked not only by linear order, but also by the feature [POSS] in the head of a functional projection, PossP. I show that PossP occurs above CardP but, in the absence of CardP, merges directly with N^0/NP

I examine demonstratives (DEM) and definiteness in Section 6. I propose that since Indonesian DEMs always appear at the right edge of the phrase, they occur as heads of a DP. I show that the DEM *itu* 'that' not only expresses deictic force, but also marks definiteness. I also show that the enclitic *–nya* functions as a definite marker. Assuming that DEMs and definite markers are in complementary distribution, I propose that they both occupy the head of the DP and put forward a structural analysis that accounts for the data.

Section 2: Attributive Noun Phrases

Across languages, there are different types of head and dependent marking. In some

languages, overt morphosyntactic marking appears on the head and/or non-head elements

of a phrase to indicate syntactic relations. In other languages, such as Indonesian, the

head and non-head elements occur as a string of bare lexical items and linear order

indicates the syntactic relationship between them. In the following discussion, I refer to a

string of bare nouns as juxtaposed nouns and show that juxtaposition is a key syntactic

device for Indonesian.

According to Niizuma (1969), there are two major types of juxtaposed noun

constructions: compound nouns and attributive noun phrases. A compound noun typically

comprises a head noun that combines with a non-head modifier, such as another noun (N),

an adjective (ADJ), or a verb (V) root; the compound is a functional unit that is generated

morphologically, apart from syntax, and carries an autonomous lexical meaning. An

attributive noun phrase (NP) is a constituent in which one N – the attributive N – assumes

the role of modifier in relation to the head N. In most cases, the attributive N maintains

characteristics similar to that of an independent N (Niizuma 1969). In other words, the

attributive N appears in the same form it would as an independent N and does not assume

any additional prefixes or suffixes.

In the following section I discuss the distribution and syntax of juxtaposed Ns in

Indonesian. In 2.1, I provide data for Indonesian that support Niizuma's claim. I show

that Indonesian has both compound N and attributive N constructions; in compound

constructions, the non-head element can occur to the left or right of the head N, whereas

an attributive N always follows the head N and typically occurs as the element closest to

it. In addition, I show that juxtaposed Ns occur as bare Ns and no additional features are used to distinguish between the head N and its modifier. Although the juxtaposition of bare Ns in Indonesian gives rise to ambiguity, I demonstrate that the insertion of an additional lexical item can disambiguate the constituent. In 2.2, I focus on the structure of attributive NPs. I show that, as modifiers of the head N, attributive Ns are head-adjoined. In addition, I argue that attributive N constructions can also function as possessive constructions similar to the 'X of Y' construction in English. I provide examples to show that the difference in constituency is based on semantics.

2.1 Distribution of Juxtaposed Nouns

There are two types of juxtaposed N constructions in Indonesian, compound Ns and attributive Ns.

2.1.1 Compound Nouns

In this section I present several diagnostics for compound Ns. The first diagnostic is semantic. As shown in (15), the meaning of some head-modifier combinations is not transparent; in other words, the meaning of the item as a whole is not the sum of the meaning of its parts.

15) a. N+V root → $rumah_H$ $makan$[9]
                         house   eat
                         'restaurant'

---

[9] The subscript 'H' marks the head, which is the most important element of a compound N. According to Arcara's (2010:14) analysis of Italian noun-noun compounds, the head of a compound determines its lexical category and syntactic properties (e.g. number, gender), but functions mainly to indicate "the semantic properties of the compound as a whole." He states that in an *exocentric* compound, it is impossible to identify the head since its meaning is outside of the meaning of the compound as a whole. This contrasts with an *endocentric* compound, in which the meaning of one element clearly gives meaning to the whole constituent. Moreover, in a *coordinate* compound, both elements contribute equivalent semantic information, resulting in a compound with two heads; essentially, it "is not possible to determine an asymmetry between the role of the constituents" (Arcara 2010:17). Thus, it is evident that semantics plays a vital role in determining the head of a noun-noun compound, which is the argument I take for Indonesian compound nouns.

b. N+ADJ → orang$_H$ tua
      person old
      'parents'

c. N+N → kereta$_H$ api
      cart   fire
      'train'

d. N+N → kaca$_H$mata
      glass.eye
      '(eye)glasses'

In addition, compounds themselves can undergo compounding, as in (16).

16) a. N-N+A → kacamata$_H$ hitam[10]
            glass.eye   black
            'sunglasses'

A second diagnostic is linear order. In some cases, the head of a compound can appear to the right of its modifier, as in (17). As we will see in 2.1.2, this is not true of syntactically modified Ns. Thus, (17) provides additional evidence for compoundhood in Indonesian.

17) V root+N → ulang tahun$_H$
            return year
            'birthday'

In her dissertation on *Compound Adjectives in English*, Conti (2006) points to several additional criteria that can be used to test for compoundhood, such as positional mobility, internal stability, and non-separability. The non-separability criterion "claims that no lexical item can be legally inserted within a word and similarly for compounds that the constituents cannot be kept apart through the interpolation of other lexical elements" (Conti 2006:4). Conti (2006) adds that compound elements function as a single, atom-like unit and it is this "atomicity" that is critical in defining the nature of

---

[10] *Kacamata hitam* can also be translated as 'black glasses', occurring simply as a modified compound N.

compounds. If we apply Conti's (2006) criterion to determine whether or not Indonesian

has a category for compound Ns, we should see that these complex lexical items behave

as other Ns in the language and are not accessible to the syntax.

As noted in Section 1.3, Ns in Indonesian are typically followed by their

modifiers.[11] The examples in (18-20) demonstrate that Indonesian compound Ns do, in

fact, conform to the same pattern as that of single Ns; a modifier must follow the

compound N and, in each case, the compound retains its atomicity.[12]

18) a. dokter gigi *tinggi*   b. *dokter *tinggi* gigi
    doctor tooth tall   doctor tall   tooth
    'a/the tall dentist'

19) a. ulang tahun *ibu*   b. *ulang *ibu*   tahun
    return year mother   return mother year
    '(a/the) mother's birthday'

20) a. rumah makan *besar*   b. *rumah *besar* makan
    house eat   large   house large eat
    'a/the large restaurant'

Another test for compoundhood is the "head deletion under coordination test"

(Conti 2006). This test states that the head of a compound cannot be deleted when two or

more compounds share the same head and appear in a coordinative structure, as shown by

the examples in (21) and (22).

21) a. dokter gigi
    doctor tooth
    'dentist

---

[11] We will see in Section 4 that numerals and quantifiers occur as prenominal modifiers. At this point, any reference to modifiers does not include the category of Number.
[12] In some cases, the insertion of an additional lexical item results in an attributive or predicative reading for the adjective (see footnote 12):
    a. *orang* **Kanada** *tua*   b. *Orang* **itu**   *tua.*
    person Canada old   person DEM old
    'an/the old, Canadian (person)'   'That person is old.'
In both cases, the atomicity of the compound is dissolved.

b. dokter mata
   doctor eye
   'optometrist'

c. *dokter gigi   *dan* __ mata
     doctor tooth and   eye

d. dokter gigi   *dan* dokter mata
   doctor tooth and doctor eye
   'a/the dentist and (a/the) optometrist'

22) a. rumah makan
        house eat
        'restaurant'

   b. rumah sakit
      house sick
      'hospital'

   c. *rumah makan *dan* __ sakit
        house eat   and   sick

   d. rumah makan *dan* rumah sakit
      house eat   and house sick
      'a/the restaurant and (a/the) hostpital'

Again, these examples stand in contrast to attributive N constructions, which permit the

deletion of the head N in coordinative structures, as in (23) and (24).

23) a. rumah *putih*
        house white
        'a/the white house'

   b. rumah *besar*
      house big
      'a/the big house'

   c. rumah *putih **dan** ___ besar*
      house white and   big
      'a/the big, white house'

   d. rumah *putih **dan** rumah besar*
      house white and house big
      'a/the white house and a/the big house'

24) a. orang   *tinggi*
       person tall
       'a/the tall person'

   b. orang   *tua*
      person old
      'an/the old person'

   c. orang   *tinggi **dan** ___ tua*
      person tall   and   old
      'an/the tall, old person'

   d. orang   *tinggi **dan** orang   tua*
      person tall   and person old
      'a/the tall person and an/the old person'

Note that when the head is deleted in a coordinated attributive N construction, as in (23c) and (24c), the attributive Ns must have the same referent, whereas when full attributive NPs are coordinated with *dan* 'and', as in (23d) and (24d), they can have two different referents.

As we have seen, there are a variety of tests that help differentiate between compound and attributive Ns. For the purposes of this paper, I treat compound Ns as their own vocabulary items whose internal structure is not accessible to the syntax. In contrast, I show that attributive Ns are merged in the syntax and function as modifiers of the head N. From here on, I focus solely on the distribution and structure of attributive Ns.

2.1.2 Attributive Nouns

The juxtaposition of two Ns may produce an attributive construction of category NP. In contrast to compound Ns, attributive NPs are considered syntactic (as opposed to lexical) constituents. The examples in (25) and (26) show that attributive Ns must follow the head N.[13]

---

[13] Since there is no overt copula in Indonesian, juxtaposed Ns can be interpreted as either attributive or predicative constructions. Although they appear to be identical on the surface, attributive and

25) a. buku *sejarah*
    book history
    'a/the history book'

  b. **sejarah* buku
     history book

26) a. kalung *emas*
    necklace gold
    'a/the gold necklace'

  b. **emas* kalung
     gold   necklace

With respect to demonstratives and prepositional phrases, both of which follow the head

N, attributive Ns must occur closest to the head N, as in (27) and (28).

27) a. buku *sejarah* itu
    book history DEM
    'that history book'

  b. *buku itu   *sejarah*
     book DEM history

28) a. gereja *batu* di desa
    church stone P village
    'a/the stone church in the village'

  b. *gereja di desa   *batu*
     church P village stone

---

predicative constructions have two different underlying structures. Consider the following examples:
  i) a. gereja batu   b. Gereja batu.
       church stone   church stone
       'a/the stone church'   'A/The church is (made of) stone.'
One significant difference between these two constructions is that a predicative phrase permits the presence of a lexical item between the two Ns (iib), whereas an attributive NP does not (iia).
  ii) a. *gereja *putih* batu   b. Gereja *putih* batu.
        church white stone   church white stone
                                        'A/the white church is (made of) stone.'
In addition, the Indonesian negative marker *bukan* 'not' can occur immediately to the left of a predicative N; *bukan* 'not' appears only in predicative, and not attributive, NPs, as shown in (iii).
  iii) a. *gerja   *bukan* batu   b. Gereja *bukan* batu.
         church NEG   stone   church NEG   stone
                                         'A/The church is not (made of) stone.'

An Indonesian attributive N can itself be modified. Regardless of its category, the modifier must follow the attributive N it modifies, as shown in (29-31).

29) a. buku *sejarah **lama***
    book history long.time
    'a/the book of ancient history'   (Macdonald 1976:88)

    b. *buku ***lama***   *sejarah*
       book long.time history

30) a. gereja *batu* ***putih***
       church stone white
       'a/the church (made) of white stone(s)'

    b. *gereja ***putih*** *batu*
       church white stone

31) a. kalung   *emas **putih***
       necklace gold white
       'a/the necklace (made) of white gold'

    b. *kalung   ***putih*** *emas*
       necklace white gold

It is also possible for another N to modify an attributive N, as shown in (32) and (33).

32) a. buku *sejarah **Amerika***
       book history America
       i. 'an/the American history book'
           [LIT. 'a/the book of American history']
       ii. 'an/the American, history book'
           [LIT. 'a/the American book of history']

    b. *buku ***Amerika*** *sejarah*
       book America history

33) a. foto   *gereja **batu***
       picture church stone
       'a/the picture of a/the stone church'
       [LIT. 'a/the stone church picture']

    b. *foto   ***batu*** *gereja*
       picture stone church

An attributive NP, such as (33), can be further modified, as shown in (34).

34) a. foto   gereja batu *besar*
     picture church stone big
     'a/the picture of a/the big stone church'

    b. *foto   gereja *besar* batu
      picture church big   stone

    c. *foto   *besar* gereja batu[14]
      picture big   church stone

An N modified by an attributive N can be further modified by a possessive N or pronoun, as in (35) and (36); the possessor must appear in phrase final position.

35) a. gereja batu *Pak Hamin*   b. *gereja *Pak Hamin* batu
     church stone Mr. Hamin   church Mr. Hamin stone
     'Mr. Hamin's stone church'

36) a. buku sejarah *saya*   b. *buku *saya* sejarah
     book history 1SG   book 1SG   history
     'my history book'

The data in (29-36) show that in Indonesian attributive NPs modifiers always follow heads.

The data in this section provide evidence for Indonesian attributive NPs as a set of juxtaposed lexical items that are subject to ordering restrictions. Furthermore, nominal recursion and expansion are possible and an attributive NP may contain nominal, adjectival and possessive modifiers. Macdonald (1976:87) states that, in theory, "any degree of [nominal] expansion is possible." He points out, however, that modifiers do not ordinarily precede the head N and postmodification is not overly complex, "since such a combination would be regarded as clumsy, and therefore stylistically bad."

Regardless of the number of modifiers, the juxtaposition of attributive Ns and their modifiers gives rise to ambiguity in certain contexts. As shown in (32a), even when

---

[14] This example is ungrammatical if interpreted as having the same meaning as (34a), but is grammatical under a different reading, which will be discussed in §2.2.2 below.

modifiers in an attributive NP are grammatically ordered, it is unclear as to whether they modify the head N or the attributive N. Thus, more than one interpretation is possible; the appropriate interpretation is determined by context.[15]

2.2 Structure of Juxtaposed Nouns

As illustrated in 2.1, juxtaposed Ns in Indonesian are essentially nominal compound constructions. The class of nominal compounds is varied; some are true compounds (2.1.1) function as a single lexical item and, as such, constitute a single node in the syntax, while others – attributive Ns (2.1.2) – are analyzed as head-adjoined structures, as discussed below.

2.2.1 The Basic Structure

Following Ghomeshi's (1997) claim for Persian nominal structure, I suggest that the structure of compounds in Indonesian differs from that of attributive Ns. Although the category of Indonesian compound Ns consists of both single lexical items and juxtaposed Ns, I claim that these constituents "are formed pre-syntactically and inserted into the syntax under a single terminal node" (Ghomeshi 1997:758). In other words, compounding in Indonesian can be considered a morphological process in which the internal structure is "opaque to the syntax" (Ghomeshi 1997:759). This structure is given in (37).

---

[15] Macdonald (1976) states that an ADJ following an attributive N is understood to modify the attributive N, rather than the head N. He suggests that, in order to avoid ambiguity and make it clear that an ADJ is modifying the head N, the adjectival modifier ought to occur within an adjectival relative clause (*yang* + ADJ), as follows:

    a. buku *sejarah **lama***   b. buku *sejarah **yang lama***
       book history long.time   book history REL long.time
       'a book of ancient history'   'an old history book'

Macdonald (1976) points out, however, that this is more of a prescriptive approach to Indonesian grammar and does not reflect how Indonesians actually speak. He adds that "[m]any Indonesians do not subscribe to the rule as stated here, but are content to consider the structure completely ambiguous" (Macdonald 1976:88).

37) *Nominal Compounds*
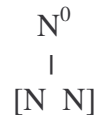
$$N^0$$
$$|$$
$$[N\ N] \hspace{4cm} \text{(Ghomeshi 1997:759)}$$

In contrast, I propose that attributive N constructions in Indonesian are a syntactically transparent combination of heads. According to Baker (2003:202), both lexical items in an attributive relationship are "fully specific syntactic objects and are subject to syntactic principles." Thus, I refer to attributive Ns in Indonesian as base-generated objects that occur within a head-adjoined structure, as illustrated in (38).

38) *Attributive Nouns*
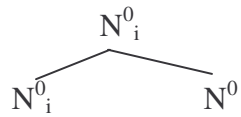
$$N^0_i$$
$$N^0_i \hspace{2cm} N^0 \hspace{3cm} \text{(Ghomeshi 1997:759)}$$

The head-adjoined structure in (38) is syntactically distinct from compound structures and accounts for N-N constituents, such as those given in (39).

39) a. buku$_H$ sejarah
     book   history
     'a/the history book'

    b. gereja$_H$ batu
     church stone
     'a/the stone church'

    c. kalung$_H$ emas
     necklace gold
     'a/the gold necklace'

We can expand (38) to show that attributive Ns themselves can be modified, as shown by the data in (29-31a). The diagram in (40a) accounts for the data in (31a), restated here as (40b). I have inserted the vocabulary items for clarity.

40) a.

N^0_i
- N^0_i — kalung
- N^0_j
  - N^0_j — emas
  - A^0 — putih
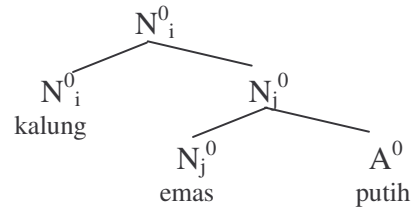
b. kalung ***emas*** putih
   necklace gold white
   'a/the white gold necklace'
   [LIT. 'a/the necklace (made) of white gold']

Given that recursion makes it possible to juxtapose more than two Ns, as in (32) and (33), we can expand the structure further. (41a), which corresponds to the data in (41b), shows that when one N modifies another, the non-head (attributive N) is adjoined. Again, I have inserted the vocabulary items for clarity.

41) a.
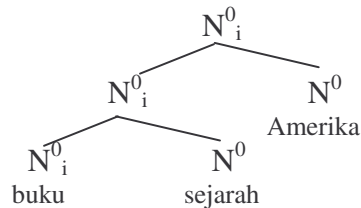
N^0_i
- N^0_i
  - N^0_i — buku
  - N^0 — sejarah
- N^0 — Amerika

b. buku$_H$ sejarah *Amerika*
   book   history America
   'an/the American history book'
   [LIT. 'a/the American book of history']

A second interpretation of the data in (41b) calls for another structure; (42a) corresponds to the data in (42b).

42) a.
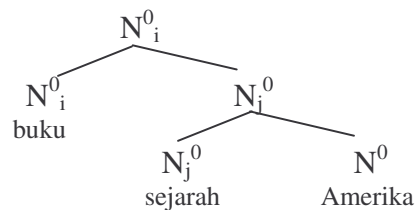
N^0_i
- N^0_i — buku
- N^0_j
  - N^0_j — sejarah
  - N^0 — Amerika

b. buku$_H$ sejarah *Amerika*
   book   history America
   'an/the American history book'
   [LIT. 'a/the book of American history']

The vocabulary items in (41b) and (42b) are identical. However, the two corresponding

structures show that the rightmost N can either modify the head N or the attributive N

itself, thus affecting semantic interpretation.

I now turn to a more detailed analysis of the structure of complex attributive NPs

in Indonesian.

2.2.2 Complex Attributive NPs and Constituency

As we have seen thus far, base-generated head-adjunction can account for the structure of

attributive NPs in Indonesian; the head N projects and gives its label to the overall N

structure, whereas the attributive N does not. As we concluded in 2.2.1, all attributive

modifiers function as adjuncts. It is possible to adjoin one modifier to another before

adjoining to the head, as in (40a) and (42a), or to adjoin a modifier to an already modified

head, as in (41a). This difference in constituency is shown by the square brackets in (43).

43) a. buku$_H$ [sejarah Amerika]
     book   history America
     'an/the American history book'
     [LIT. 'a/the book of American history']

    b. [buku$_H$ sejarah] Amerika
       book   history   America
       'an/the American history book'
       [LIT. 'a/the American book of history']

We can further expand the constituent in (43a) to include an adjectival modifer, as in (44).

It is important to note that the node to which the ADJ is adjoined affects the interpretation

of the NP as a whole. Again, the square brackets in (44) show the difference in

constituency.

44) a. buku$_H$ [sejarah Amerika hitam]
     book   history America black
     'a/the book of black American history'

b. [buku$_H$ [sejarah Amerika]] hitam
     book   history America   black
     'a/the black book of American history'

In (44a), *Amerika* 'American' modifies *sejarah* 'history', which is then modified by the ADJ *hitam* 'black'; this constituent as a whole modifies the head N *buku* 'book'. Structurally, the ADJ adjoins to N_j^0, as shown in (45a). I insert the vocabulary items for clarity.

