The Derivation of Anaphoric Relations
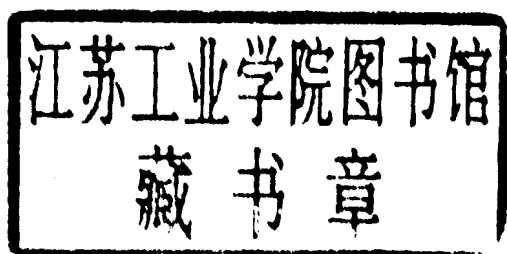
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Acknowledgments

Notes for the reader

I generally assume that the reader is well versed in syntactic theory, although the bare bones of the classical binding theory are outlined in Chapter 1 and should be widely accessible. Readers familiar with some version of the binding theory will want to skip the preliminaries as far as §1.2, where I lay out the theoretical landscape in which the book is situated. Readers with a specialist knowledge of the various revisions of the binding theory within the Extended Standard Theory (EST), Government and Binding (GB), and Minimalist models may then wish to continue straight to §2.3.

This book deals with pronouns and anaphors. I adopt the widespread conventions of the generative literature: 'anaphor' covers reflexive and reciprocal pronouns, as elements with obligatorily anaphoric (and not deictic) interpretation; 'pronoun' refers to only the remaining set of personal pronouns, which are typically capable of either anaphoric or deictic interpretation. For readers unfamiliar with the generative terminology, the convention is somewhat unfortunate since pronouns may have anaphoric reference and reflexives and anaphors are in some sense pronominal. Throughout, the terms 'anaphor' and 'pronoun' should be understood as in the generative tradition.

The following abbreviations or notations are used for feature attributes or feature values:

1(st)	First person		INF	Infinitive
2(nd)	Second person		MASC	Masculine
3(rd)	Third person		NOM	Nominative
ACC	Accusative		OP	Operator
ASP	Aspect		PRT	Particle
AGR	Agreement		PASS	Passive
COMP	Complementiser		PAST	Past
DAT	Dative		PL	Plural
DEF	Definite		PRES	Present
EMPH	Emphatic		POSS	Possessive
FEM	Feminine		REF	Referential
GEN	Genitive		REFL	Reflexive
IND	Indicative		SE	Simplex expression reflexive

S(IN)G	Singular	VAR	Variable
STR	Strong	WK	Weak
SUBJ	Subjunctive	∀	Universal quantifier
T	Tense	∃	Existential quantifier
TOP	Topic	φ	Person, Number, and Gender

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Introduction

Syntactic theory, in its broadest sense, is concerned primarily with the ways in which individual lexical items combine to compose hierarchical structures, and with the relationships that hold between elements in different parts of the hierarchy. These intrasentential relationships between different lexical items and/or phrases are often thought to be morphosyntactic. For example, in many languages the subject and verb agree, resulting in a different morphological form of the verb depending on whether the subject is 1st, 2nd, or 3rd person, singular or plural. Similarly, DPs may bear different Case morphology according to the grammatical function they fulfil: in English, a pronoun in the subject position of a finite clause is marked with nominative Case morphology, a pronoun in an object position is marked with accusative Case, and a pronoun in a possessive position is marked with genitive Case. Some syntactic relations, however, are not so obviously marked. This book aims to clarify the nature of one such type of relation that holds intrasententially between DPs, namely binding. In formulating a binding theory, we aim to determine the syntactic factors that govern the distribution and referential dependencies of different types of DP, analysing the mechanisms which are responsible for them within the Minimalist approach to the architecture of the human language faculty.