45)

```
                    N_i^0
               ┌──────┴──────┐
            N_i^0           N_j^0
            buku        ┌─────┴─────┐
                      N_j^0        A^0
                  ┌─────┴─────┐    hitam
                N_j^0        N_k^0
               sejarah      Amerika
```
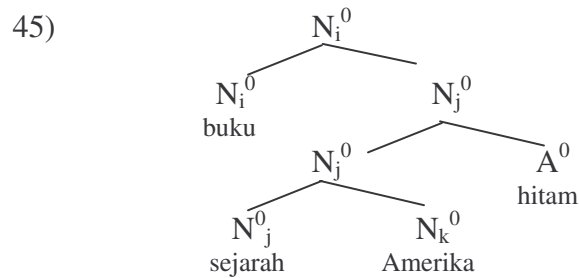
In comparison, the structure in (46) represents the data in (44b); the constituent *sejarah Amerika* 'American history' is head-adjoined to *buku* 'book', after which the ADJ *hitam* 'black' adjoins to the resulting attributive NP. Again, I insert the vocabulary items for clarity.

46)

```
                    N_i^0
               ┌──────┴──────┐
            N_i^0           A^0
        ┌─────┴─────┐       hitam
      N_i^0        N_j^0
      buku      ┌────┴────┐
             N_j^0       N_k^0
            sejarah     Amerika
```
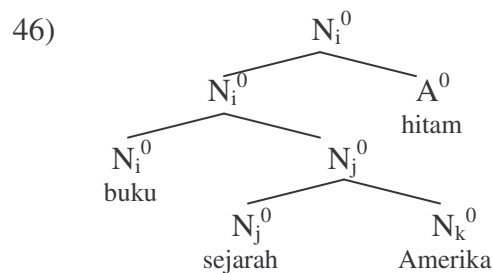
A head-adjunction analysis accounts for the data and corresponding structures in (45) and (46), which show that attributive Ns can adjoin recursively to N^0 and constituents are generated through binary merge. Furthermore, these examples show that, when attributive Ns adjoin, there is a tendency for them to immediately follow and appear closest to the head N. However, this is not always the case. The example in (47b)

demonstrates that it is possible for an ADJ to occur between a head N and its attributive

N modifiers.

47) a. foto$_H$ gereja batu *besar*
        picture church stone big
        'a/the picture of a/the big stone church'

     b. foto$_H$ *besar* gereja batu
        picture big   church stone
        'a/the big picture of a/the stone church'

Given the grammaticality of (47b), it is evident that the preference for attributive

Ns to occur closest to the head is not absolute. I propose, therefore, that Indonesian does

not place a restriction on the ordering of Ns and ADJs but, rather, that linear order is free,

subject to an available and plausible semantic interpretation. I provide the head-adjoined

structure in (48) to account for this possibility.

48)

$$N^0_i \ (=NP)$$

$$N^0_i \qquad\qquad N^0_j$$

$$N^0_i \qquad A^0 \qquad N^0_j \qquad N^0_k$$
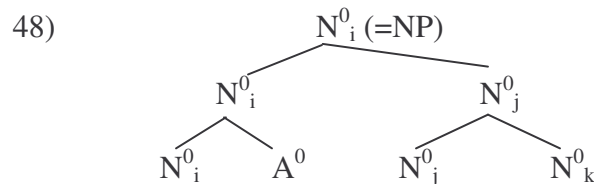
(The details of adjectival modification are discussed further in Section 3.)

2.3 Summary

In this section I established that Indonesian has two types of juxtaposed N constructions;

a compound N construction occurs as a single vocabulary item with an internal structure

that cannot be accessed by syntax, whereas an attributive N construction is formed by the

application of Adjoin and recursion is possible. I also showed that syntactic objects can

be adjoined in different ways, which affects constituency. I argued that a head adjunction

analysis accounts for a relatively free ordering of Ns and ADJs and also allows us to

distinguish compound Ns from attributive N modifiers. Based on these facts, I now turn

to a discussion about the distribution and structure of adjectives.

Section 3: Adjectival Modifiers

Across languages, adjectives (ADJ) occupy different positions in relation to the Ns they

modify and each position reflects a different underlying structure (Alexiadou et. al. 2007).

In this section, I show that ADJs in Indonesian are postnominal modifiers. In 3.1, I

introduce the two primary functions of ADJs, followed by a more detailed look at the

distribution of attributive ADJs in 3.2. I provide examples to show that adjectival

modification can be either direct or indirect. In 3.3 I examine the syntactic structure of

both types of adjectival modification. I argue that, like attributive Ns, direct adjectival

modifiers are adjoined to the head N, whereas indirect adjectival modification is

expressed as a relative clause that adjoins to a projection higher in the structure. Finally, I

provide data to show that the position of possessors has an effect on the type of adjectival

modification that occurs within the structure (3.3.3).

3.1 Distribution of Adjectives

ADJs in Indonesian have two primary functions: i) predicative and ii) attributive. The

example in (49) shows that a predicative ADJ follows the N it refers to.

49)   Rumah (tidak) *mahal*.
      house   NEG   expensive
      'A/The house is (not) expensive.'

When an ADJ is used in its predicative form, the negative marker *tidak* 'not' can be

optionally inserted between the subject and its adjectival predicate. Predicative ADJs

head an adjectival phrase external to the DP.

        In contrast, attributive ADJs modify the head N and occur within the boundaries

of DP (Alexiadou et. al. 2007), as in (50).

50) Saya membeli rumah *mahal*.
    1SG MEN-buy house expensive
    'I bought an/the expensive house.

The distinction between predicative and attributive ADJs is similar to that between predicative and attributive Ns (see footnote 12). For the remainder of this section, I focus on the distribution of attributive ADJs (henceforth ADJs) and show that there are two positions for ADJs in Indonesian.

3.2 Attributive Adjectives

As with attributive Ns, an attributive ADJ denotes a property of the N it modifies. Attributive ADJs occur directly after the head N or as part of an adjectival relative clause (RC$_{ADJ}$).

3.2.1 Direct Adjectival Modification

As already mentioned, ADJs in Indonesian follow the Ns they modify, as shown in (51) – (53).[16]

51) a. anjing *hitam*   b. *hitam* anjing
        dog   black   black dog
        'a/the black dog'

52) a. perempuan *cantik*   b. *cantik* perempuan
        female   pretty   pretty female
        'a/the pretty woman'

53) a. pohon *tinggi*   b. *tinggi* pohon
        tree   tall   tall   tree
        'a/the tall tree'

When an N is modified by two ADJs, as in (54), both ADJs immediately follow the N.

---

[16] Sneddon (1996:176) points out that Indonesian also has ADJ+N combinations, as given in (a) and (b). Since these constituents correspond to what I identify as compounds in Section 2.1.1, the fact that the ADJ precedes the N is not problematic.
        a. *keras* kepala   b. *panjang* tangan
           hard head   long   hand
           'stubborn'   'having a tendency to steal'

54) a. anjing *hitam besar*   b. *hitam anjing *besar*   c. *hitam besar anjing
      dog   black big   black dog   big   black big   dog
      'a/the big black dog'

However, the example in (55) shows that it is not possible for more than two ADJs to

directly modify the head N.

55) *anjing *hitam besar sakit*.
      dog   black big   sick

Based on the ungrammaticality of (55), it appears that Indonesian restricts the recursion

of adjectival modifiers within an NP.[17] This constraint is specified in (56).

56) *No more than two adjectives can directly modify a head noun*.

The implication of this constraint is not to limit the *total* number of adjectival modifiers,

but to limit the number of ADJs that *directly* modify the head N.

3.2.2 Indirect Adjectival Modification

Althought the constraint in (56) limits the number of *direct* adjectival modifiers to two,

Indonesian does allow additional ADJs to co-occur as modifiers of the head N. As (57)

shows, these ADJs must be expressed in a relative clause (RC) headed by the relative

particle *yang*. I refer to this type of RC as an adjectival relative clause (RC$_{ADJ}$).[18]

---

[17] Similarly, in Javanese, a Malayo-Polynesian language closely related to Indonesian, the recursion of
direct adjectival modifiers is restricted to two; any additional ADJs must occur within a relative clause
(Ishizuka 2007:11).

[18] The use of an RC$_{ADJ}$ in Indonesian is similar to the operation used for complex modification in Abun, a
Papuan language of Papua, Indonesia. Abun employs various strategies to limit the number of modifiers
in an NP and to preserve a natural style of modification (Berry and Berry 1999). In Abun, an NP
typically contains only one modifier from each category (e.g.) ADJ, CL, numeral, Q). Consider the
ungrammaticality of (a).
   a. *ndar *kwo   sye ge we*
        dog white big CL two
As in Indonesian, a relative particle *gato* is used in Abun as a strategy to limit the number of direct
modifiers on the N. The examples in (b) and (c) are grammatical forms of (a).
   b. ndar *kwo   ge we* **gato** *sye*   c. ndar *sye ge we* **gato** *kwo*
      dog white CL two REL big   dog big CL two REL white
      i. 'two white dogs that are big'   i. 'two big dogs that are white'
      ii. 'two big, white dogs'   ii. 'two big, white dogs'

38

57) anjing *hitam besar **yang** sakit.*
    dog   black big REL sick
    'a/the big, black, sick dog.'
    [LIT. 'a/the big, black dog that is sick.']

When an RC_{ADJ} itself contains two ADJs, the coordinator *dan* 'and' is required, as shown

in (58).[19]

58)   a. anjing *hitam besar **yang** sakit **dan** lapar*
       dog   black big REL sick and hungry
       'a/the big, black, sick, hungry dog'
       [LIT. 'a/the big, black dog that is sick and hungry']

      b. *anjing *hitam besar **yang** sakit lapar*
        dog   black big REL sick hungry

In addition, (59) illustrates that only one RC_{ADJ} can occur within an NP.

59)   *anjing *hitam **yang** besar **yang** sakit*
     dog   black REL big REL sick

Although an RC_{ADJ} functions syntactically to accommodate more than two

modifying ADJs within an NP, it also carries an important semantic role. Macdonald

(1976:29) points out that, in Indonesian, *yang* is commonly "used to emphasize an

adjective, especially when *two* adjectives follow the noun." Similarly, Ishizuka (2007:12)

states that in Javanese an ADJ within an RC_{ADJ} "receives a focus interpretation." Thus,

yang functions as a focus marker and can be incorporated into an NP at any time,

regardless of the number of direct adjectival modifiers. Consider the examples in (60) and

(61).

60)   a. anjing *hitam*
       dog   black
       'a/the black dog'

---

[19] Sneddon (1996:176) points out that it is possible to omit *dan* 'and' if the ADJs are part of a fixed
   adjectival pair, as in the following:

a. tinggi kurus	'tall and thin'	d. halus mulus	'fine and smooth'
b. tegap gesit	'firm and agile'	e. cerdas tangkas	'intelligent and quick-witted'
c. hitam manis	'dark and attractive'	f. tinggi tegap	'tall and strong'

b. anjing ***yang hitam***
   dog   REL   black
   'a/the **black** dog' (as opposed to one of a different colour)

61)   a. anjing *hitam besar*
     dog   black big
     'a/the big black dog'

     b. anjing *hitam **yang besar***
        dog   black REL   big
        'a/the **big** black dog' (as opposed to a small one)

Broschart and Dawuda (2000) claim that, rather than focusing an ADJ, *yang* is typically used before non-inherent attributes. They provide the examples in (62).

62)   a. sirop *merah **yang mahal***   itu
       syrup red   REL   expensive DEM
       'that expensive red syrup'

     b. suatu *pendapatan **yang penting***
       a   invention   REL important
       'an important invention'   (Broschart and Dawuda 2000:47-48)

According to their theory, Broschart and Dawuda (2000) maintain that the ADJ *merah* 'red' in (62a) is an inherent characteristic of *sirop* 'syrup', while *mahal* 'expensive' is not; in (62b), *penting* 'important' is not inherent in the N *pendapatan* 'invention'. While the data I analyze show evidence to support the claims of both Macdonald (1976) and Broschart and Dawuda (2000), the focus of this paper is on the syntax rather than the semantics of NPs. For this reason, I do not discuss this further.

3.2.3 Syntactic Factors and the Position of Adjectives

In his analysis of French, Bouchard (2002:147) argues that "the placement of ADJs inside the NP crucially depends on the semantic relation that holds between the ADJ and the N." He highlights a number of syntactic factors that affect ADJ placement, such as: (i) the nature of the determiner (DET); (ii) the presence of an adverb (ADV); and (iii) the

character of an ADJ as comparative or superlative. I use Bouchard's approach for my

analysis of Indonesian ADJs to determine whether or not these factors have an effect on

direct versus indirect adjectival modification.

The examples in (63) show that the presence of a definite marker has no effect on

the position of an ADJ in the Indonesian NP; an ADJ always follows the N and may

occur as a direct or an indirect modifier, regardlesss of whether or not a definite marker

occurs.[20]

63)   a. anjing *hitam*   b. anjing *hitam**nya***   c. anjing *yang hitam **itu***
          dog   black   dog   black.DEF   dog   REL   black   DEF
          'a/the black dog   'the black dog'   'the/that black dog'

In contrast, the presence of an adverbial modifier does affect the position of an

ADJ within the Indonesian NP. Although an adverb can appear to the left or right of the

ADJ it modifies,[21] the examples in (64) and (65) show that the adjectival constituent must

be expressed as an RC$_{ADJ}$.

64)   a. rumah *besar*
          house big
          'a/the big house'

        b. *rumah ***terlalu*** *besar*
            house too   big

        c. rumah yang ***terlalu*** *besar*
            house REL too   big
            'a/the house that is too big'

65)   a. rumah *mahal*
          house expensive
          'an/the expensive house'

---

[20] Overt definite marking in Indonesian is optional; an unmarked N can be interpreted as either definite or
      indefinite. I discuss definite marking further in Section 6.
[21] Sneddon (1996) lists 15 adverbial modifiers that precede ADJs, while only four follow. However, the
      distribution of ADVs is encoded within the ADV itself and is not related to the semantic or syntactic
      nature of the ADJ it modifies. Given these facts, I do not discuss the position of ADVs in detail here.

b. *rumah *mahal*   **sekali**
   house expensive very

c. rumah yang *mahal*   **sekali**
   house REL expensive very
   'a/the very expensive house'
   [LIT. 'a/the house that is very expensive']

Similarly, Indonesian superlatives must also occur within an RC_ADJ, as in (66).

66) a. anak *nakal*
       child naughty
       'a/the naughty child'

     b. anak *yang* **paling** *nakal*
        child REL   most   naughty
        'the naughtiest child'

     c. *anak **paling** *nakal*
        child most   naughty

Furthermore, in his description of Indonesian, Macdonald (1976) points out that

when an ADJ itself is modified, it cannot directly modify the head N. Instead, the

modified ADJ is expressed as an RC_ADJ, as in (67).

67) a. orang *kaya*
       person rich
       'a/the rich person'

     b. orang **yang** *baru kaya*
        person REL   new rich
        'a/the newly rich person'   (Macdonald 1976:88)

     c. *orang   *baru kaya*
         person new rich

Based on the examples in (63) – (67), it is evident that the modification of ADJs plays a

role in determining direct versus indirect modification; (68) states this generalization.

68) *When an adjective itself is modified, the resulting adjectival constituent must be
     expressed as an adjectival relative clause* (RC_ADJ).

I discuss the syntactic implications of this generalization in 3.3.2.

The foregoing discussion shows that ADJs in Indonesian consistently occur in the postnominal position as direct or indirect modifiers of the head N. I now turn to an analysis of the structure of Indonesian NPs containing ADJs.

3.3 The Structure of Adjectives

The examples above demonstrate that there are two possible positions for ADJs in Indonesian: i) ADJs directly follow the head N, or ii) ADJs are expressed within an RC_{ADJ} headed by the relative particle *yang*. Thus, two different syntactic positions are needed. Although an ADJ itself can be modified by elements such as intensifiers (*sekali; sangat* 'very') and superlatives (*paling* 'most') to form an adjectival constituent, this constituent is contained within an RC_{ADJ} and does not affect the overall structure of Indonesian NPs. Therefore, I do not address the internal structure of the AP, but rather focus on how ADJs merge with N.

3.3.1 Direct Modification

We have observed thus far that Indonesian ADJs consistently follow the head N; they can combine directly with an attributive N (47a), a head N (47b), a modified N (54a), or occur within an RC_{ADJ} (57; 67). In this section, I argue that direct adjectival modification in Indonesian occurs via the operation Adjoin.

Adjunction combines any head or phrase to form an adjoined structure without changing the category of the already existing structure. We saw in (48), restated here as (69), that this is the case for Indonesian ADJs.

69)

$$N^0_i \ (=NP)$$

$$N^0_i \qquad\qquad N^0_j$$

$$N^0_i \qquad A^0 \qquad N^0_j \qquad N^0_k$$
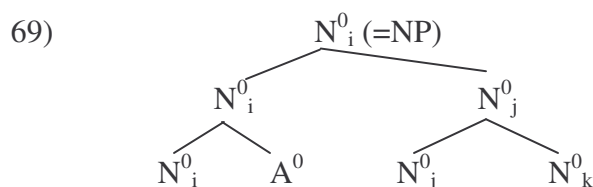
Furthermore, unless explicitly constrained, adjuncts can appear on either side of the phrase (Adger 2003). The examples in 3.2 above show that ADJs in Indonesian always appear to the right of N. This constraint is specified in (70).

70)   *Adjectives always adjoin to the right of the head noun.*

Adjunction also allows for the iteration of ADJs, which accounts for the data in (54a), restated here as (71).

71)   anjing *hitam besar*
       dog   black big
       'a/the big, black dog'

I propose that when two ADJs directly modify N^0, both are adjoined to and expand the layers of N^0 while still maintaining the output of the adjunction to N^0, as shown in (72).

72)

```
                    N⁰
                   /  \
                 N⁰    A⁰
                / \    besar
              N⁰   A⁰
            anjing hitam
```
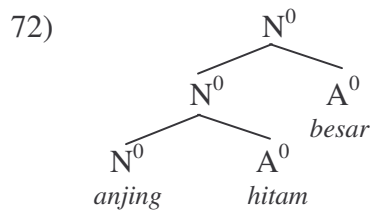
In their analysis of Javanese and Madurese NPs, [22] Davies and Dresser (2005:69) state that since "the result of the merger of an adjective with a noun is a noun, it is then possible to merge a second adjective with *that* noun." In my analysis, the juxtaposition of two ADJs following N is such that each ADJ directly modifies the object with which it combines. For example, in (72), *hitam* 'black' adjoins to *anjing* 'dog', resulting in N^0, to which the second ADJ *besar* 'big' then adjoins.

An adjunction analysis for ADJs explains another distributional fact about Indonesian NPs. Davies and Dresser (2005:67) claim that, in Javanese and Madurese, when an "adjective and noun combine to form a noun rather than a phrasal category, the

---

[22] Javanese and Madurese are members of the Malayo-Polynesian branch of the Austronesian language family and are closely related to Indonesian.

fact that the definite particle can affix to the N-[ADJ] combination just as it does to a plain N is entirely unremarkable." As we will see in Section 6, the clitic *-nya* is a definite marker in Indonesian that can attach to N^0 (73a) or A^0 (73b), but to no other category (73c,d). This provides further evidence for ADJs as head-adjoined objects in that the category that *-nya* adjoins to is always N^0. The structure in (74) corresponds to the data in (73b).

73) a. anjing*nya*   b. anjing hitam*nya*   c. *dua*nya* anjing   d. *anjing saya*nya*
        dog.DEF   dog   black.DEF   two.DEF dog   dog   1SG.DEF
        'the dog'   'the black dog'

74)   FP_DEF[23]
                           /   \
                        N^0 [DEF]
                       /   \
                    N^0 A^0
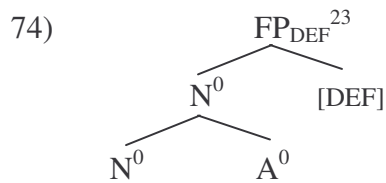
Thus far I have argued that ADJs are head-adjoined to the right of the N which they modify and the features of N dominate the phrase. However, we also saw in 3.2.2 that when more than two ADJs modify N^0 or an ADJ itself is modified, the constituent must be expressed as an RC_{ADJ}. In the following section, I look at the features of RCs to show that an RC_{ADJ} functions as an indirect modifier in Indonesian and adjoins to a projection higher in the structure.

3.3.2 Indirect Modification

Relative clauses (RC) in Indonesian follow the N to which they refer and are introduced by the relative particle *yang*. The examples in (75) illustrate several different types of RCs in Indonesian: (75a) shows an RC that contains a full verbal phrase; (75b) shows an

---

[23] For now I refer to the uppermost projection as a functional phrase (FP). I use FP, with a corresponding subscript, as a temporary label for projections that will be discussed later. The FP that corresponds to definite marking is discussed further in Section 6.

RC with an empty N head; (75c) and (75d) are examples of a simple and complex NP,

respectively, that contain an RC$_{ADJ}$.

75) a. Anjing **yang** *sedang tidur* sakit.
       dog   REL   PROG   sleep sick
       'The dog that is sleeping is sick.'

     b. **Yang** *sedang tidur* sakit.
        REL   PROG   sleep sick
        'The one that is sleeping is sick.'

     c. anjing **yang** *hitam* itu
        dog   REL   black DEM
        'that black dog'
        [LIT. 'that dog that is black']

     d. dua ekor anjing hitam Ari **yang** *besar dan lapar*   itu
        two CL   dog   black Ari REL   big   and hungry DEM
        'Ari's two hungry, big, black dogs'
        [LIT. 'those two black dogs of Ari's that are big and hungry']

For the purposes of this thesis, I focus on the structure of adjectival RCs such as

those given in (75c) and (75d). In these examples, *yang* heads an RC and participates in

the structure of the clause. I label this clause RC$_{ADJ}$, since the relative particle *yang* must

precede an adjectival predicate in order to nominalize the predicate (Macdonald 1976).

Moreover, I propose that, since various syntactic objects can separate an RC$_{ADJ}$ from the

N to which it refers, as in (75d), an RC$_{ADJ}$ adjoins to a projection higher than N^0 in the

overall structure.

In keeping with a minimalist approach, as stated in Adger (2003), I adopt the

assumptions in (76) for the Indonesian RC$_{ADJ}$ and propose the corresponding structure in

(77):

76)   a. *Yang* heads a Complementizer Phrase (CP).
      b. C^0 merges with a small clause (SC)[24] containing a gap.
      c. An Operator (OP) occurs in Spec, CP.

77)

```
                        FP_REL
              _____|_____
           .....                    CP (=RC_ADJ)
         ____|____              _____|_____
              N^0            OP_i          C'
          ____|____                    ____|____
        N^0_i      A^0                C^0        SC
                                     yang      △
                                            Ø_i + predicate
```
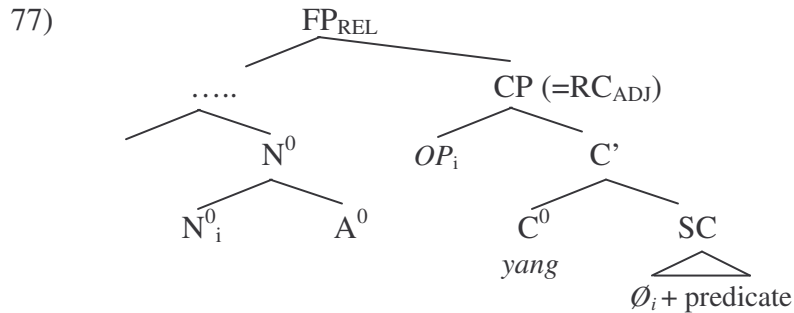
In (77), the SC contains a gap (Ø) representing an empty subject that is co-indexed with
N^0. The Operator in Spec, CP is also co-indexed with N^0. Thus, the underlying
representation for *anjing yang hitam itu* 'that black dog' in (75c) is actually *anjing OP*
yang Ø hitam itu, where both *OP* and *Ø* refer to and are co-indexed with *anjing* 'dog'; *Ø*
hitam makes up the SC. For the remainder of this thesis, I use the term RC_ADJ to refer to a
CP as it is given in (77).

We have observed that an RC_ADJ can be used to accommodate any number of
ADJs and serves both a syntactic and semantic role. For the purposes of my analysis, I
am concerned only with the position of the RC_ADJ as it appears within the larger DP
structure. To establish the position of the RC_ADJ more clearly, I look briefly at the
position of possessors in relation to N^0. Possession is discussed in detail in Section 5.

3.3.3 Effects of Possessors on Adjective Placement

The data in (78) and (79) show that a possessive N or pronoun in Indonesian must follow
the N it refers to.

---

[24] The term 'small clause' (SC) refers to a predicate structure that contains a subject and predicate, but no
tense information. The predicate may be realized as an AP, NP, PP or an uninflected VP. I analyze the
complement of C^0 as an SC because tense information is missing. The SC in Indonesian appears to be
similar to and may be better analyzed as a null copula construction. As this topic does not affect my
overall analysis, I do not discuss it here.

78) a. anjing *Edy*   b. *Edy anjing
       dog   Edy   Edy dog
       'Edy's dog'

79) a. suami   *saya*   b. *saya suami
       husband 1SG   1SG   husband
       'my husband'

When an ADJ directly modifies an N, as in (80), a possessor cannot intervene; the ADJ immediately follows the N and the possessor occurs in phrase-final position.

80) a. anjing besar *Edy*   b. *anjing *Edy* besar
       dog   big   Edy   dog   Edy big
       'Edy's big dog'

This suggests that the projection containing a possessor occurs above the N-ADJ combination, as given in (81).[25]

81)
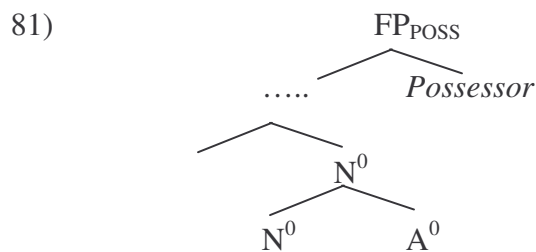
When a possessed N is modified by an RC_{ADJ}, the RC_{ADJ} must follow the possessor and occur in phrase-final position, as in (82a).

82) a. anjing besar *Edy **yang sakit***   b. *anjing besar ***yang sakit** Edy*
       dog   big   Edy REL   sick   dog   big   REL sick Edy
       'Edy's big, sick dog'
       [LIT. 'Edy's big dog that is sick']

     Furthermore, Macdonald (1976) states that, when a possessor and an ADJ co-occur as modifiers of an attributive NP (see Section 2), the ADJ must be preceded by the relative pronoun *yang*, which immediately follows the possessor. The constraint in (85) corresponds to the data in (83) and (84).

---

[25] In section 4, I propose that a Cardinality Phrase (CardP) merges with N^0 and occurs as a projection immediately above N^0. At this point, however, I represent this projection as /.../.

83)   a. buku sejarah *saya **yang** lama*
         book history 1SG REL   long.time
         'my old history book'
         [LIT. 'my history book that is old']   (Macdonald 1976:89)

      b. *buku sejarah *lama*   *saya*
         book history long.time 1SG

      c. *buku sejarah *saya lama*
         book history 1SG long.time

84)   a. foto   gereja batu *Pak Hamin **yang** besar*
         picture church stone Mr. Hamin REL   big
         'Mr. Hamin's big picture of a/the stone church'
         [LIT. 'Mr. Hamin's stone church picture that is big']

      b. *foto   gereja batu *besar Pak Hamin*
         picture church stone big   Mr. Hamin

      c. *foto   gereja batu *Pak Hamin besar*
         picture church stone Mr. Hamin big

      d. *foto   gereja batu *besar yang Pak Hamin*
         picture church stone big   REL   Mr. Hamin

85)   *When a noun is modified by an attributive noun, an adjective and a possessor,*
      the adjective cannot directly modify the noun and must appear in an adjectival
      relative clause (RC$_{ADJ}$).[26]

Based on the generalizations in (68) and (85), it is evident that APs must occur

within an RC$_{ADJ}$; only adjectival heads are possible within the head-adjunction domain.

Moreover, the facts in 3.3.3 demonstrate that the RC$_{ADJ}$ adjoins to a functional projection

external to N^0. Thus, I propose the structure in (86).

---

[26] This constraint is strikingly similar to that in (56); whether the modifiers are attributive Ns or ADJs, in
   both cases there is a limitation on the number of items that directly modify the head N.

86)

$$FP_{RC}$$

$$FP_{POSS} \quad RC_{ADJ}$$

$$..... \quad Possessor$$

$$N^0$$

$$N^0 \quad A^0$$
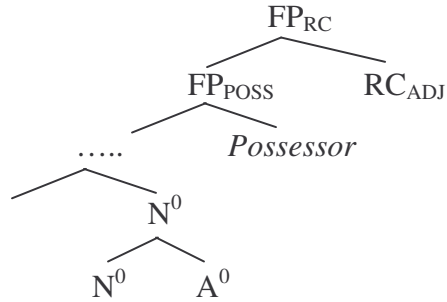
3.4 Summary

In this section I examined the distribution of ADJs and established that there are two types of adjectival modification in Indonesian, direct and indirect. I argued that ADJs do not head their own functional projection, but instead adjoin directly to N^0 or are contained within an RC_{ADJ}. In keeping with minimalist assumptions, I proposed that RC_{ADJ} is actually a CP headed by the relative pronoun *yang* with a small clause containing a gap as its complement; an operator co-indexed with N^0 occurs in Spec, CP. In addition, I showed that the RC_{ADJ} is external to N^0 and adjoins to an (as yet, undefined) FP above the possessor. I now examine the various ways in which number marking occurs in Indonesian and where it merges in the overall structure.

Section 4: Bare Nouns, Prenominal Modifiers and Plural Marking

The main purpose of this section is to examine the distribution and structure of

prenominal modifiers and plural marking in Indonesian. In 4.1, I look briefly at bare Ns

and show that, in contrast to English, they are neutral with respect to number. In 4.2, I

identify a number of modifiers that occur prenominally to denote a specific quantity of N

and show that Indonesian makes the count vs. mass distinction. In 4.3, I introduce

reduplication as the primary means for expressing the plurality of N in Indonesian. Based

on the fact that prenominal modification is distinct from plural marking, I argue in 4.3

that Indonesian lacks a NumP projection. Instead, I claim that prenominal modifiers

occur within a Cardinality Phrase (CardP), while a plural feature adjoins to a head or

phrase bearing the feature [N] and triggers reduplication.

4.1 Bare Nouns

In Indonesian, a bare N can refer to one or more than one entity, as shown in (87).

87) a. Adit membeli *pisang*.
    Adit MEN-buy banana
    'Adit bought a banana/bananas.'

b. *Pisang* enak   sekali.
    banana delicious very
    i. 'The banana is very delicious.'
    ii. 'Bananas are very delicious.'

This is in contrast to English Ns, which require plural marking to denote more than one

entity, as in (88)

88) a. *Adit bought banana.
    b. *Banana are very delicious.

Thus, it appears that a bare N in English "is interpreted as singular and is…incompatible

with a plural interpretation" (Wiltschko 2007:13), while Indonesian bare Ns can be

interpreted as either singular or plural and are, therefore, considered neutral with respect to number.

4.2 Prenominal Modification

4.2.1 Numerals

In addition to being neutral for number, Indonesian Ns can be divided into two categories: count Ns and mass Ns. Count Ns are those Ns that can be individuated and directly modified by a numeral. According to Macdonald (1976:78), Indonesian count Ns "freely enter formations which are specifically plural," whereas mass Ns rarely, if ever, do. As shown in (89) and (90), the numeral always precedes the N; the ungrammaticality in (91) indicates that a mass N cannot simply be pluralized by a numeral.

89) a. *anak*　　　　　b. tiga *anak*　　　　c. *anak tiga
　　　child.SG　　　　　three child.SG　　　　child three
　　　'a/the child'　　　'three children'

90) a. *pohon*　　　　　b. dua *pohon*　　　　c. *pohon dua
　　　tree.SG　　　　　　two tree.SG　　　　　tree　　two
　　　'a/the tree'　　　　'two trees'

91) a. *gula*　　　　　　b. *dua *gula*　　　　c. *gula dua
　　　sugar　　　　　　　two sugar　　　　　　sugar two
　　　'sugar'

4.2.2 Quantifiers

Quantifiers (Q) also appear as prenominal N modifiers, as in (92). Qs that typically co-occur with count Ns include terms such as *setiap* 'each, every', *beberapa* 'several', and *banyak* 'many'; *banyak* 'a lot, much' may also co-occur with mass Ns, as shown in (92c).

92) a. *Beberapa* murid   tidak pergi ke sekolah kemarin.
　　　several   student NEG go   to school yesterday.
　　　'Several students didn't go to school yesterday.'

b. Ada *banyak* pisang di pohon itu.
     exist many   banana P tree   DEM
     'There are many bananas on that tree.'

   c. Ada *banyak* gula   di kopi   saya.
     exist a.lot   sugar P coffee 1SG
     'There is a lot of sugar in my coffee.'

4.2.3 Classifiers

In her discussion of number in Malay,[27] Carson (2000) states that because a classifier

makes a noun countable it functions as a number marker. Therefore, she claims that in

languages in which classifiers are obligatory, such as Malay and Mandarin Chinese, the

classifier must co-occur with a numeral to express a particular quantity of N. However, in

a language such as Indonesian, classifiers are optional and simply occur to provide

information about the size, shape and animacy of the N (see Appendix 1). The data in (93)

show that Indonesian classifiers occur between a numeral and the count N.

 93)   a. Ada tiga   *ekor* anjing di jalan.
       exist three CL   dog   P street
       'There are three dogs in the street.'

     b. Ari bertemu   dengan empat *orang* guru   kemarin.
       Ari BER-meet with   four   CL   teacher yesterday
       'Ari met with four teachers yesterday.'

   Traditionally, classifiers in Indonesian have functioned to identify a count N as

belonging to a particular class of Ns (Sneddon 1996). However, the use of classifiers in

contemporary Indonesian has decreased significantly and nominal classification no

longer appears to be an obligatory function of the language (Macdonald 1976). Still, there

are three commonly used classifiers in Indonesian: (i) *orang* 'person', used for humans;

(ii) *ekor* 'tail', used for animals; and (iii) *buah* 'fruit' used for most other count Ns. The

---

[27] Malay is a member of the Malayo-Polynesian subgroup of the Austronesian language family and the
    (mother) language from which Indonesian has evolved.

examples in (94) illustrate the semantic constraints for each.

94)   a. Ada tiga   *ekor/*orang* anjing di jalan.
      exist three CL   CL   dog   P street
      'There are three dogs in the street.'

    b. Ari bertemu   dengan empat *orang/*buah* guru   kemarin.
      Ari BER-meet with   four   CL   CL   teacher yesterday
      'Ari met with four teachers yesterday.'

    c. Mira membeli lima *buah/*ekor* wortel di pasar.
      Mira MEN-buy five CL   CL   carrot P market
      'Mira bought five carrots at the market.'

Classifiers in Indonesian are more frequently used with the prefix *se-*, an

abbreviated form of the numeral *satu* 'one'. The data in (95a) and (96a) show that the

unit *se-*+CL functions like the English indefinite article 'a, an'. Sneddon (1996:135)

states that classifiers "are far more likely to occur with **se-...**than with higher numbers.

[However,] if the classifier is absent **se-** cannot occur", as shown by the ungrammaticality

of (95b) and (96b).

95)   a. Saya melihat **se***ekor* kuda.   b. *Saya melihat **se**-kuda.
      1SG   MEN-see one.CL horse   1SG   MEN-see one.horse
      'I saw a horse.'

96)   a. Pak Aris **se***orang* pendeta.   b. *Pak Aris **se-**pendeta.
      Mr. Aris one.CL   pastor   Mr. Aris one.pastor
      'Mr. Aris is a pastor.'

Note that the *se-*+CL unit is inherently singular and, therefore, cannot co-occur with a

numeral or Q to express more than one N, as shown in (97).

97)   a. **dua **se***orang* pendeta   b. **beberapa **se***ekor* kuda
      two one.CL   pastor   several   one.CL horse

In contrast to count Ns, mass Ns cannot be directly modified by a numeral. The

examples in (98) – (100) show that when a numeral co-occurs with a mass N a unit of

measure is needed. As with classifiers, these units of measure occur between the numeral and the N.

98) a. air   b. setengah *gelas* air   c. *setengah air
     water   half   glass water   half   water
     'water'   'half a glass of water'

(Sneddon 1996:138)

99) a. gula   b. dua *kantong* gula   c. *dua gula
     sugar   two sack   sugar   two sugar
     'sugar'   'two sacks of sugar'

100) a. nasi   b. se*piring* nasi   c. *satu nasi
     rice   one.plate rice   one rice
     'rice'   'one plate of rice'

Muromatsu (1995) discusses these units of measure as exhibiting a classifier-like character. She maintains that "classifiers and measure words exhibit different syntactic behaviour in some contexts... [but] even non-classifier languages have a systematic use of measure phrase constructions" (Muromatsu 1995:17). This appears to be the case for Indonesian.

Furthermore, Cheng and Sybesma (1999) distinguish between two types of classifiers: i) *count classifiers* co-occur with numerals to name the unit of a count N, and ii) *massifiers* co-occur with a numeral to create units of a mass N. They argue that mass Ns "do not *have* a built-in semantic partitioning" (Cheng & Sybesma 1999:515) and, therefore, a massifier is needed to yield a countable entity.[28] Count classifiers, on the other hand, "merely *name* the units in which certain phenomena naturally present themselves" (Cheng & Sybesma 1999:515).

---

[28] It has become increasingly more acceptable to omit a massifier in Indonesian speech, resulting in phrases such as *dua kopi* 'two (cups of) coffees' and *tiga Fanta* 'three (bottles of) Fantas'. As in English, the massifier is assumed and understood within a specific context (A.M., personal communication).

In addition to numerals, Qs, count classifiers (henceforth CL) and massifiers (henceforth MA), the primary means for expressing plurality in Indonesian is reduplication, to which we turn now.

4.3 Plural Marking

Reduplication is a type of morphological marking that involves the repetition of all or part of a stem; it "may involve perfect identity between copies…or exhibit imperfect identity" (Inkelas and Zoll 2005:1). The examples in (101) and (102) show that, in Indonesian, a lexical item may be fully or partially copied to indicate its plural form.

101) a. buku   b. *buku-buku*
         'a/the book'   '(the) books'

102) a. tarian   b. *tari-tarian*
         'a/the dance'   '(the) dances'

In their Morphological Doubling Theory (MDT), Inkelas and Zoll (2005:6) explain that "reduplication results when the morphology calls twice for a constituent of a given semantic description." MDT assumes the basic structure in (103), where a "reduplicated stem…has two daughters that are featurally identical, i.e., mean the same thing" (Inkelas and Zoll 2005:7).

103) $[\text{output}]_{[F + \text{some added meaning}]}$[29]

        /input/$_{[F]}$ /input/$_{[F]}$ (Inkelas and Zoll 2005:7)
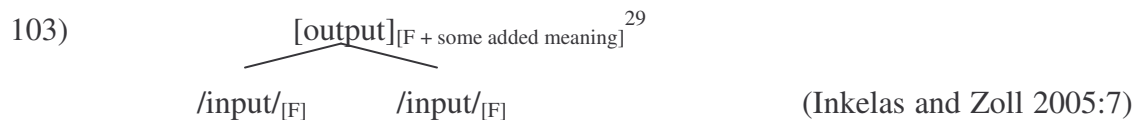
This interpretation accounts for the Indonesian data in (101) and (102).

For the purposes of this paper, I use the term reduplication to refer to both the full and partial copying of a lexical item. I adopt Inkelas and Zoll's (2005) analysis as it

---

[29] The fact that the output of reduplication carries a feature [F] with 'some added meaning' allows for a reduplicated N to be interpreted not only as plural, but also as a 'variety of X', as discussed in section 4.3.3. The specific interpretation is left to semantics.

applies to Indonesian and show (in 4.4.4) that the structure for reduplication given in (103)

is the primary means for expressing the plurality of Ns in Indonesian.