1.1 The classical binding theory

1.1.1 Referential properties of DPs

From the perspective of semantics, one of the most crucial properties of DPs is that they (can) refer. That is, a linguistic expression (at some level, simply a string of sounds) is able to relate to our mental representation of objects or individuals in the world. Different types of DP exhibit quite different referential properties from one another. Expressions which are not pronominal, known as R(eferential)-expressions, have fixed reference in a given context, including proper names (*Lee Trundle, Swansea*), and definite descriptions (*the new stadium*). While names are 'rigid designators', having fixed reference across contexts, the reference of definite descriptions may vary across (but not within) contexts. For example, although the

definite DP *the new stadium* could be used to refer to Swansea's stadium or Arsenal's stadium, it is likely to be pragmatically infelicitous to use it in one utterance to refer to Swansea's, and in the next to refer to Arsenal's. Pronouns, on the other hand, differ from R-expressions in having variable reference in any given context. In a sentence like (1), without knowing anything about the context in which it may be uttered, the first pronoun *he* is likely to refer back to *John*, while the second instance of *he* can plausibly either refer back to *John* or to *Bill*. Both pronouns are used anaphorically, with their antecedent in the same sentence.

> (1)   John thought he had won but Bill thought he had lost.

Pronouns do not need an antecedent in the same sentence, though. They simply need their referent to be sufficiently prominent in the discourse for the speaker and hearer to be able to identify it. Given this deictic function of pronouns, either instance of *he* in (1) could refer not to *John* or *Bill* but rather to some third party, given appropriate pragmatic conditions.

The exception to this is the class of reflexive pronouns (e.g. *myself, themselves*) and the reciprocal pronoun *each other*, which fail to refer at all unless they pick up an intrasentential antecedent: (2a) is impossible,[1] even though pragmatic factors strongly point to *John* as the intended referent for *himself*. This contrasts with the non-reflexive pronoun in (2b), which is grammatical in the same environment.

> (2)   a.   *John won the lottery. Himself was delighted.
>   b.   John won the lottery. He was delighted.

The same effect arises with the reciprocal in (3a):

> (3)   a.   *John and Mary told jokes. Each other laughed.
>   b.   John and Mary told jokes. They laughed.

Clearly, the problem is that the antecedent for the reflexive and reciprocal cannot be found sentence-internally. Compare (2a) and (3a) with (4a) and (4b) respectively.

> (4)   a.   John considered himself to be delighted.
>   b.   John and Mary laughed at each other's jokes.

Here it is necessary to make an important clarification regarding the terminology used henceforth. I adopt the conventions overwhelmingly adopted in the generative literature: reflexives and reciprocals, obligatorily having anaphoric (and not deictic) reference, are collectively termed 'anaphors'. The other personal pronouns

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1.   (2a) is impossible at least in most varieties of English. In Southern Hiberno-English such sentences may be grammatical; see §4.4.1 and §4.4.3.

are simply termed 'pronouns'.[2] In the terminology of formal logic, pronouns, as variables, can be 'bound' by an antecedent within the same sentence, and indeed, anaphors *must* be.

1.1.2 The distribution of anaphors and pronouns

The difference between the referential dependencies into which anaphors and pronouns (may) enter is reflected in their syntactic distribution. Broadly speaking, anaphors must be bound by an antecedent which is sufficiently close by some syntactic measure, while pronouns cannot be bound by an antecedent which is too close:

(5) a.   John loves himself
     b. *John said that Mary loved himself

(6) a.   John and Mary love each other
     b. *John and Mary said that Peter loved each other

In (5b), the addition of the extra syntactic material compared to (5a) between the reflexive and its antecedent *John* appears to result in the ungrammaticality of the reflexive. The same effect arises with the reciprocal and its antecedent *John and Mary* in (6b). A pronoun, however, cannot be bound by an antecedent which is local to it: there must be sufficient syntactic material between a pronoun and any other DP that binds it. For example, in (7a), the pronoun *him* may refer to any (contextually appropriate) male individual, apart from *John*.[3]

(7) a. *John$_i$ loves him$_i$
     b.   John$_i$ said that Mary loved him$_i$

The shared subscript index on the pronoun and *John* indicates that the two DPs are intended to enter into referential dependency: (7a) is only ungrammatical on the reading whereby *him* and *John* refer to the same individual, so the index is clearly crucial.[4] The explanation for all of the empirical facts examined so far is generally attributed to a binding theory, a statement of the mechanisms governing

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2.   The terminology is less than ideal: as we have seen, these pronouns may have anaphoric reference and reflexives and reciprocals are themselves pronominal, though we will henceforth follow the convention overwhelmingly adopted in the literature.