4.3.1 Reduplication of Nouns

As we saw in (101), the repetition of a complete base stem denotes the plurality of an

Indonesian N. In most cases only a bare stem is reduplicated (104), but it is also possible

to reduplicate an affixed stem, as in (105) and (106).

104) a. *pohon*　　　　　　b. *pohon-pohon*
　　　　 'tree'　　　　　　　　tree.PL
　　　　　　　　　　　　　　 'trees'　　　　　　　　　　　　(Sneddon 1996:17)

105) a. *tari*　　　　　　　b. *penari*[30]　　　　　　c. *penari-penari*
　　　　 'to dance'　　　　　 'dancer'　　　　　　　dancer.PL
　　　　　　　　　　　　　　　　　　　　　　　　 'dancers'

106) a. *bangun*　　　　　b. *bangunan*　　　　　c. *bangunan-bangunan*
　　　　 'to arise'　　　　　 'building'　　　　　　building.PL
　　　　　　　　　　　　　　　　　　　　　　　　 'buildings'　　　(Ahmad 2005:141)

However, reduplication cannot be applied when it is clear from the discourse that the N

refers to more than one entity, as in (107).[31]

107) a. Saya harus membeli *sepatu/*sepatu-sepatu* baru.
　　　　 1SG　must　MEN-buy shoe　　shoe.PL　　　new
　　　　 'I must buy new shoes.'　　　　　　　　　　(Sneddon 1996:17)

　　　 b. Setiap orang　mempunyai *mata/*mata-mata* untuk melihat　dan
　　　　 each　person MEN-have　eye　　eye.PL　　　for　　MEN-see and

　　　　 *telinga/*telinga-telinga* untuk mendengar.
　　　　 ear　　　ear.PL　　　　　for　　MEN-hear
　　　　 'Everyone has eyes to see and ears to hear.'　　　(Almatsier 1988:61)

In addition, it is rare for a numeral or Q to co-occur with a reduplicated N, although

Macdonald (1976) provides the example in (109) to show that it is possible.

---

[30] The consonant change from /t/→/n/ is a result of morpho-phonological conditioning of the prefix /peN/.
[31] Nominal reduplication in Indonesian is typically associated with written language or formal interaction
　　and is not an obligatory category. Therefore, in informal conversation, the non-singular meaning of an
　　N is most often conveyed by pragmatics (Rafferty 2002).

108) a. Adit membeli *lima pisang/?pisang-pisang*.
   Adit MEN-buy five banana banana.PL
   'Adit bought five bananas.'

   b. *Beberapa orang/?orang-orang* berkumpul di depan gereja catolica.
   several   person person.PL   BER-gather P front church catholic
   'Several people gathered in front of the Catholic church.'

109) Apakah   maksud *lima kata-kata* berturut-turut ini…?
   what.POL meaning five word.PL   successively DEM
   'What is the point of these five expressions linked together like this…?'

                                                                (Macdonald 1976:81)

While I have not come across an explanation as to why this co-occurrence is rare, I

suggest that since numerals, Qs and reduplicated Ns all indicate a quantity greater than

one, their co-occurrence is redundant and, therefore, unnecessary. Moreover, I argue that

the reduplication of Indonesian Ns occurs primarily to provide additional information (e.g.

emphasis, focus, collectivity). Thus, I propose that prenominal modification and plural

marking in Indonesian are categorially and syntactically distinct. I discuss this in 4.4.

4.3.2 Reduplication of Adjectives

In 3.2.2 we observed that modifying ADJs often occur in an RC$_{ADJ}$ for the purpose of

emphasis (110b). ADJs in an RC$_{ADJ}$ can also be reduplicated and mark the plurality of N,

as shown in (110c); the ungrammaticality of (110d) indicates that the reduplicated ADJ

cannot directly modify the N.

110) a. Kami   melihat gunung *tinggi*
       3.SG.EXCL MEN-see mountain tall
       'We saw a/the tall mountain.'

    b. Kami   melihat gunung *yang tinggi*
       3.SG.EXCL MEN-see mountain REL   tall
       'We saw a/the *tall* mountain.'
       [LIT. 'We saw a/the mountain that is *tall*.' (as opposed to having some other
        quality)]

    c. Kami   melihat gunung   *yang tinggi-tinggi*
       3.SG.EXCL MEN-see mountain REL   tall.PL
       'We saw (the) tall mountain*s*.'   (Almatsier 1988:61)

    d. *Kami   melihat gunung   *tinggi-tinggi*
        3.SG.EXCL MEN-see mountain tall.PL

Sneddon (1996:19) states that the "reduplication of an adjective [in Indonesian] usually occurs when the noun it describes is plural; reduplication indicates that the characteristic indicated by the adjective applies to all the objects." Additional evidence is given in (111).

  111) a. Ia   membeli kue yang *enak-enak*.
        3.SG MEN-buy cake REL   delicious.PL
        'He/She bought delicious cakes.'
        [LIT. 'He/She bought cakes that are delicious.']   (Almatsier 1988:61)

      b. *Ia   membeli kue *enak-enak*.
        3.SG MEN-buy cake delicious.PL

Based on the ungrammaticality in (110) and (111), I claim that, unlike bare ADJs, which can occur as both direct and indirect modifiers, reduplicated ADJs in Indonesian occur only as indirect modifiers within an RC$_{ADJ}$. This has relevance for the position of the plural feature [PL], which I discuss in Section 4.4.

4.3.3 Reduplication and 'Variety/Kinds'

Noun reduplication in Indonesian can also yield a meaning of 'various N' (Wolff 1986). In (112), the reduplicated N *buku* 'book' draws attention to a variety of books, all of which are thick.

  112) *Buku-buku* yang tebal.
      book.VAR REL thick
      'Various books which are thick.'
      [LIT. 'There are all sorts of books, and they are thick, but not necessarily of
          different thicknesses.']   (Wolff 1986:207)

In contrast, reduplication of the ADJ *tebal* 'thick' in (113) is also possible and

emphasizes a variation in the thickness of a number of books.

113) Buku yang *tebal-tebal*.
      book REL thick.VAR
      'Various books which are thick (some thicker than others, but all of them are
       thick).'   (Wolff 1986:207)

In both examples, reduplication expresses variety which, in turn, denotes plurality.

According to Sneddon (1996), Indonesian writers disagree on the issue of variety

and plurality, since it is clear that reduplication is used in contexts where variety is not

relevant. For example, the reduplication of *bumbung* 'water container' in (114) clearly

points to a quantity greater than one, rather than emphasizing a variety of water

containers.

114) Pada pinggangnya   terikat *bumbung-bumbung* kosong.
      at   waist.3SG.POSS TER-tie water.container.PL empty
      'At his waist are tied empty bamboo water containers.'   (Sneddon 1996:17)

In contrast, the data in (115) show "that the things to which the doubled form refers are

not only plural but [also] different from each other in some way" (Wolff 1986:200).

115) a. Di *desa-desa*   sekitar...
         in village-RED around
         'In the *various villages* in the vicinity…'

      b. *Rintangan-rintangan* yang dulu   saya alami,   sekarang tidak ada   lagi.
         obstacle-RED   REL former 1SG experience now   NEG to.be again
         'The *various obstacles* that I experienced before are no longer present.'
                                                                             (Wolff 1986:200)

Macdonald (1976:33) suggests that any reduplicated countable N in Indonesian can take

on "an added connotation of variety, randomness, or repetition," whereas Indonesian

mass Ns always denote variety, as shown in (116).

116) a. *minyak*   b. *minyak-minyak*   c. **minyak-minyak*
     'oil'   oil.VAR   oil.PL
                    'different kinds of oil'   (Macdonald 1976:79)

This taxonomic reading is available for mass Ns in other languages (see Chierchia 1998; Longobardi 2001).

In her analysis of Malay, Carson (2000:10) states that, although reduplication functions as a plural marker, it "does not mark plurality in the way English plural marking simply indicates 'more than one X'." She points out that reduplicated Ns function as distributives that denote "the separateness of the entities they identify" (Mithun 1988:220, in Carson 2000:10). She also draws on Sapir (1930:257), who claims that Ns in Southern Paiute are "not plural, though sometimes, particularly in the case of animate nouns, practically equivalent to such." Based on these perspectives, Carson (2000:6) contends that, "[a]lthough the meaning of 'all kinds of' is not strictly plural...the "regular" plural meaning [likely evolved] from the meaning of 'all kinds of'."

Carson's (2000) hypothesis corresponds to my interpretation of reduplicated Ns in Indonesian; reduplication functions primarily to denote a quantity greater than one, but also carries a semantic meaning expressed as 'a variety of X'. As the focus of this paper is syntactic, I will not explore which meaning occurs where and will leave the topic for future research.

In the foregoing discussion, I suggested that prenominal modification and plural marking in Indonesian categorically distinct and, therefore, realized differently in the syntax. Thus, I propose that prenominal modifiers in Indonesian occur within their own functional projection, while plural marking is realized as a category-sensitive feature that adjoins elsewhere in the structure. It is this discussion I turn to now.

4.4 The Structure of Bare Nouns, Prenominal Modifiers and Plural Marking

In Section 3 we observed that ADJs do not head their own projection; they may adjoin directly to N^0 or occur within an RC_{ADJ} higher in the structure. Furthermore, I propose in Section 6 that the Indonesian NP is actually a DP that operates as a maximal projection headed by a functional element of category D (Adger 2003). Based on these assumptions, and given the data for prenominal modification in Indonesian, I introduce an additional projection between DP and N^0 (=NP). I label this projection CardP, as in (117).

117)

```
                    DP
                   /  \
              CardP     D⁰
             /    \
        Card⁰    N⁰ (=NP)
                 /    \
               N⁰      A⁰
```
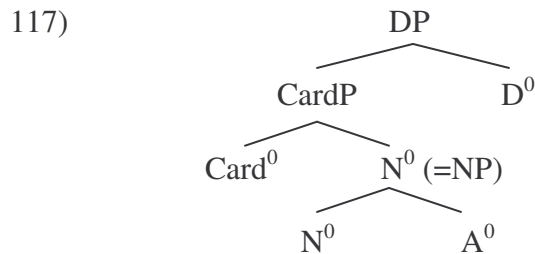
In (117), the head of CardP contains the feature [uN], thus selecting an object of the category N. When N^0 merges with $Card^0$, the features of $Card^0$ are satisfied. Since N^0 is selected and participates in feature-checking, it is considered a phrasal object (NP). This is shown in (118).

118)

```
                  DP
                 /  \
            CardP     D
           /    \
      Card⁰    NP[N]
    [CARD; u̶N̶]
```
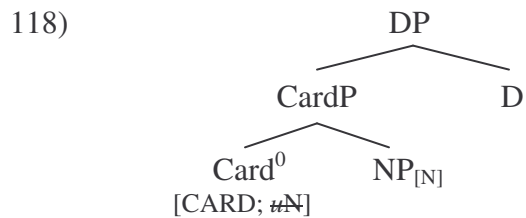
4.4.1 Bare Nouns

In 4.1 we concluded that Indonesian bare Ns are neutral with respect to number; when an N is unmodified and reduplication is not applied, the N can refer to one or more than one entity, as shown in (87a), restated here as (119).

119) Adit membeli *pisang*.
     Adit MEN-buy banana
     'Adit bought a banana/bananas.'

However, if a bare N renders both a singular and plural reading, how is it represented in a

structure like (117) above? Is a CardP necessary with a bare N? In keeping with

minimalist assumptions, I argue that when the Indonesian DP contains a bare count N,

CardP is absent and N^0 merges with the next highest projection.[32] This same argument

can apply to bare mass Ns. Based on these assumptions, I now look at the internal

structure of prenominal modifiers in Indonesian.

4.4.2 Numerals and Quantifiers

The data in 4.2 show that numerals and quantifiers (Q) function as prenominal modifiers.

For example, in (108), restated here as (120), the numeral *lima* 'five' merges with the N

pisang 'banana' to denote a specific quantity greater than one.

120) Adit membeli *lima pisang*.
     Adit MEN-buy five banana
     'Adit bought five bananas.'

Similarly, the Q *beberapa* 'several' in (121) merges with *pisang* 'banana' to denote an

unknown quantity greater than one.

121) Adit membeli *beberapa pisang*.
     Adit MEN-buy several   banana
     'Adit bought several bananas.'

The ungrammaticality of (122) shows that numerals and Qs are in complementary

distribution and, therefore, cannot occupy the same syntactic position.

122) *Adit membeli *lima beberapa pisang*.
     Adit MEN-buy five some   banana

Based on these facts, I propose that numerals and Qs occur within a CardP, as in (123).

---

[32] In Section 5 I show that CardP merges with $Poss^0$ whereas, in the absence of CardP, $Poss^0$ selects an NP.

123)   CardP
       ╱   ╲
   numeral   N^0
     Q
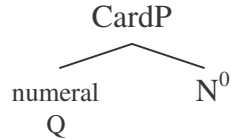
4.4.3 Count Classifiers and Massifiers

In Section 4.2.3, we established that count classifiers (CL) in Indonesian are optional

markers that, when used, must occur between a numeral and count N, as in (124).

124) a. Adit membeli *lima* (*buah*) *pisang*.
         Adit MEN-buy five   CL   banana
         'Adit bought five bananas.'

      b. *Adit membeli *buah lima pisang*
         Adit MEN-buy CL   five banana

      c. *Adit membeli *buah pisang*.
         Adit MEN-buy CL   banana

In comparison, massifiers (MA) have a classifier-like character and yield a countable

entity out of a mass N; they are obligatory and must follow a numeral or Q, as in (125).

125) a. Adit membeli *lima/beberapa kilo   nasi*.
        Adit MEN-buy five several   kilogram rice
        'Adit bought five/several kilograms of rice.'

      b. *Adit membeli *lima/beberapa nasi*.
         Adit MEN-buy five several   rice

The ungrammaticality in (126) shows that CLs and MAs cannot co-occur.

126) *Adit membeli *lima buah kilo   pisang*.
       Adit MEN-buy five CL   kilogram banana

It is clear that Indonesian places ordering restrictions on prenominal modifiers

which appear in a fixed sequence. Given that only one syntactic object can occupy a

single node, it follows that CardP must have two layers and numerals and Qs must

occupy a node above CLs and MAs. I put forward the structure in (127), where CLs and

MAs are heads of the CardP, while numerals and Qs occupy Spec, CardP.
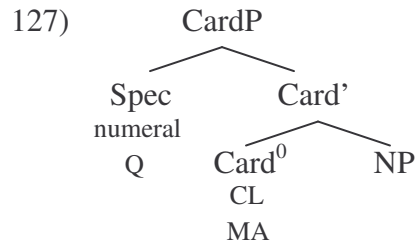
127)   CardP
         /   \
      Spec   Card'
     numeral   /   \
       Q   Card⁰   NP
            CL
            MA   (based on Carson 2000:25)

In her analysis of number in Malay, Carson (2000) looks to semantics to make a case for numerals in Spec, NumP (in our case, CardP). She states that "if the numeral is specifying a precise number of the entity being referred to by the noun, then semantically it is acting as a specifier. We therefore have reason to place it in Spec of NumP, rather than in the position of the head of the phrase" (Carson 2000:28). Given the constraints for number in Indonesian, and based on the universal assumption that a specifier precedes its head (Adger 2003), I adopt Carson's (2000) line of reasoning as it supports the Indonesian data.

4.4.4 Reduplication of Nouns

In addition to prenominal modifiers, the reduplication of N denotes a quantity greater than one, as given in (128).

128) Adit membeli *pisang-pisang*.
     Adit MEN-buy banana.PL
     'Adit bought bananas.'

Furthermore, we observed in (108), restated here as (129), that it is uncommon for a prenominal modifier to co-occur with a reduplicated N.

129) a. ?Adit membeli *lima pisang-pisang*.
        Adit MEN-buy five banana.PL

     b. ?Adit membeli *beberapa pisang-pisang*.
        Adit MEN-buy some   banana.PL

We also observed, however, that although it is rare, this co-occurrence is possible.

130) Apakah   maksud   *lima kata-kata* berturut-turut ini…?
     what.POL meaning five word.PL   successively DEM
     'What is the point of these five expressions linked together like this…?'
                                                                (Macdonald 1976:81)

I return to this in 4.4.6.

To give meaning to reduplication and its phonological form after spellout, I

propose that reduplication is represented by the feature [PL]. I generate the following set

of properties:

131) *Properties of the Feature* [PL]:
     i)   [PL] indicates the number of N is greater than one.
     ii) The presence of [PL] triggers REDUPLICATION.
     iii) REDUPLICATION gives the instruction *copy sister*, which is spelled out as
          N–N.

Taking into account the properties in (131), I now attempt to establish the position of

[PL].

4.4.5 The Position of [PL]

In 4.4.3, I proposed that a numeral or Q occupies Spec, CardP, while $Card^0$ is filled by a

CL or MA (127). Furthermore, I demonstrated that, although it is rare, it is possible for a

numeral or Q to co-occur; the potential for this co-occurrence suggests that these

elements are syntactically distinct. Based on these observations, and the fact that ADJs

within the RC_{ADJ} can be reduplicated, I contend that the feature [PL] adjoins outside of

the CardP.

To support my argument, I turn to Wiltschko's (2007) analysis of Halkomelem

Salish, in which she proposes that, although there are cases in which the feature [PL] co-

occurs with elements of CardP, [PL] has a distinct categorial identity and occurs

elsewhere in the structure.

4.4.6 The Identity of [PL]

Based on the observations above, and assuming that prenominal modification and plural

marking in Indonesian are optional, I put forward the notion that [PL] does not occur

within CardP but, rather, it adjoins to elements of the category [N]. In support of my

argument, I draw from Wiltschko's (2007) analysis of plural modification in Halkomelem

Salish. Wiltschko (2007:5) states that, in contrast to English, plural marking in

Halkomelem "is optional and the unmarked form is compatible with a plural

interpretation." She provides the examples in (132) and (133) to illustrate her point.

Halkomelem:

132) a. te   lhíxw swíweles   b. te   lhíxw sw**ó**weles
     DET three boy   DET three boy.PL
     'the three boys'   'the three boys'

133) a. qe<u>x</u> te s-th'ím   b. qe<u>x</u> te s-**th'e**th'ím
     many DET NOM-berry   many DET NOM-berry.PL
     'many berries'   'many berries'   (Wiltschko 2007:5)

English:

134) a. the three boy**s**
     b. *the three boy

Furthermore, she points out that number agreement within the NP is optional. The

example in (135) shows that a plural marked N is compatible with both a preceding plural

DET and an unmarked DET.

Halkomelem:

135) a. t'ílém **ye**   s-**í:**wí:qe   t'ílém te   s-**í:**wí:qe
     sing   DET.PL man.PL   sing   DET man.PL
     'The men are singing.'   'The men are singing.'

    b. t'ílém **ye**   swíyeqe   t'ílém te   swíyeqe
     sing   DET.PL man   sing   DET man
     'The men are singing.'   'The man is singing.'[33]

In contrast, English DETs obligatorily agree with the number of N, as in (136).

---

[33] The absence of any plural marking normally implies a singular interpretation (Wiltschko 2007).

English:
136) a. **These** men are singing.   *This men are singing.
     b. ***These** man are singing.   This man is singing.

Thus, Wiltschko (2007:9) argues "that the Halkomelem plural marker is categorially

distinct from the English plural marker."

Plural marking in Indonesian can be compared to that of Halkomelem. First, we

established in 4.4.1 that Indonesian plural marking is optional; bare Ns in Indonesian can

refer to one or more than one entity and are, thus, interpreted as neutral with respect to

number.

137) a. Adit membeli *pisang*.   b. *Mobil* mahal   sekali.
        Adit MEN-buy banana   car   expensive very
        i. 'Adit bought a banana.'   i. 'A/The car is very expensive.'
        ii. 'Adit bought bananas.'   ii. 'Cars are very expensive.'

Second, there is no agreement in Indonesian. As (138) shows, the form of the

demonstrative *itu* 'that' is unaffected by the quantity of the head N.

138) a. Rumah ***itu***   besar sekali.
        house DEM big   very
        i. 'That house is very big.'
        ii. 'Those houses are very big.'

     b. *Tiga* rumah ***itu***   besar sekali.
        three house DEM big   very
         'Those three houses are very big.'

     c. *Rumah-rumah* ***itu***   besar sekali.
        house.PL   DEM big   very
         'Those houses are very big.'

This raises the question about the position of [PL] within the Indonesian DP structure –

does [PL], in fact, occur within the CardP or is it adjoined to N^0? A look at Wiltschko's

(2007) interpretation of number in English adds some clarity.

Wiltschko (2007) assumes that English plural marking is realized as a functional head, NumP, and is associated with the following properties:

i)   NUMBER merges with N to produce a new linguistic object, namely a phrase which bears the same label as its head;
ii)   NUMBER must be associated with one of two values: SINGULAR (in English spelled out as Ø) or PLURAL (spelled out as one of the familiar allomorphs);
iii)   D selects for NUMBER rendering the presence of NUMBER obligatory.

<div align="right">(Wiltschko 2007:10)</div>

Given these properties, she suggests the structure for the English NP given in (139).

139)   DP
         ╱   ╲
       D   NumP
                ╱   ╲
            Num   NP
          SG → Ø   │
          PL → -s, -ez…   N   (Wiltschko 2007:10)

However, Wiltschko (2007) maintains that the categorial identity of plural marking in Halkomelem is distinct from English, based on the fact that plural marking is optional and does not trigger agreement between elements within the NP. She asserts that

> plural marking in Halkomelem does not instantiate a particular value of the functional category #. Instead the plural marker merges with *n* directly, without the mediation of a functional category. [Thus,] the Halkomelem plural marker lacks categorial identity.[34]

<div align="right">(Wiltschko 2007:10)</div>

Wiltschko (2007) provides the structure in (140).

140)   DP
         ╱   ╲
       D   *n*
                ╱   ╲
          PLURALIZER   *n*
          {-l-/Red-,…}

---
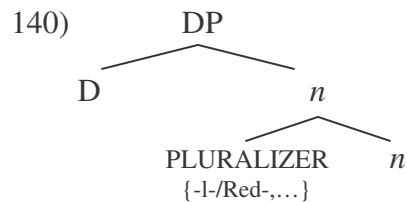
[34] Wiltschko's (2007) use of the category-defining *n* is equivalent to what I label the head N.

As in Halkomelem, I argue that [PL] in Indonesian lacks categorial identity and does not occur within the functional projection, CardP. Instead, I propose that [PL] adjoins directly to N^0, as shown in (141).

141)

```
            CardP
           /     \
        Spec      Card'
                 /      \
             Card⁰     N⁰=NP
                      /      \
                   [PL]      N⁰
                  {Red-}
```
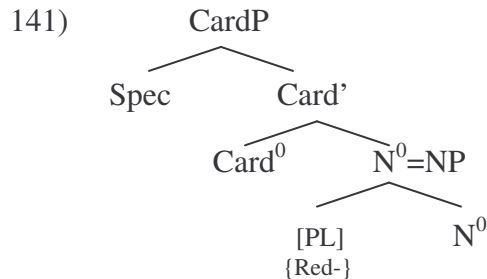
When adjunction occurs, [PL] gives the instruction to *copy sister* and N is spelled out as reduplication, as shown in (142).

142) a. $N_{[PL]} \rightarrow$ N–N   b. pisang$_{[PL]} \rightarrow$ pisang-pisang

The structure in (141) accounts for the co-occurrence of prenominal modifiers and reduplication in Indonesian, as given in (109) and (143), which is diagramed in (144). I insert the vocabulary items for clarity.

143) [Sejumlah *80 orang dokter-dokter*] baru lulusan tahun 1970 Universitas Indonesia.
      one.total 80 CL   doctor.PL   new to.pass year 1970 university Indonesia
      'A total of eighty new doctors was graduated from the University of Indonesia in 1970.'

                                                                    (Macdonald 1976:81)

144)

```
            CardP
           /     \
        Spec      Card'
         80      /      \
             Card⁰     N⁰=NP
             orang    /      \
                   [PL]      N⁰
                            dokter
```
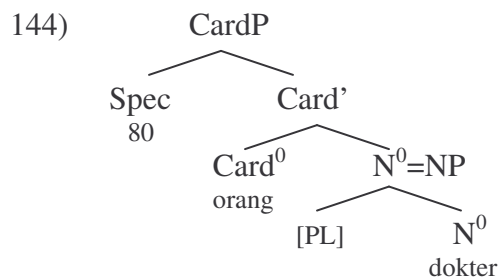
To support my argument, I further examine the reduplication of Indonesian ADJs.

4.4.7 Reduplication of Adjectives

In section 4.3, we observed that Indonesian ADJs can undergo reduplication to express

plurality (4.3.2) or a variety of the corresponding N (4.3.3). In both cases, the

reduplicated ADJ occurs within an RC$_{ADJ}$. Given that [PL] triggers the reduplication of

both Ns and ADJs and, in addition to plurality, reduplicated ADJs carry the meaning

'various N', I claim that [PL] is category sensitive, adjoining only to heads bearing the

feature [N].[35] Moreover, I provide the constraint in (146) to account for the

ungrammaticality in (145).

   145) *gunung-gunung yang *tinggi-tinggi*
         mountain.PL   REL tall.PL

   146) *The feature* [PL] *can only occur once within a DP.*

       Based on the foregoing observations, I maintain that, in contrast to prenominal

modifiers, which occur as individual lexical items, [PL] is a category-sensitive feature

that undergoes adjunction. I summarize the properties of [PL] in (147).

   147) *Properties of the Indonesian Plural Marker* [PL]:
        i)   [PL] adjoins to a head or phrase with the feature [N].
        ii) [PL] indicates a number greater than one.
        iii) The presence of [PL] triggers REDUPLICATION.
        iv) REDUPLICATION releases the instruction *copy sister*, which is spelled out
            as N–N.
        v) [PL] can only occur once within a DP.

4.5 Summary

In the foregoing section, I demonstrated that number in Indonesian is expressed by means

of prenominal modification and plural marking. I showed that reduplication is the

primary means for marking plural and is expressed by the feature [PL]. I proposed that,

as prenominal modifiers, numerals and Qs have the categorial identity *cardinality* and

---

[35] I adopt a system of privative features, which assumes that Ns and ADJs are objects with the feature [N],
    whereas verbs and prepositions lack [N].

occur in Spec, CardP, while CLs and MAs obligatorily co-occur with numerals or Qs and occupy Card^0. I also argued that [PL] is a feature without categorial identity that adjoins to heads bearing the feature [N]. I proposed a set of properties for [PL], concluding that [PL] may only occur once within the DP.

In Section 5, I look at the category of possession and propose an additional projection, PossP, that contains information about possession. Given that CardP is optional, I show that PossP can merge directly with N^0.

Section 5: Possession

In this section I look at the distribution and structure of possession in Indonesian.

Possession is a universal category expressed in various ways across languages. Although

linguists are able to describe the nature of possessive NPs in a language,

> there is [usually] insufficient information for many languages to permit
> full determination of the system of devices and meanings connected with
> the expression of possession. [This is because] the category of possession
> is distributed among the levels of a language system and therefore does
> not manifest itself obviously as a whole or through minor peripheral
> evidence.
>
>   (Alieva 1992:14)

However, the postnominal position of possessive elements in several languages provides

evidence to support the argument that possessors behave like modifiers of N heads. This

assumption is significant for determining the internal structure of DPs as a whole.

In this section I show that possession in Indonesian is postnominal. I provide a

description of clause-level and nominal possession in Indonesian in order to present a

possible explanation for the syntax of nominal possession. In 5.1, I describe Indonesian

clause-level possession to show how this type of possession contrasts with nominal

possessive constructions. I focus on nominal possession in 5.2 and give examples of three

types of nominal possessive constructions in Indonesian. In 5.3, I look at the structure of

nominal possession within the DP. I argue that a set of elements known as 'ligatures'

occur in the head of an intermediate functional projection, PossP, while the possessive N

appears in Spec, PossP.

5.1 Clause-level Possession

The term 'possessive' is sometimes applied "to two other types of constructions, where

possession is predicated at the clause level, illustrated by English *She has three children*

and *That book is mine*" (Dryer 2007:171). In Indonesian, possessive constructions

include two different clause-level constructions: i) null copula construction, and ii) *punya*

construction.

5.1.1 Null Copula Constructions

The null copula is widely used in Indonesian, both in simple sentences (148) and those

indicating possession (149).

  148) a. Saya Ø   guru.   b. Itu Ø   gunung.
       1SG COP teacher   that COP mountain
       'I am a teacher.'   'That is a mountain.'

  149) *Sepeda saya* dua, satu yang merah dan satu yang biru.[36]
       bicycle 1SG two one REL red   and one REL blue
       'I have two bicycles, one red and one blue.'
       [LIT. 'My bicycles are two, one that is red and one that is blue.']

In (149), the possessive constituent occurs in subject position and is followed by a null

copula. The numeral functions as the predicate, rather than appearing in its usual

prenominal position (as shown in Section 4.0).

5.1.2 Constructions with *punya*

Possessive constructions can also be formed with *punya* to express a meaning similar to

that of null copula possessive constructions.[37] However, (150) demonstrates that a

construction with *punya* can be ambiguous.

---

[36] It is also possible to insert the verbal prefix *ber-* before the numeral, as in *Sepeda saya berdua* 'I have two bicycles'. Used in this way, *ber-* denotes possession.

[37] In her analysis of Malay, Alieva (1992) refers to a category of "special possessive verbs", which include *–punyai* 'to have' and *–miliki* 'to possess'. She claims that these terms "belong to modern educated speech" and that *punya* "in its syntactic usage is…ambivalent" (Alieva 1992:15). For example, in the possessive construction *Saya punya rumah ini*, the use of *punya* can refer to: (a) ownership, and (b) property. Thus, the term functions as both a verb and a noun.
    a. *Saya empunyai rumah ini*   b. *Rumah ini   punya (kepunyaan) saya*
      1SG owner   house this   house DEM property   1SG
      'I am the owner of this house.'   'This house is my property'
      [LIT. 'This house's owner is me.']   (Alieva 1992:15)
  Alieva (1992:18) points out that there is a "vagueness of the boundary between verbs and nouns that often accompanies the dominance of possession in a language system," which eventually reveals that

150) Dua anak *punya* Sari.
     two child have   Sari
     i. 'Sari has two children.'
     ii. 'Sari's two children'   (Almatsier 1988)

In (150i), *punya* occurs as a reduced form of the verb *mempunyai* 'to have' and, as a

'have' copula, introduces the predicate. This type of construction is similar to a passive

construction; the object *dua anak* 'two children' appears sentence-initially and the subject

Sari is sentence-final.

However, *punya* can also function as a possessive element (150ii). As (151)

shows, the possessive character of *punya* is clarified when followed by a verbal predicate.

151) *Dua anak* ***punya*** *Sari* pergi ke Semarang.
     two child LIG   Sari go   to Semarang
     'Sari's two children went to Semarang.'

Based on the data in (150) and (151), I propose that *punya* can be interpreted as a

possessive 'linker' and has a function similar to that of linking Ns. I discuss linking N

constructions in 5.2.2.

5.2 Nominal Possession

Indonesian has three types of nominal possessive constructions: i) juxtaposition, ii)

linking Ns, and iii) ligatures. As we will see, in each construction the possessed object

always precedes its possessor.

5.2.1 Juxtaposed Constructions

In juxtaposed possessive constructions, a possessed N precedes the possessive N. The

possessor in this type of construction is unmarked and may occur as a common or proper

N (152a,b), an independent pronoun (152c), or a pronominal enclitic (152d).

---

these types of phrases "are structurally of the noun-phrase type." For this discussion, I focus on the
nominal character of *punya* and *milik* in possessive constructions.

152) a. ekor *kucing*   b. kesalahan *Ari*   c. mobil *saya*   d. kaki*nya*
      tail   cat   mistake   Ari   car   1SG   foot.3SG/PL
      'a/the cat's tail'   'Ari's mistake'   'my car'   'his/her/their foot'

In some languages there is a distinction between alienable and inalienable possession; alienable possession relates two elements that are independent of each other and can be referred to in isolation, whereas "an inalienable object is a dependent entity in the sense that it is intrinsically defined in terms of another object" (Alexiadou et. al. 2007:551). Indonesian does not make the distinction between alienable and inalienable possessors; possessive Ns and pronouns are syntactically identical.

Furthermore, Indonesian has two sets of pronouns: i) independent, and ii) enclitic. The independent pronouns can function as subjects, objects, or possessors. Pronominal enclitics, however, are used only in conjunction with an N or NP to denote possession (Macdonald 1976).[38] Henceforth, any reference to a possessive N includes common and proper Ns, as well as both independent pronouns and pronominal enclitics.

As we saw in (152), juxtaposed possession in Indonesian is unmarked; there is no morphosyntactic marking that appears to distinguish a possessive N from an attributive N. Compare the following examples:

153) buku *sejarah*   (attributive N)
        book history
        i. 'a/the history book'
          [LIT. 'a book about history']
        ii. *'history's book'

---

[38] Indonesian pronominal enclitics are suffixed to the preceding N. Cliticization most commonly occurs in colloquial speech and only the following pronouns cliticize:
    i) a*ku* (1SG, informal) → *-ku*
    ii) *kamu* (1SG/PL) → *-mu*
    iii) *dia* (3SG) → *-nya*
    iv) *mereka* (3PL) → *-nya*

154) mobil *anak-anak*   (possessive N)
    car   child.RED
    i. *'a/the children car'
    ii. 'a/the children's car'

Both (153) and (154) show one N directly modifying another N. However, (153) cannot

receive a possessive interpretation, whereas (154) must be interpreted as possessive.

As a way of distinguishing the function of juxtaposed Ns, Dryer (2007) illustrates

the contrast between referential and nonreferential Ns in English possessive constructions.

He provides the following examples:

155) a. a blue [woman's] hat
     b. [that woman's] blue hat   (Dryer 2007:31)

He points out that, in English nonreferential possessive constructions, "the noun marked

with the genitive clitic occurs in adjective position, possibly following other adjectives,

as in [155a], unlike referential genitives, which occur in determiner position, preceding

adjectives, as in [155b]" (Dryer 2007:31).

This contrast seems to occur in Indonesian, as shown by the examples in (156).

156) a. baju perempuan biru (itu)   b. baju biru perempuan (itu)
        dress woman   blue DET   dress blue woman   DET
        'the/that blue [woman's] dress'   '[the/that woman's] blue dress'

As a nonreferential possessor, *perempuan* 'woman' precedes the ADJ *biru* 'blue' and

functions like an attributive N (156a); as a referential possessor it follows the ADJ and

occurs with the determiner *itu* at the right edge of the phrase (156b). However, as we

have already established, Indonesian juxtaposed constructions are unmarked. Therefore,

when the ADJ *biru* 'blue' is omitted, as in (157), the attributive/possessive distinction is

lost (see Section 2).

157) a. baju   perempuan   b. baju perempuan (itu)
     dress woman   dress woman   DET
     'a/the [woman's] dress'   '[the/that woman's] dress'

According to Macdonald (1976:87), a possessive N that modifies and is juxtaposed to the head N "is itself capable of being expanded according to [various] patterns [and] any degree of expansion is possible." The examples in (158) show that multiple Ns can be juxtaposed to form a complex possessive construction.

158) a. mobil *saya*
     car   1SG
     'my car'

    b. mobil *teman saya*
     car   friend 1SG
     'my friend's car'
     [LIT. 'a/the car of a friend of mine']

Since possession is unmarked, we rely on linear order for interpreting the possessive relationship, as shown by the translations in (158c,d).

    c. mobil [[[*orang   tua*] *teman*] *saya*]
     car   person old friend 1SG
     'my friend's parents' car'
     [LIT. 'a/the car of the parents of a friend of me']

    d. mobil [[[*teman*] *orang   tua*] *saya*]
     car   friend   person old 1SG
     'my parents' friend's car'
     [LIT. 'a/the car of a friend of my parents']

As already mentioned, Indonesian does not have a unique set of possessive pronouns; a personal pronoun that follows a head N can also be interpreted as a 'possessive pronoun' (Almatsier 1988). According to Dryer (2007), only a small number of languages treat nominal and pronominal possessors in the same way. The data in (159a)

and (160a) show that when a possessive pronoun or pronominal enclitic occurs in a complex possessive NP, it must occur at the right edge of the phrase.[39]

159) a. rumah *bapak* **mereka**
　　　house father 3PL
　　　'their father's house'

　　b. *rumah **mereka** *bapak*
　　　house 3PL　　father

　　c. *rumah *teman* **mereka** *bapak*
　　　house friend 3PL　　father

160) a. rumah *bapakmu*
　　　house father.2SG
　　　'your father's house'

　　b. *rumah**mu** *bapak*
　　　house.2SG father

　　c. *rumah teman**mu**   *bapak*
　　　house friend.2SG father

The data above also show that pronouns cannot be possessed.

The fact that in Indonesian the same string can express both clause-level and nominal possession provides an obvious motivation for the use of a possessive linking element in juxtaposed constructions. In 5.2.2 I look at a number of possessive linkers found in Indonesian.

5.2.2 Linking Noun Constructions

In Indonesian, a set of Ns function to identify a possessive relationship between two juxtaposed Ns. I refer to these Ns as 'linking Ns'. The examples in (161) – (163) show

---

[39] This is also true when a proper N appears with a possessor. However, this type of construction is a rare, colloquial construction in Indonesian and, in contrast to most languages, it is unmarked.
　　a. #Berkenalan dengan Ari saya /Ari-ku?　　　　b. *Berkenalan dengan saya Ari?
　　　BER-know　with　　Ari 1SG / Ari-1SG　　　　　　BER-know　with　　1SG Ari
　　　'Did you meet my Ari?'

that linking Ns differ from possessors in that they cannot form a possessive relationship

on their own; they must occur between the two Ns they are linking.

161)   a. buku *ciptaan* Pak Sastro
           book creation Mr. Sastro
           'Mr. Sastro's book'
           [LIT. 'the book written by Mr. Sastro']   (Sneddon 1996:145)

        b. *buku *ciptaan*
            book creation

        c. *buku Pak Sastro *ciptaan*
            book Mr. Sastro creation

162)   a. barang *buatan* Indonesia
           goods product Indonesia
           'Indonesian goods'
           [LIT. 'goods made in Indonesia']   (Sneddon 1996:145)

        b. *barang *buatan*
            goods product

        c. *barang Indonesia *buatan*
            goods Indonesia product

163)   a. anjing *milik*   kamu/-mu
           dog   property 2SG
           'your dog'
           [LIT. 'the dog owned by you']

        b. *anjing *milik*
            dog   property

        c. *anjing kamu *milik*
            dog   2SG   property

Linking Ns in Indonesian are optional. However, they function to disambiguate

and allow a variety of relationships between two juxtaposed Ns. For example, removing

ciptaan 'creation' from the phrase in (161a) "result[s] in *buku Pak Sastro* 'Mr. Sastro's

book', although this does not explicitly state whether he is writer or owner" of the book

(Sneddon 1996:145). Similarly, omitting *buatan* 'product' in (162) makes it unclear as to

whether the goods are produced in or simply come from Indonesia. On the other hand,

the omission of *milik* 'property' in (163) does not affect the interpretation of the

possessive relationship; *anjing guru* clearly refers to a teacher as the dog's owner and the

insertion of *milik* simply confirms this relationship. In this way, linking Ns appear to be

associated with but (semantically) express something broader than possession.[40]

In addition, (164) demonstrates that, when an ADJ modifies the head N, the

linking N follows the ADJ and appears closest to the possessive N. This provides

evidence to suggest that linking Ns are not generated within the NP, but somewhere

higher in the structure.

164)   a. anjing besar *milik*   guru   b. *anjing *milik*   besar guru
           dog   big   property teacher   dog   property big   teacher
           'a/the teacher's big dog'
           [LIT. 'the big dog owned by a/the teacher']

Note that in linking N constructions the possessive N can occur as a proper N (161, 162),

an independent pronoun or pronominal enclitic (163), or a common N (164).