3.   This fact might be considered somewhat surprising, since unless further context is provided *John* is indeed the *only* contextually salient individual. Nevertheless the binding relation between *John* and *him* is impossible until further syntactic material is placed between the pronoun and *John*, as in (7b).

4.   To the same end, we could provide indices on the anaphor and its antecedent in (5a) and (6a) above, yet because that is in fact the only reading on which the sentence is grammatical,

the syntactic distribution of different classes of DP and its interaction with their referential dependencies.

1.1.3 The binding conditions

Now let us introduce some technical assumptions required to formalise the casual observations we have made concerning the conditions governing the binding behaviour of anaphors and pronouns. First, we might define binding as follows:

(8)   *Binding*

An anaphor or pronoun is bound if it is c-commanded by a category bearing an identical referential index.

This immediately requires further technical definitions, of course. As above, a referential index is usually represented (by convention) as a subscript such as $_{i,j,k}$ (or equally by integers) and while further details remain to be clarified, we assume that coindexation between DPs indicates a referential dependency. The second theoretical concept to be defined is c-command, an interpositional relation. We may assume a fairly standard definition, for example:

(9)   *C-command*

α c-commands β if α does not dominate β and every γ that dominates α dominates β. (Chomsky & Lasnik 1993:518)

We will not see examples bearing on the relevance of c-command in this chapter, though it will be shown to be crucial in the following chapters.

Having characterised binding more formally, we can now impose binding conditions (often also termed 'binding principles') on anaphors and pronouns in order to explain the data we have examined thus far.

(10)   *Binding Condition A*

An anaphor must be bound within a local domain

Condition A, along the lines of the condition first proposed by Chomsky (1981), thus predicts the grammaticality of (5a) and (6a), where the anaphor is locally bound. In (5b) and (6b), however, although the anaphor again appears to be bound, the antecedent (in each case, the matrix subject) is assumed not to occupy a position within the relevant local domain. This violation of Condition A explains the ungrammaticality of each sentence. For pronouns, we require a binding condition such as the following:

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it is not crucial that we do. Throughout the book I tend to omit indices on anaphors unless a distinction from some alternative reading is crucial to the point being made.

(11)   *Binding Condition B*

A pronoun must not be bound within a local domain

In (7a), *him* is bound, and crucially, bound within the local domain. Condition B is violated, again resulting in ungrammaticality. In (7b), *him* is bound, but we assume that *John* is not in the pronouns's local domain, so Condition B is satisfied.

Even for what appears to be a strictly semantic notion such as reference, these initial observations indicate that syntax plays a crucial role in this respect. By examining in the following chapters which antecedents anaphors and pronouns can be bound by, we will identify the syntactic factors that play a role in determining and constraining binding relations, quite precisely characterising their mechanisms. Specifically, this will allow us to articulate a particular version of the binding theory within a current syntactic framework. At this point, we outline in further depth and technical detail certain facts concerning the development of the binding theory and the theoretical assumptions which will frame the analysis provided in this book.

1.2   Theoretical context of the research

1.2.1   A brief history of the binding theory

Binding theory has long been an important component of generative syntactic frameworks. At the outset of the book, it is important to stress that the binding theory has in fact been the subject of perhaps unrivalled scrutiny in generative syntactic theory.[5] Chomsky (1973) first proposed that constraints on binding could be reduced to those on syntactic movement, an approach which was crystalised in the seminal *Lectures on Government and Binding* (Chomsky 1981). This intuitively appealing binding theory (outlined in detail in §2.2.3 below) based on binding conditions akin to those stated above may still be considered the canonical approach, and one of the major success stories of generative syntax. With the binding theory pushing the development of the syntactic framework, a great deal of research into binding was undertaken in what might be considered a classical period for the binding theory. However, a marked shift in thinking is observed in *Knowledge and Language* (Chomsky 1986b), where binding is once again largely dissociated from movement. By this time, the classical binding theory had already become largely untenable due to difficulties in accommodating evidence resulting

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5.   Equally, I must concede that I can in no way hope to do justice to the rich theoretical literature that already exists on the topic. For reasons of scope, space, and time, many issues related to the binding theory must remain unresolved, uncovered, and even unmentioned.