The examples in (161) – (164) provide evidence for linking Ns as semantic items

associated with possession. Similarly, the possessive linker *punya* (5.1.2) is a verbal item

that denotes possession. As (165) shows, these items are in complementary distribution.

165)   a. *barang *punya buatan* Indonesia
           things have   product Indonesia

       b. *anjing *milik*   *punya* kamu
           dog   property have   2SG

       c. *buku *ciptaan milik*   Pak Sastro
           book creation property Mr. Sastro

---

[40] This broader interpretation of linkers can be compared to Cheng & Sybesma's (1999) analysis of classifiers (see Section 4.2.3); just as classifiers name or create a unit of semantic partitioning of an N, linkers point to a specific semantic relationship between two juxtaposed Ns.

Thus, with respect to their syntax, I propose that linking Ns and *punya* occupy the same position. Henceforth, I refer to linking Ns and *punya* as 'linkers'. I address the syntax of these constructions in more detail in 5.3.

5.2.3 Ligature Constructions

According to Perangin-angin (2006), the enclitic *–nya* has a variety of different functions (see Appendix 2). One of those functions is to indicate third person possession, as in (152d), restated here as (166).

  166) kaki*nya*
       foot.3SG/PL
       'his/her/their foot'

The enclitic *-nya* can also be used as a linking element in a juxtaposed possessive construction, as in (167).

  167) a. kaki*nya* Mila   b. rumaha*nya* saya
         foot.LIG Mila   house.LIG 1SG
         i. 'Mila's foot'   i. 'my house'
         ii. *'Mila's her/his/their foot'   ii. *'my his/her/their house'

I refer to *–nya* as a 'ligature' (LIG) in this type of construction, since it "carries no meaning other than to identify the second noun as possessor" (Sneddon 1996:146). The LIG *–nya* is similar to linkers in that it optionally occurs between two juxtaposed Ns to disambiguate the relationship between them, as shown in (168).

  168) a. Ibu   Gunawan   b. Ibu*nya*   Gunawan
         mother Gunawan   mother.LIG Gunawan
         i. 'Mrs. Gunawan'   i. *'Mrs. Gunawan'
         ii. 'Gunawan's mother'   ii. 'Gunawan's mother'   (Sneddon 1996:146)

However, in contrast to linkers, *-nya* is a functional element that carries the property of possessor.

As a LIG, *-nya* not only attaches to an N in a juxtaposed construction, but can also appear on an attributive ADJ, as in (169a).

169) a. anjing besar*nya* Edy   b. *anjing*nya* besar Edy
       dog   big.LIG   Edy   dog.LIG   big   Edy
       'Edy's big dog'

The ungrammaticality of (169b) shows that, as with linking Ns, *-nya* must appear closest to the possessive N.

Furthermore, the examples in (170) – (172) show that the LIG *–nya* can co-occur with independent pronominal possessors, but not with pronominal enclitics.

170) a. kaki*nya* kamu   b. *kaki*nyamu*
       foot.LIG 2SG   foot.LIG.2SG
       'your foot'

171) a. rumah*nya* aku   b. *rumah*nyaku*
       house.LIG 1SG   house.LIG.1SG
       'my house'

172) a. kesalahan*nya* dia   b. *kesalahan*nyanya*
       mistake.LIG   3SG   mistake.LIG 3SG
       'his/her mistake'

                                           (pers.comm. Abigail Megawati)

However, (173b) shows that this restriction does not occur when a linker is inserted to indicate a possessive relationship, which suggests that the lexical entry for LIGs is different than that of linkers.

173) a. anjing *milik*   kamu
       dog   property 2SG
       'your dog; the dog owned by you'

      b. anjing *milikmu*
       dog   property.2SG
       'your dog; the dog owned by you'   (pers.comm. Abigail Megawati)

One possible explanation for this co-occurrence restriction between the LIG *–nya* and pronominal enclitics comes from Ishizuka's (2007) analysis of possession in

Javanese, a language closely related to Indonesian. Ishizuka claims that, in Javanese, the pronominal enlitics –*ku* (1SG) and –*mu* (2SG/PL) are a fused form of the possessive LIG -*ne* and the independent form of the possessive pronoun. Therefore, when possession is spelled out as –*ku* or –*mu*, it is assumed that -*ne* is encoded in the possessive enclitic and, therefore, cannot overtly co-occur with –*ku* or -*mu*.

A fusion analysis for Indonesian interprets –*nya* as an inherent property of pronominal enclitics. Further, assuming Ishizuka's (2007) analysis, we would also expect –*nya* to appear in different phonological forms when it occurs in different person and number combinations. However, we have observed that –*nya* occurs in the same phonological form in a number of different syntactic environments. Thus, I do not find Ishizuka's (2007) analysis applicable to our discussion here.

Historically, -*nya* has occurred at the edge of an NP as a 3SG possessive enclitic. However, the data in (170a) – (172a) suggest that, over time, –*nya* has shifted from a lexical item to a functional element, while retaining a possessive quality. Thus, it can occur between two juxtaposed Ns to denote possession. We will see in Section 6, that this is true for –*nya* not only as a possessive LIG, but also as a definite marker. Since there is no additional evidence to suggest that –*nya* can ever be followed by another suffixed element, I rely on the ungrammaticality of (170b) – (172b) to specify the constraint in (174) as part of the lexical entry for the LIG –*nya*.

174)   -nya *cannot co-occur with another enclitic.*

As we have seen, the syntax of possessive linkers and the LIG –*nya* is essentially the same; both linkers and –*nya* optionally occur between two juxtaposed Ns to denote a possessive relationship. However, the constraint in (174) suggests that -*nya* and linkers

differ in their lexical entries. Based on these facts, I propose that Indonesian nominal

possession can be analyzed as a single underlying structure, as discussed in 5.3.

5.3 The Structure of Nominal Possession[41]

5.3.1 Properties of Possessive Constructions

Although Indonesian appears to have three different possessive constructions – simple

juxtaposition, linkers, and the ligature -*nya* – these constructions are related to one

another in that the possessor always follows the possessed N/NP; an optional linking

element can be inserted between the two to denote a possessive relationship. Based on

these facts, I argue that Indonesian possession can be represented by a single underlying

structure.

      Let us consider the position of linking elements in possessive constructions.

In 5.2.3 I suggested that while the lexical entries for linkers and the LIG -*nya* differ, their

syntax is essentially the same. The ungrammaticality in (175) provides additional

evidence to support this hypothesis. [42]

175) a. *barang *buatananya* Indonesia
       things product.LIG Indonesia

    b. ?anjing *miliknya*   Mila[43]
       dog   property.LIG Mila

    c. *rumah*nya punya* mereka
       house.LIG have   3PL

Thus far, we can summarize the properties of possessive constructions involving linkers

and ligatures in Indonesian as follows:

---

[41] Henceforth, I use the terms 'possessive' and 'possession' to refer specifically to attributive possession.

[42] The ungrammaticality of (175c) is based on the assumption that –*nya* and *punya* are both interpreted as linking elements in a possessive relationship. –*nya* can also be interpreted as a definite marker, in which case the phrase is perfectly acceptable. I discuss definiteness in Section 6.

[43] We will see in 6.2.2 that –*nya* can attach to a possessive linker to mark the definiteness of an N.
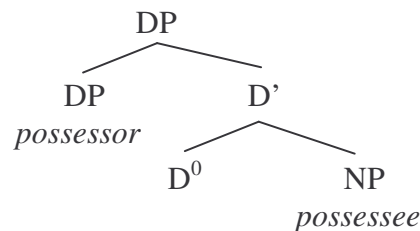
176) *Properties of Possessive Constructions involving linkers and ligatures*:
      i)   Indonesian possession consists of the categories 'linker' and 'ligature'.
      ii) A linker or ligature must co-occur with a possessor.
      iii) A linker or ligature follows an N or NP.
      iv) Only one linker or ligature can occur to mark a possessive relationship.

Since linkers and the LIG -*nya* all mark a possessive relationship and appear to be in complementary distribution, I argue that they belong to the same *syntactic* category and can be represented by the feature [POSS]. Furthermore, I claim that a possessive NP has the categorial identity 'possessor' and the features of the possessor are assigned according to its syntactic position (Davies and Dresser 2005).

5.3.2 The Basic Structure of Possession

Following Adger (2003), I assume that the possessive construction in Indonesian is similar to that of its English equivalent. For English (and other languages), it has been proposed that certain possessive constructions appear as the specifier of a DP and have the structure given in (177).

177)   English:

$$
\begin{array}{c}
\text{DP} \\
\diagup \quad \diagdown \\
\text{DP} \qquad \text{D'} \\
\textit{possessor} \qquad \diagup \diagdown \\
\text{D}^0 \qquad \text{NP} \\
\qquad \textit{possessee}
\end{array}
$$

However, I point out two significant differences for Indonesian possession. First, since possessors always follow the head N in Indonesian, it is obvious that the specifier appears on the right. Second, I propose that the possessive construction is an additional projection that occurs between the DP and CardP. Since this projection contains information about possession, I propose a PossP. The structure in (179) corresponds to the data in (178).

178) a. anjing *milik* kamu
    dog   property 2SG
    'your dog'

    b. anjing*nya* kamu
    dog.LIG   2SG
    'your dog'

179)

```
                        DP
                   ┌─────┴─────┐
                 PossP          D⁰
              ┌────┴────┐
            Poss'      DP⁴⁴
          ┌───┴───┐   possessor
         NP      Poss⁰
      Possessee
```
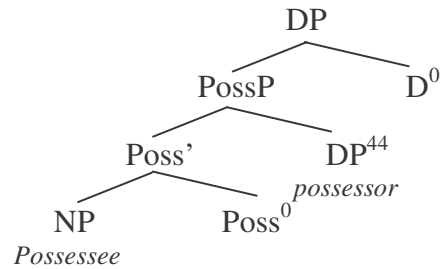
Recall that in Section 4 we established that CardP is optional; an N^0/NP merges with Card only when N^0 is occupied by a count N. Thus, when *anjing* 'dog' in (178) is interpreted as singular or mass, the phrase is adequately represented by the structure in (179). However, when *anjing* 'dog' appears with a numeral, as in (180), a CardP is required, as shown in (181).

180) dua anjing *milik* Mila
    two dog   property Mila
    'Mila's two dogs'

181)

```
                            DP
                       ┌─────┴─────┐
                     PossP          D⁰
                  ┌────┴────┐
                Poss'       DP
             ┌────┴────┐
          CardP       Poss⁰
        ┌────┴────┐
    numeral/Q     NP
                  │
                  N⁰
```
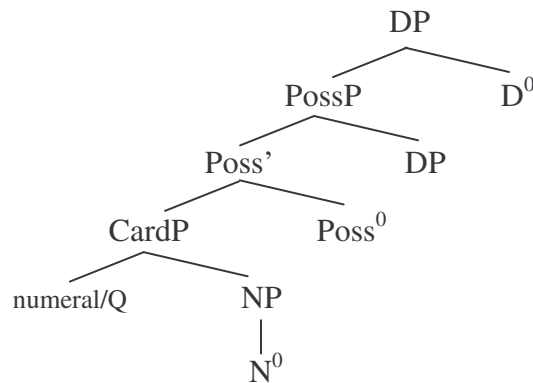
Furthermore, in Section 3 we saw that the position of ADJs in relation to a possessor forces an RC$_{ADJ}$ to merge with an FP$_{POSS}$ above the NP it modifies. I now label

---

[44] I label the possessor node DP, as opposed to NP, to make the distinction between a possessive N and a possessed N.

this projection PossP and provide the structure in (183) to account for the data in (182). I

insert the vocabulary items for clarity.

182) dua anjing besar *milik*   Mila yang sakit
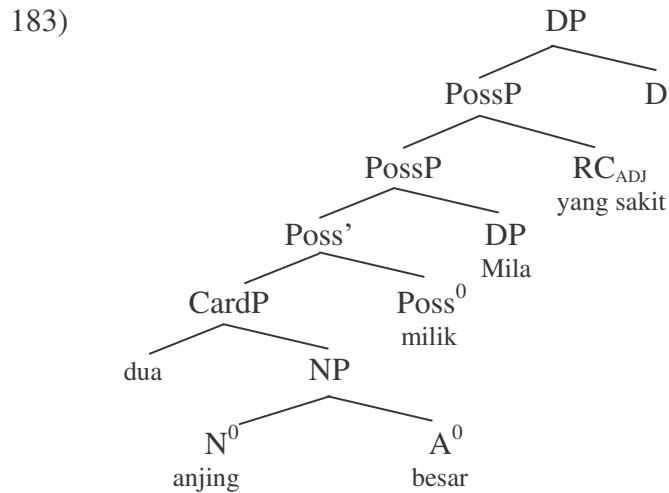   two dog   big   property Mila REL   sick
     'Mila's two big, sick dogs'

183)

```
                              DP
                             /  \
                         PossP   D
                        /    \
                    PossP     RC_ADJ
                   /    \      yang sakit
               Poss'     DP
              /    \     Mila
          CardP     Poss^0
         /   \      milik
      dua     NP
             /  \
           N^0   A^0
         anjing besar
```

Based on the assumption that possession is a semantic relationship between two

nominal constituents and a linking element can be inserted to mark this relationship, I

propose that the feature [POSS] occurs in the head of PossP. Although the objects

associated with [POSS] are spelled out in a variety of ways (i.e. *milik, -nya,* etc.),

suggesting a broader possessive interpretation, the semantic content of Poss^0 remains

constant. Moreover, I suggest that in the absence of a linker or LIG, [POSS] is spelled out

as an empty head, Ø.

5.3.3 Other Analyses of Possession

My analysis of the structure of Indonesian possession is similar to that of Davies and

Dresser (2005), who also argue for a PossP within the Javanese and Madurese DP. They

claim that if the relationship between a possessor and the head N is purely one of

possession, the possessor is not generated within the NP, but merged higher in the DP

structure. Therefore, "[t]he possessor role is assigned by a POSS head to the element [taken] to be in Spec, PossP" (Davies and Dresser 2005:62). Their structure given in (185) corresponds to the data in (184).[45]

184) a. Javanese:
      Murid-é   Siti maca   buku.
      student-DEF Siti AV.read book
      'Siti's student read a book.'

    b. Madurese:
      Mored-da   Siti noles   buku.
      student-DEF Siti AV.write book
      'Siti's student wrote a book.'   (Davies and Dresser 2005:61)

185)
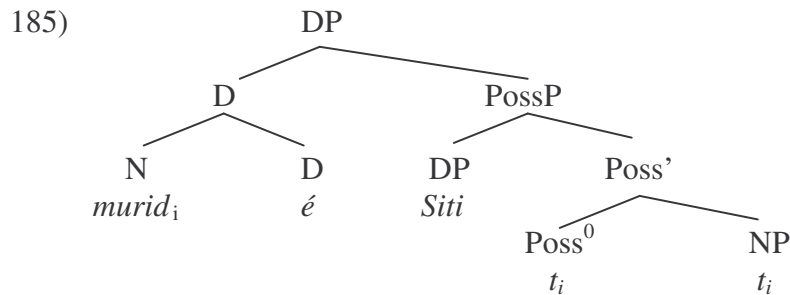
(Davies and Dresser 2005:62)

Ishizuka (2007) also supports this argument in her analysis of Javanese possession. She maintains that when a possessive N (*Siti*) occurs immediately after a modifying element (*antik-e* 'old'), as shown in (186), "the specifier of the [PossP] would be the spell-out position of the Possessor DP" (Ishizuka 2007:13).

Javanese:
  186) Javanese:
      *Aku seneng **krandjang antik*-e**   *Siti.*
      I   like   basket   old -ne Siti
      'I like {Siti's old basket/some old basket of Siti's}.'   (Ishizuka 2007:13)

---

[45] The structure proposed by Davies and Dresser (2005) shows that PossP is the complement of D and involves movement. Although the structure I propose differs in that PossP merges on the left and movement is not necessary, the basic assumption that possessors are not generated within the NP, but appear in Spec, PossP, is still the same.

187) Indonesian:
 anjing besar***nya*** *Edy*
 dog   big.LIG   Edy
 'Edy's big dog'

Note that the Javanese possessive linker –*e* in (186) appears to correspond to the

Indonesian possessive LIG –*nya* in (187); –*e* and –*nya* both precede the possessor and

appear on the ADJ that directly modifies the head N.

5.4 Summary

The data above provides compelling evidence to suggest that the structure of Indonesian

possession projects a PossP, which occurs above CardP (or NP, when CardP is omitted)

and hosts the possessive N in Spec, PossP. This analysis corresponds to that of Javanese,

as argued by Davies and Dresser (2005) and Ishizuka (2007). In the foregoing discussion,

I introduced linkers and the LIG -*nya* as optional possessive elements that bear the

feature [POSS] and fill $Poss^0$. I suggested that [POSS] can be realized as a number of

different vocabulary items after spellout; linkers identify a particular semantic

relationship between two juxtaposed Ns, whereas –*nya* is a functional element that

denotes possession. In the absence of these linking elements, $Poss^0$ remains empty.

Based on these assumptions, I now examine the content and structure of the DP in

Section 6 and show that PossP merges with D^0. Following Carson (2000), I argue that

since demonstratives function not only as deictic elements but also as definite markers,

they are considered to be of category D. To support my argument, I provide evidence to

show that, as a definite marker, the enclitic –*nya* is in complementary distribution with

demonstratives. I conclude by showing that, as D elements, demonstratives and definite

markers occur in the head of DP.

Section 6: Demonstratives and Definiteness

Demonstratives (DEM) refer to deictic expressions that serve a specific syntactic function.

All languages have at least two DEMs that contrast between proximal and distal; a third

distance-neutral element is less common (Diessel 1999). Certain languages (i.e. French,

Spanish) distinguish between the distributional and categorial status of DEMs. This

distinction "is crucial because [these] languages use demonstratives of the same

grammatical category in more than one syntactic context, while other languages employ

categorically (i.e. formally) distinct demonstratives in each position" (Diessel 1999:4).

Indonesian does not distinguish between distributional and categorial forms but, instead,

the same DEM elements occur in a number of different syntactic contexts.

In this section, I examine the distribution of the two Indonesian DEMs, *ini* 'this'

and *itu* 'that' and demonstrate that they occur in various syntactic contexts. I focus on the

role of *ini* and *itu* as nominal modifiers and provide evidence to show they are

morphologically invariable and always occur at the right edge of the phrase. I also show

that *itu* and the enclitic *–nya* function as markers of definiteness (DEF) and propose that,

since DEMs are in complementary distribution with definiteness, they are both elements

of the category D and occur as heads of the DP.

6.1 Distribution of Demonstratives

In Indonesian, DEMs occur in a number of different syntactic contexts: i) they can be

used as independent pronouns; ii) they can modify a verb; iii) they can occur in copular

constructions; or iv) they can occur as modifiers of N.

6.1.1 Demonstratives as Pronouns

As independent pronouns, DEMs in Indonesian can occur in subject or object position.

The example in (188b) shows again that the copula *to be* is not expressed in Indonesian.

188) a. Ari melihat *itu*.   b. *Ini* indah sekali.
     Ari MEN.see DEM   DEM beautiful very
     'Ari saw it.'   'This is very beautiful.'

DEMs may also be used in conjunction with the relative particle *yang* to form a

pronominal-like unit that occurs in place of an N or NP, as in (189). In this context, the

DEM typically refers to an object previously mentioned in the discourse or involves

gestures on the part of the speaker to clarify the referent.

189) a. Saya mau membeli *yang **itu***.[46]   b. *Yang **ini*** enak sekali.
     1SG want MEN-buy REL DEM   REL DEM delicious very
     'I want to buy that one.'   'This one is very delicious.'

6.1.2 Demonstratives as Adverbs

DEMs also function as adverbs, to indicate location, direction, or manner. Diessel

(1999:58) claims that, across languages, locational adverbs "are primarily used to

indicate the location of [an] event or situation denoted by a co-occurring verb", as shown

in (190a), whereas directional adverbs indicate movement to or from a particular location

(190b). In Indonesian, DEM adverbs are always used in conjunction with a prepositional

element.

190) a. Saya mau tidur *di **sini***.
       1SG want sleep P here
       'I want to sleep here.'

      b. Pak Abang pergi *ke **situ*** untuk membeli pisang.
        Mr. Abang go   P there for   MEN-buy banana
        'Mr. Abang went (over) there to buy bananas.'

---

[46] It is possible that *yang*+DEM forms a constituent with an empty N and DEM, rather than a pronominal-
   like unit. However, I have not found evidence to confirm this.

In addition, DEMs occur as manner adverbs and commonly refer to a portion of relevant discourse (Diessel 1999). In Indonesian, the proximal form *begini* 'in this way' anticipates upcoming information (191a), whereas the distal form *begitu* 'in that way' refers to something that has already happened (191b).

191) a. Ibu   Tin mengajar   saya memasak sop   ikan *beg**ini***.
     Mrs. Tin MEN-teach 1SG MEN-cook soup fish MAN
     'Mrs. Tin taught me to cook fish soup in this way.'

    b. Jangan   *beg**itu***!
     NEG.EXC MAN
     'Don't be like that!'
     [LIT. 'Don't act in that way!']

6.1.3 Demonstratives in Null Copula Constructions

As mentioned in 5.1.1, the null copula construction is widely used in Indonesian. The examples in (192) show that the DEMs *itu* and *ini* also function as nominal subjects in a null copula construction.

192) a. *Itu* Ø   gunung.   b. *Ini* Ø   adik   laki-laki saya.
     that COP mountain   this COP younger.sibling male   1SG
     'That is a mountain.'   'This is my younger brother.'

Diessel (1999) refers to DEMs in this type of construction as DEM identifiers. He states that, since DEM identifiers often appear in nonverbal clauses, they can be considered functionally equivalent to a DEM+copula. DEMs in null copula constructions function as referring nominals and, as such, can occur as complete NPs.

6.1.4 Demonstratives as Nominal Modifiers

The DEMs *ini* and *itu* are typically used as modifiers of the head N, functioning as 'free nominals' that occur with a co-referential N in order to express a two-way distinction, proximal and distal (Diessel 1999). In Indonesian, these DEMs are always the last of the N modifiers and occur at the right edge of the phrase, as shown in (193) and (194).

193) a. Ari membeli *rumah putih **ini***.
      Ari MEN-buy house white DEM
      'Ari bought this white house.'

    b. **rumah ini   putih*
      house DEM white

    c. **ini   rumah putih*
      DEM house white

194) a. Mila meminjam   *buku sejarah saya yang biru **itu***.
      Mila MEN-borrow book history 1SG REL   blue DEM
      'Mila borrowed my blue history book.'
      [LIT. 'Mila borrowed that blue history book of mine.']   (Macdonald 1976:89)

    b. **buku sejarah saya **itu**   yang biru*
      book history 1SG DEM REL   blue

    c. **buku sejarah **itu**   saya yang biru*
      book history DEM 1SG REL   blue

    d. **buku **itu**   sejarah saya yang biru*
      book DEM history 1SG REL   blue

    e. ***itu**   buku sejarah saya yang biru*
      DEM book history 1SG REL   blue

Furthermore, it is possible for a DEM to follow a personal pronoun. (195) shows that the

DEM *ini* 'this' used in conjunction with a pronoun emphasizes a proximal relationship.[47]

195) *Saya **ini**   guru.*
    1SG   DEM teacher
    'I am a teacher.'
    [LIT. 'Me here, I am a teacher.']   (Broschart and Dawuda 2000:44)

    As we saw in Section 4, Indonesian does not have number agreement and,

therefore, the morphological form of N is unaffected by number marking. Similarly,

Indonesian DEMs are morphologically invariable; *ini* and *itu* do not inflect for number,

as shown in the following examples:

---

[47] The use of DEMs in this way is rare and generally limited to informal/conversational contexts
   (pers.comm. Abigail Megawati).

196) a. Saya mau membeli *rok   merah* ***itu***.
   1SG   want MEN-buy dress red   DEM
   'I want to buy that red dress.'

  b. Saya mau membeli *dua rok   merah* ***itu***.
   1SG   want MEN-buy two dress red   DEM
   'I want to buy those two red dresses.'

197) a. *Murid **ini***   membaca tiga buku.
   student DEM MEN-read three book
   'This student read three books.'

  b. *Murid-murid **ini***   membaca beberapa buku.
   student.PL   DEM MEN-read several   book
   'These students read several books.'

We also observed in 5.2.1 that the absence of an overt copula in Indonesian may result in an ambiguous interpretation of N modifiers. The example in (198a) provides additional evidence to show that a juxtaposed construction "in which the subject is an unmodified noun…could theoretically be interpreted in two ways" (Macdonald 1976:133). However, this ambiguity can be resolved by inserting *itu* after the first N (the subject) in order to make only the first interpretation possible, as demonstrated in (198b).

198) a. Doctor wanita.   b. Doctor *itu*   wanita.
   doctor woman   doctor DEM woman
   i. 'The doctor is a woman.'   i. 'The doctor is a woman.'
   ii. 'a/the woman doctor'   ii. *'a/the woman doctor'

Macdonald (1976:133) states that the use of *itu* in this context does not indicate deictic force, but "has the effect of making the subject particular or definite, much as the use of the definite article 'the' does in English." Thus, it appears that *itu* has two functions: i) to indicate deictic force, and ii) to mark definiteness.

Having examined the various syntactic contexts in which DEMs occur, I now look at the use of *itu* as a definite marker, as given in (198b). I show that, although *itu* is typically described as a DEM, it can also mark definiteness and is often translated as the

English definite article 'the' (Macdonald 1976; Carson 2000). I also introduce the enclitic

–*nya* and provide evidence for its function as a definite marker.

6.2 Demonstratives and Definiteness

6.2.1 Demonstratives as Definite Markers

According to Almatsier (1988), the DEM *itu* can be referred to as a 'qualifying word',

since it functions not only as a demonstrative pronoun ('that'), but also as an article that

refers back to something previously mentioned in the discourse. As a qualifying word, *itu*

always follows the N/NP it refers to and context determines whether it is interpreted as

'that' or 'the'. Consider the example in (199).

199) Harga buku *itu* dua kali (lipat) dari harga aslinya.
  price book D   two times from price original.DEF
  i. '**That** book's price is twice as much as the original price.'
  ii. '**The** book's price is twice as much as the original price.'
              (pers.comm. Abigail Megawati)

(199) shows two different interpretations for *itu*; in (203.i) *itu* expresses deictic force,

whereas in (199.ii) it points to an N referent already mentioned in the discourse and is

translated as the English definite article 'the'.

  As a definite marker *itu* can co-occur with a common N (200) or a proper N (201).

200) Berapa harganya *rokok* **itu**?
  how.much price.DEF cigarettes DEF
  'How much are the cigarettes?'
  [LIT. 'How much is the price of the cigarettes?']

201) Berapa karcisnya ke *Surabaya* **itu**?
  how.much ticket.DEF to Surabaya DEF
  'How much are the tickets to Surabaya?'   (Wolff 1986:134)

In contexts such as (200) and (201), the use of *itu* implies that the referent has already

been introduced and is understood.[48] Almatsier (1988), however, states that if the referent

of *itu* is already understood, the article *itu* is optional.

202) Guru (*itu*) datang.
     teacher DEF come
      'The teacher is coming.'

203) Ini meja (*itu*)
     DEM table DEF
      'This is the table.'   (Almatsier 1988:18)

Based on the examples in (202) and (203), I conclude that definite marking, like number

marking, is optional in Indonesian and context is needed to accurately interpret a bare N.

We observed in Section 3.2.2 that when an ADJ occurs in a RC_ADJ the ADJ

receives a focus interpretation (Ishizuka 2007). According to Wolff (1986), when *itu*

follows the ADJ in a RC_ADJ it specifies a particular quality of the N. In this way, the use

of *itu* causes the N to receive focus, as in (204b).

204) a. Saya pilih   *rumah yang besar*.
        1SG choose house REL big
        'I chose a big house (rather than another kind).'

      b. Saya pilih   *rumah yang besar **itu***.
         1SG choose house REL big   DEF
         'I chose the house that was big (rather than another one that was available).'
                                                              (Wolff 1986:136)

The focus in (204b) corresponds to definiteness, since *itu* identifies a specific N. Thus,

we can say that an '*itu*-marked' N is one-of-a-kind and, therefore, definite.

---

[48] Wolff (1986) states that when the N under discussion follows the predicate, as opposed to sitting in topic
    position, *itu* is used merely to clarify the N as topic. He compares the example in (201) with the
    following:
        Ke *Surabaya **itu***, berapa   karcisnya?
        to Surabaya DEF, how.much ticket.DEF
        'How much are the tickets to Surabaya?'
        [LIT. 'To Surabaya, how much are the tickets?']

*6.2.2 The Enclitic –*nya *as Definite Marker*

Perangin-angin (2006) argues for the use of the enclitic *–nya* as another definite marker.

As (205) and (206) show, *-nya* obligatorily attaches to a previously mentioned common

N and, much like the English definite article 'the', establishes the N as definite.[49]

    205) Kemarin saya membeli sepatu di pasar, tapi sepatu *(*-nya*) terlalu kecil.
            yesterday 1SG MEN-buy shoe P market but shoe   DEF too   small
            'Yesterday I bought shoes at the market, but the shoes are too small.'

    206) Ari menyirami taman dengan air.   Sekarang air *(*-nya*) menggenangi taman itu.
            Ari MEN-pour garden with   water now   water.DEF MEN-whelm garden DEF
            'Ari poured water on the garden. Now the water floods the garden.'

                                              (Perangin-angin 2006:3)

The enclitic *–nya* also attaches to proper names to refer to "a specific identity whose

referent has been established previously in the discourse" (Perangin-angin 2006:26), as in

(207).

    207) Tadi   saya ketemu John. Sekarang *John(-nya)* ada di   rumah sakit.
            just.before 1SG meet   John now   John.DEF   exist LOC house sick
            'I just met John. Now John is in the hospital.'

                                            (Perangin-angin 2006:26)

Although the occurrence of *–nya* with common Ns can be obligatory in certain contexts,

it is always optional with proper names.

        In our discussion of possession in 3.3.1, I provided data to show that *–nya* only

attaches to elements of the category [N]. However, when an N is modified by a

possessive N or pronoun, *-nya* cannot occur, as shown by the ungrammaticality in (208b)

and (209b).

    208) a. anjing Ari   b. *anjing Ari*nya*
               dog   Ari   dog   Ari.DEF
               'Ari's dog'

---

[49] Sneddon (2006:37) claims that *–nya* can mark definiteness on an N "even if only assumed in the
    particular context."

209) a. anjing kamu   b. *anjing kamu*nya*
       dog   2SG   dog   2SG.DEF
       'your dog'

Based on this data, I claim that the inherent definiteness of possessive Ns and pronouns

blocks the occurrence of the definite marker *–nya*. At this point, I propose the constraint

in (210).

210) *–nya cannot co-occur with an independent possessive pronoun or pronominal
      enclitic.*

I discuss the syntax of this constraint in 6.4.

       As syntactic objects that refer back to a particular referent already mentioned in

the discourse, I have argued that both *itu* and *–nya* function as markers of definiteness,

which is to be differentiated from their function as DEMs and pronouns, respectively

(Macdonald 1976). As definite markers, *itu* and *–nya* are optional, as shown in (211a)

and (212a).

211) a. orang   tinggi (*itu*)   b. orang   tinggi *itu*
       person tall   DEF   person tall   DEM
       'the tall person'   'that tall person'

212) a. anak(-*nya*)   b. anak*nya*
       child.DEF   child.3SG/PL
       'the child'   'his/her/their child'

Regardless of function, the form of *itu* and *–nya* is invariable and both occur at the right

edge of a phrase; context is needed to clarify their interpretation.

       Based on these facts, I now turn to the syntax of DEMs and definite marking in

Indonesian. Following Perangin-angin (2006) and Carson (2000), I put forward an

analysis that establishes both DEMs and definite markers as elements of the category D. I

show that the head of D projects a DP and contains a feature [DEF], which corresponds

to definiteness; [DEF] can be spelled out as *itu* or *–nya*.

6.3 Demonstratives or Determiners?

6.3.1 The Syntax of Demonstratives

The term 'demonstrative' is rather vague and different analyses of DPs have treated

DEMs in a variety of ways. We have already stated that, as deictic elements, DEMs

identify a particular referent mentioned in the discourse. Thus, they can be associated

with the concept of 'identifiability' and considered inherently semantically definite.

According to Lyons (1999:21), "the deictic feature on a demonstrative plays a similar

role to pointing, guiding the hearer's attention to [a particular] referent. This suggests a

necessary connection between [+Dem] and [+Def], the former implying the latter." Thus,

he claims that DEMs are "necessarily definite."

Trenkic (2004) distinguishes semantic definiteness from grammatical definiteness,

which she states is a purely grammatical category equivalent to that of number. When a

semantic concept undergoes the process of 'grammaticalization' (also known as

'grammaticisation'), it can be reduced to a grammatical form or grammatical category.

Thus, the relationship between DEMs and definiteness is logical; as inherently

semantically definite items (Lyons 1977), DEMs have grammaticalized and, over time,

changed from being purely deictic elements to markers of definiteness. Trenkic (2004)

states that it is therefore not surprising that, in languages without a definite article, DEMs

are used to make a definite reference absolutely clear.

Lyons (1999:116) also states that "definite articles in nearly all languages that

have them are descended historically from demonstratives" and "in many languages the

definite article is segmentally identical or very similar to one of the demonstratives." We

have observed this for Indonesian, where the lexical item *itu* functions both as a DEM

and definite marker.

Following Lyons (1999) and Trenkic (2004), I propose that the Indonesian DEM

itu 'that' has grammaticalized a definiteness interpretation; *itu* is a lexical item reduced to

a grammatical form that corresponds to the grammatical category of definiteness.[50] Based

on this assumption, I argue that *itu* belongs to two different categories, deictic force and

definiteness (whereas the DEM *ini* 'this' expresses only deictic force). I provide the data

in (213) to show that, regardless of its function, *itu* is in complementary distribution with

both the DEM *ini* and the definite enclitic *–nya*.

213) a. sepeda baru *ini/itu*
       bicycle new DEM/DEM
       'this/that new bicycle'

   b. sepeda baru *itu/-nya*
       bicycle new DEF/DEF
       'the new bicycle'

   c. *sepeda baru *itunya*
       bicycle new DEM.DEF

   d. *sepeda baru *itu   ini*
       bicycle new DEF DEM

   e. *sepeda baru*nya itu*
       bicycle new.DEF DEF

Based on these facts, I present an analysis that places Indonesian DEMs and

definite markers in the same syntactic category, D. To support my argument, I refer to the

analysis put forward by Carson (2000) and Perangin-angin (2006).

---

[50] I have not found any evidence to show that *ini* 'this' functions as a definite marker. Therefore, any
   reference to definiteness in my analysis is limited to *itu* and the enclitic *–nya*.

6.3.2 Evidence for Demonstratives as D Elements

In her analysis of Malay, Carson (2000) demonstrates that DEMs function as both deictic elements and definite markers and claims that DEMs are actually determiners that occupy a single position, namely the head of DP. She cites Abney (1987), asserting that the D head projects a DP, which "is considered the locus of definiteness" (Carson 2000:31). Since DEMs are typically considered Ds cross-linguistically, she concludes that it is logical for them to occur under D. Moreover, she shows that DEMs in Malay always occur at the right edge of the phrase, which implies that D is on the right.

Perangin-angin's (2006) analysis of the Indonesian enclitic *–nya* parallels that of Carson (2000) in terms of the position of determiner-like elements. He states that in Indonesian the DEMs *ini* and *itu* and the enclitic *–nya* are interchangeable; as elements with deictic force, *ini* and *itu* are inherently definite and function as definite markers, while *–nya* identifies a particular referent and, consequently, also marks definiteness. Given that *ini*, *itu*, and *–nya* function similarly, they can all be considered elements of the category D. He puts forward an analysis in which he compares Indonesian with Norwegian and Rumanian, two languages that position the NP to the left of the D head.

Perangin-angin (2006:28-29) cites Longobardi (2003) and demonstrates that in both Norwegian and Rumanian "the determiner (enclitic-like) elements *–en* and *–ul* occur to the right of the common NP." This is shown in (214) and (215).

214) Norwegian:
     bok-*en*
     book-the

215) Rumanian:
     lup-*ul*
     wolf-the   (Perangin-angin 2006:28-29)

However, while Norwegian permits the co-occurrence of *–en* and a definite article (216), Rumanian does not (217).

216) Norwegian:
den vidunderlige bok*en*
the wonderful   book-the
'the wonderful book'

217) Rumanian:
a. lup*ul*   frumoas
   wolf-the beautiful
   'the beautiful wolf'

b. **acest* lup*ul*   frumoas
   this   wolf-the beautiful   (Perangin-angin 2006:29)

Perangin-angin (2006:29) states that, "when an adjective [in Rumanian] is inserted in the derivation, there does not appear [to be] any additional definite article [217a] and no other analogous determination like [the] demonstrative *acest* 'this' is possible to co-occur with *–ul* [217b]."

In comparison, Indonesian modified Ns can only occur with a single D element; a DEM cannot co-occur with a definite marker, as shown by the ungrammaticality in (213). I specify this co-occurrence restriction in (218).

218) *'Double determiners' are not possible in Indonesian*.

Although the distribution of ADJs in Rumanian and Indonesian differs in that the ADJ in Indonesian occurs between the N and the definite marker, this does not affect my analysis here. In fact, Perangin-angin (2006) states that ADJs do not act as a 'barrier' to definite marking, which further supports my analysis of ADJs as adjuncts proposed in Section 3. The fact that D elements in Indonesian are in complementary distribution and must occur at the right edge of the phrase provides evidence for DEMs and definite markers as

syntactic objects immediately contained within the DP. I now turn to the structure of the Indonesian DP.

6.4 The Structure of the DP

It has been argued that, since DEMs and definite articles are in complementary distribution in a number of languages, these elements have the same syntactic status and are considered to be of the same category. Moreover, since they cannot co-occur, it can be assumed that DEMs and definite markers occupy the same syntactic position (Alexiadou 2007).

In 6.3, I concluded that *ini*, *itu*, and *–nya* are grammatical realizations of the category D and are syntactically analogous. Therefore, I claim that they occupy the highest functional head, namely the head of DP. Assuming that Indonesian D elements always occur on the right, I position D on the right, as in (219).

219)

$$DP$$

$$D^0$$

According to Lyons (1999:298), "[g]iven the widely accepted assumption of multiple functional projections, it is reasonable to suggest that only definite [markers] are associated with D and its projection DP." Since D^0 corresponds to definiteness in the syntax, I claim that the DP in Indonesian represents a 'definiteness phrase' and contains all functional categories associated with N, as illustrated by the structure in (220).

220)

$$DP$$

PossP D^0

CardP $Poss^0$

Card^0 NP

N^0 A^0
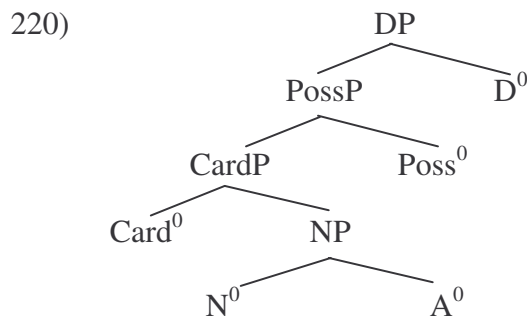
In the foregoing discussion, we have seen that D elements in Indonesian denote two semantic concepts – deictic force or definiteness – and can be spelled out as *ini/itu*, in the case of the former, or *itu/-nya*, in the case of the latter. However, since D elements are in complementary distribution and occupy the same position, how do we know whether *itu* corresponds to deictic force or definiteness?

I expand my analysis to account for this ambiguity and introduce the feature [DEF]. I claim that [DEF] adjoins to the head of DP, as in (221).

221)

DP

D^0
[DEF]
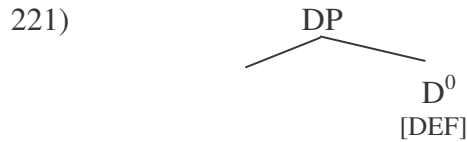
I argue that, since both *itu* and *–nya* occur as markers of definiteness, the phonological realization of [DEF] is determined after syntax. When [DEF] is absent, we can assume that D^0 corresponds to deictic force, which can be spelled out as *ini* 'this' or *itu* 'that'. Assuming these conditions, I summarize the features of [DEF] as follows:

222) Features of [DEF] in Indonesian
    i. [DEF] *corresponds to 'definiteness' and occurs in* D^0.
    ii. [DEF] *can be spelled out as* itu *or* -nya.
    iii. *When* [DEF] *is absent,* D^0 *corresponds to deictic force.*
    iv. *Deictic force can be spelled out as* itu *or* ini.

Returning to the constraint in (210), I also suggest that possessive pronouns and pronominal enclitics bear the feature [DEF] that satisfies [DEF] in D^0. Thus, when Spec, PossP is filled with a possessive N or pronoun, D^0 must be spelled out as Ø. Again, the spellout of [DEF] is determined after syntax. I modify the constraint in (222.ii) as follows:

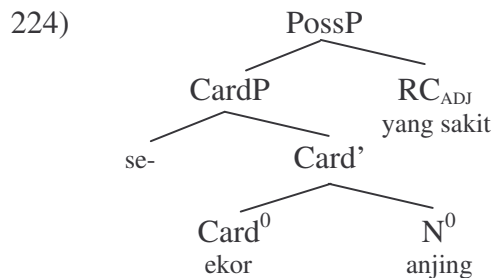   ii. [DEF] *can be spelled out as* itu, -nya, *or Ø.*

Thus far, we have established that the D element *itu* can receive two different semantic interpretations, deictic force and definiteness, both of which must be included in

its lexical entry. In addition, the feature [DEF] can be spelled out as *itu* or *–nya*. I propose

that the syntactic component of the lexical entry for *itu* would include both the

information given in (219) and (221); the semantic component for *itu* would specify that

itu can be interpreted as deictic force (DEM) or definiteness. The lexical entry for *–nya*,

on the other hand, would simply include the syntactic component in (221) and [DEF]

would be spelled out as *–nya*; its semantic component would indicate that *–nya* is

associated with definiteness.[51]

　　　Finally, based on the fact that definiteness marking in Indonesian is optional, and

overt indefinite marking (*se-*+CL 'a, one') occurs in CardP (Section 4), I follow Carson

(2000) in assuming that the Indonesian DP is optional. I provide the structure in (224) to

illustrate. I insert the vocabulary items of (223) for clarity.

223) *seekor* anjing besar yang sakit (**itu*)
　　　one.CL dog　　big　　REL　sick
　　　'a big, sick dog'
　　　[LIT. 'a big dog that is sick']

224)

```
                    PossP
                   /     \
              CardP      RC_ADJ
             /    \       yang sakit
          se-     Card'
                 /     \
             Card⁰     N⁰
             ekor      anjing
```

Finally, the structure in (226), which corresponds to the data in (225), illustrates all the

possible nodes of the Indonesian DP.

225) tiga　orang dokter-dokter muda　punya Pak Edy yang pandai itu
　　　three CL　　doctor.PL　　　young have　Mr. Edy REL　clever　DEF
　　　'Mr. Edy's three young, clever doctors'
　　　[LIT. 'the three young doctors of Mr. Edy who are clever']

---

[51] Since the focus of this paper is syntactic, I do not elaborate on the semantic components of the lexical
　　entries for D elements in Indonesian.

226)

```
                                    DP
                    ┌───────────────┴───────────┐
                  PossP                          D⁰
            ┌───────┴───────┐                   [DEF]
          PossP           CP (=RC_ADJ)
       ┌────┴────┐      ┌────┴────┐
     Poss'      DP    OPᵢ         C'
   ┌───┴───┐          ┌───────┴───────┐
 CardP   Poss⁰       REL             SC
         LINK/LIG                  Øᵢ + predicate
┌──┴──────┐
numeral/Q  Card'
      ┌──────┴──────┐
    Card⁰          N⁰ᵢ
    CL/MA      ┌────┴────┐
             [PL]       N⁰ᵢ
                    ┌────┴────┐
                  N⁰ᵢ        A⁰
```
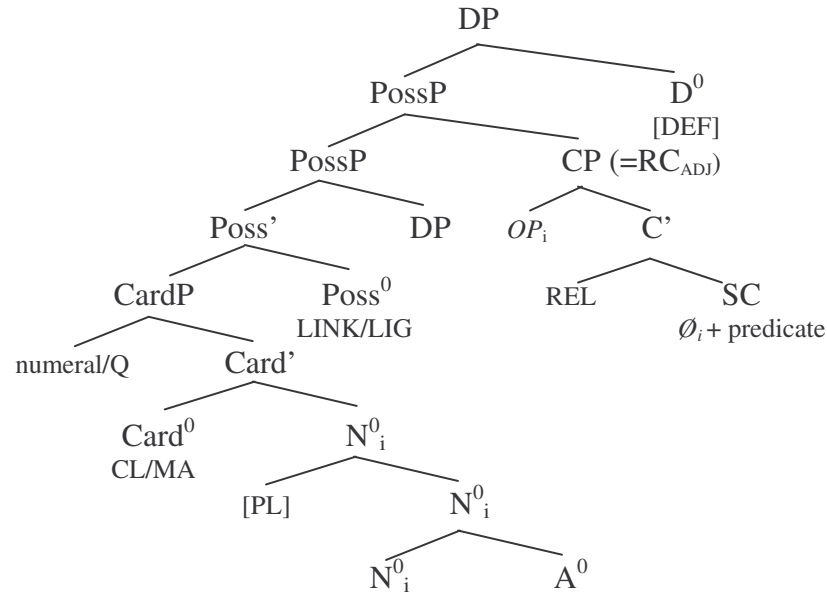
6.5 Summary

In the foregoing discussion, I provided evidence to show that DEMs and definite markers in Indonesian always occur at the right edge of the phrase and are in complementary distribution. Thus, I argued that *ini*, *itu* and *–nya* are all elements of the category D, which corresponds to definiteness and is syntactically represented as a 'definiteness phrase', DP. Given that *itu* represents two semantic concepts – deictic force and definiteness – I introduced the feature [DEF] and put forward a set of features that accounts for the conditions of [DEF]. I proposed that [DEF] adjoins to D^0 and the lexical item associated with [DEF] is phonologically realized after syntax. When [DEF] is absent, D^0 corresponds to deictic force and the lexical item associated with it is also phonologically realized after syntax. Finally, I claimed that, since definite marking in Indonesian is optional, it is possible that no DP is projected. I concluded the section with the overall underlying structure of the Indonesian DP.

Section 7: Concluding Remarks

In this thesis I developed an analysis of Indonesian noun phrases that accounts for the distributional facts of pre- and postnominal modification of a base-generated head noun. I rooted my argument primarily within the framework of Minimalism (Adger 2003; Chomsky 1995), whereby the operations Merge and Adjoin generate a complex hierarchical structure, and adopted some core concepts from Distributed Morphology (Halle and Marantz 1993) to account for the phonological realization of various features as vocabulary items after syntax.

Assuming an adjunction analysis for Indonesian, I argued that head adjunction via Merge is a relatively unrestricted and economical approach that is consistent with the goals of Minimalism. I demonstrated that head adjunction at the level of attributive Ns and ADJs not only allows for the direct expansion of N^0, but that the adjunction of an RC_{ADJ} at the level of the PossP accounts for extensive adjectival modification. Moreover, I proposed that the adjunction of the feature [PL] triggers reduplication and expands the noun at the level of N^0, while the feature [DEF] adjoins under D^0 and marks the definiteness of N. Thus, I demonstrated that adjunction occurs at all levels of the Indonesian DP.

In my analysis, I also established a number of functional projections – CardP, PossP, and DP – that merge above the head N. I demonstrated that the features [POSS] and [DEF] are associated with and adjoin to PossP and DP, respectively, whereas the feature [PL] is associated with CardP but adjoins outside of it. Furthermore, I established several constraints to account for the distributional properties of N modifiers, and showed that the properties of [PL], [DEF] and [POSS] establish their position in the structure. In

contrast to other analyses that propose a Determiner Phrase, I argued that the Indonesian

noun phrase is dominated by a Definite Phrase (DP) and proposed a structure that

positions both deictic force and the feature [DEF] in D^0.

Finally, I argued that number-marking, possession and (in)definiteness in

Indonesian are optional and that bare Ns are, in fact, neutral with respect to number. I

demonstrated that, although the overall projection dominating Ns and their modifiers is

DP, when definiteness is unmarked the DP is optional. Thus, I concluded that all

projections that merge above N^0 are optional and context is needed to accurately interpret

an Indonesian bare N.

In my analysis of Indonesian noun phrase structure, I raised a number of issues

that I did not explore in detail. Following Carson (2000), I pointed out that the

reduplication of ADJs in Indonesian not only denotes more than one N but also carries

the semantic interpretation 'variety of N'. I also stated that, although I did not come

across evidence for the DEM *ini* 'this' as a definite marker, I do not disregard the

possibility; additional data is needed to make a confident claim one way or the other.

Although these issues remain open-ended, I hope that this thesis has contributed to a

better understanding of Indonesian noun phrase structure that will prompt further

investigation.

Appendix 1

Classifiers in Indonesian
(taken from Macdonald 1976:82-83; Sneddon 1996:135-136)

Classifier	**Meaning**	**For Classifying**
batang	'stick'	long, cylindrical objects (e.g. pipes, tree trunks, cigarettes)
bentuk	'form, shape'	round, curved objects
biji	'seed'	small, round objects (e.g. soap, cakes, eggs, grains)
bilah		for sharp things (e.g. knives, needles)
buah	'fruit'	general objects; particularly roundish objects
carik	'strip'	paper, cloth
catuk	'spoonful'	liquid
cekak	'pinch'	salt, pepper, etc.
ekor	'tail'	animals, birds, fish, etc.
gugus	'cluster'	clusters of objects
helai	'sheet'	flat things, things that can be folded (e.g. paper, cloth(ing), etc.)
kaki	'leg, foot'	umbrellas
keping	'chip'	slices, flat objects, leaves
lembar	'sheet'	flat things (e.g. paper, sheets, photographs)
miang	'grain, drop'	grains of sand, drops of water
orang	'human being'	human beings
patah	'piece'	words
pucuk	'sprout'	guns, letters
sikat	'brush'	bunches of bananas
tepek	'slab, cake'	fat, loaf of sugar, etc.
utas	'piece of string'	string, rope, thread, cord

Appendix 2

Functions of the Enclitic –*nya*
(taken from Perangin-angin 2006:3-5)

1) 3SG Pronoun
> Sari memukul-*nya*
> Sari MEN-hit-NYA
> 'Sari hit him/her/it.'

2) 3SG Possessor
> Ari makan pisang-*nya*.
> Ari eat banana-NYA
> 'Ari ate his/her banana.'

3) Definite Marker
> Kemarin   saya membeli sepatu di pasar, tapi sepatu*(-*nya*) terlalu kecil.
> Yesterday 1SG MEN-buy shoe   at market but shoe-NYA   too   small
> 'Yesterday I bought shoes at the market, but the shoes are too small.'

4) Nominalizer
> Pesawat itu   *jatuh-nya* melintir.
> airplane that fall-NYA   MEN-spin
> 'The fall of the airplane was with a spinning motion.'

5) Possessive Marker
> Rumah-*nya* Ari/dia/kamu/saya/kami/kita/mereka   besar.
> house-NYA Ari/3SG/2SG/1SG/1PL.EXCL/1PL.INCL/3PL big
> 'Ari's/his//her/your/my/our/their house is big.'

6) Exclamative Marker
> Cantik-*nya*!
> beautiful-NYA
> 'What a beautiful one!'

7) Preposition-like or Nominal Copula Element
> bodoh-*nya* dokter
> stupid-NYA doctor
> 'that idiot of a doctor'

8) Adverbial-like Marker (SE-base-NYA)
> a. se-harus-*nya*
>   SE-have.to-NYA
>   i) 'it's supposed to happen/be that…'
>   ii) 'should'

b. se-tidak-*nya*
   SE-NEG-NYA
   'it would be the least, but…'

9) Comparative-Superlative Construction Marker (SE-red.adjective-NYA)

   Se-bodoh-bodoh-*nya*   orang,   kalo dia mau belajar keras dia akan
   one-stupid-stupid-NYA person, if   3SG want study   hard 3SG will

   berhasil.
   BER-success
   'Even the stupidest person will be successful if he/she wants to study
   hard.'

References

Abney, Steven P.
  1987 The English Noun Phrase in its Sentential Aspect. Diss., Massachusetts Institute
        of Technology.

 Adger, David
  2003 *Core Syntax: A Minimalist Approach.* New York: Oxford University Press.

Ahmad, Zaharani
  2005 *The Phonological-Morphological Interface in Malay: An Optimality Theoretic
        Account.* Canberra: Pacific Linguistics.

Alexiadou, Artemis, Liliane Haegeman and Melita Stavrou
  2007 *Noun Phrase in the Generative Perspective.* Berlin: Walter de Gruyter GmbH &
        Co.

Alieva, Natalia F.
  1992 Malay and Cham Possession Compared. In *Oceanic Linguistics* 31(1):13-21.

Almatsier, A. M.
  1988 *How to Master the Indonesian Language.* Jakarta: Djambatan.

Arcara, Giorgio
  2010 Neural Correlates of Morphological Processing: The Case of Italian Noun-Noun
        Compounds. Diss., Universita Degli Studi Di Padova.
        Retrieved on July 5, 2011 from
        http://paduaresearch.cab.unipd.it/2732/1/arcara_phd_thesis.pdf

Baker, Mark C.
  2003 *Lexical Categories: Verbs, Nouns, and Adjectives.* Cambridge: Cambridge
        University Press.

Barker, Chris
  1995 *Possessive Descriptions.* Stanford, CA: CSLI.

Basilico, David
  2002 The Topic of Small Clauses
        Retrieved on May 5, 2011 from http://www.semanticsarchive.net

Berry, Keith, and Christine Berry
  1999 *A Description of Abun: a West Papuan Language of Irian Jaya.* Canberra:
        Pacific Linguistics.

Bouchard, Denis
  2002 *Adjectives, Number and Interfaces: Why Language Vary*. Oxford: Elsevier
         Science Ltd.

Broschart, Jurgen, and Carmen Dawuda.
  2000   Beyond Nouns and Verbs: Typological Studies in Lexical Categorization.
          Retrieved June 27, 2008, from http://www.phil-fak.uni-
          duesseldorf.de/sfb282/working_papers/BEYNOUNF.pdf

Carson, Jana C.
  2000 The Semantics of Number in Malay Noun Phrases. Ms., University of Calgary.

Cheng, Lisa Lai-Shen, and Rint Sybesma
  1999 Bare and Not-So-Bare Nouns and the Structure of NP. In *Linguistic Inquiry*
         30(4):509-542.

Chierchia, Gennaro
  1998 Reference to Kinds Across Languages. In *Natural Language Semantics* 6:339-
         405.

Cinque, Guglielmo
  2005 Deriving Greenberg's Universal 20 and Its Exceptions. In *Linguistic Inquiry*
         36(2):315-332.

Chomsky, Noam
  1995 *The Minimalist Program*. Massachusetts: MIT Press.

Davies, William D., and Craig A. Dresser
  2005 The Structure of Javanese and Madurese Determiner Phrases. In *UCLA Working
         Papers in Linguistics*, ed. Heinz and Ntelitheos, 57-72. University of Iowa.

Diessel, Holger
  1999 *Demonstratives: Form, Function, and Grammaticalization*. Philadelphia: John
         Benjamins.
  1999 Morphosyntax of demonstratives in synchrony and diachrony. In *Linguistic
         Typology* 3:1-49.

Dryer, Matthew S.
  2007 Noun Phrase Structure. In *Complex Constructions, Language Typology and
         Syntactic Description*, Vol. 2, ed. Timothy Shopen, 151-205. Cambridge:
         Cambridge University Press.

Englebretson, Robert
  2003 *Searching for Structure: The Problem of Complementation in Colloquial
         Indonesian Conversation.* Philadelphia: John Benjamins.

Ghomeshi, Jila
  2005 NP-anaphora and Focused Possessors in Parallel Architecture. In *Linguistics* 44(4):721-748.
  1997 Non-Projecting Nouns and the Ezafe Construction in Persian. In *Natural Language and Linguistic Theory* 15(4):729-788.

Halle, Morris, and Alec Marantz
  1993 Distributed Morphology and the Pieces of Inflection. In *The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*, eds. Kenneth Hale and Samuel Jay Keyser, 111-176. Massachusetts: MIT Press.

Harley, Heidi, and Rolf Noyer
  2000 State-of-the-Article: Distributed Morphology. In *GLOT International* 4(4):3-9.

Inkelas, Sharon, and Cheryl Zoll
  2005 *Reduplication: Doubling in Morphology*. Cambridge: Cambridge University Press.

Ishizuka, Tomoko
  2007 Internal Structure of the DP in Javanese. Presented at *The 14th Annual Meeting of the Austronesian Formal Linguistic Association (AFLA)*, May 4-6, 2007, McGill University, Montreal. Retrieved July 11, 2008, from http://www.linguistics.ucla.edu/people/grads/ishizuka/publication/Javanese%20DP.pdf.

Longobardi, G.
  2000 How comparative is semantics? A unified parametric theory of bare nouns and proper names. In *Natural Lanaguage Semantics* 9(4):335-369.
  2003 The Structure of DPs: Some Principles, Parameters and Problems. In *The Handbook of Contemporary Syntactic Theory*, ed. M. Baltin and C. Collins, 562-603.

Lyons, Christopher
  1999 *Definiteness*. Cambridge: Cambridge University Press.

Lyons, John
  1977 *Semantics*. Cambridge: Cambridge University Press.

Macdonald, R.R.
  1976 *Indonesian Reference Grammar*. Washington: Georgetown University.

Mithun, Marianne
  1988 Lexical Categories and the Evolution of Number Marking. In *Theoretical Morphology: Approaches in Modern Linguistics*, eds. Michael Hammond and Michael Noonan, 211-234. New York: Academic Press.

Muromatsu, K.
  1995 The Classifier as a Primitive: Individuation, Referability, and Argumenthood. In
        University of Maryland Working Papers in Linguistics 3:1-54.

Niizuma, Hidekatsu
  1969 Notes on the Attributive Functions of Nouns. In *Kitami Institute of Technology
        Repository* 2(3):487-497.
        Retrieved April 25, 2009 from http://hdl.handle.net/10213/139.

Perangin-Angin, D.M.
  2004 Syntax of Bahasa Indonesia Enclitic -NYA. Ms., Utrecht University.

Rafferty, Ellen
  2002 Reduplication of Nouns and Adjectives in Indonesian. In *Papers from the Tenth
        Annual Meeting of the Southeast Asian Linguistics Society*, ed. M. Macken, 317-
        332. Arizona State University.
        Retrieved May 5, 2011 from http://sealang.net/sala/htm/reduplication.htm.

Sapir, Edward
  1930 Southern Paiute, a Shoshonean Language. Texts of the Kaibab Paiutes and
        Uintah Utes. Southern Paiute Dictionary. In *Proceedings of the American
        Academy of Arts and Sciences* 65:1930-1931.

Sneddon, James N.
  2006 *Colloquial Jakartan Indonesian.* Canberra: Pacific Linguistics.
  2003 *The Indonesian Language: Its History and Role in Modern Society*. Sydney:
        University of New South Wales Press Ltd.
  1996 *Indonesian: A Comprehensive Grammar.* New York: Routledge.

Travis, Lisa
  1989 The Syntax of Adverbs. In *McGill Working Papers in Linguistics*, 280-310.
        McGill University.

Trenkic, Danijela
  2004 Definiteness in Servian/Croatian/Bosnian and Some Implication for the General
        Structure of the Nominal Phrase. In *Lingua* 114:1401-1427.

Wiltschko, Martina
  2007 Plural Modification Below the Word Level. Evidence from Halkomelem Salish.
        Ms., University of British Columbia.

Wolff, John U.
  1986 *Formal Indonesian*. New York: Cornell University.