Chapter One The problem and some initial assumptions

1.1 The Problem

Identifying individuals and attributing properties to them can surely be considered one of the primary properties of language; this is the function of predication. Of particular interest are sentences in which the verbal element, if there is one, plays little or no role in determining predication relations; instead NPs, APs, or locative PPs take on the role of predicate. In this thesis, I provide an account of several interacting problems of non-verbal predication. I am going to make the following claims, in increasing order of controversiality:

i) In many languages, such as Modern Irish, matrix non-verbal predication\(^1\) can appear without an overt verb of any kind.

ii) There is more than one kind of copular construction; i.e., there are both predicative and equative structures, and these differ in their argument structure.

iii) In some languages, non-verbal predicates may behave exactly like verbal ones with respect to the syntax of head-movement.

iv) Under certain specific conditions complex, apparently phrasal, nominal predicates may undergo head-movement.

---

\(^1\)By "matrix non-verbal predication", I mean constructions roughly equivalent to English "be". I will use this term and the term "copular" interchangeably here, even when I am talking about constructions that lack a verbal copula.
Let us consider each of these claims in a little more detail. First, I will claim that under certain conditions, non-verbal predicates in copular constructions appear without any kind of verbal support at all. That is, they have a structure where the non-verbal predicate directly takes an inflectional complex (here represented as IP for convenience) without an intervening verbal *be*, null or otherwise.

1)  

```
  IP
  \   /  
  I'  INFL  XP
  |    |  X
  subj X       ....
  X       ....
```

where $X = N, A, P$

In adopting (1), I follow Rapoport (1987) and Déchaine (1993), among many others, and differ from Heggie (1988), among many others. This kind of structure makes certain predictions concerning the movement of predicates. In particular, it predicts that in languages such as Modern Irish which both exploit verb raising strategies and have structures like that in (1), non-verbal predicates undergo, under appropriate circumstances, head-movement (Travis 1984) exactly equivalent to verb raising:

2)  

```
  IP
  \   /  
  I'  INFL  XP
  |    |  X
  subj X       ....
  X       ....
```

where $X = N, A, P$

In fact, I am going to make an even more radical claim than (2): I claim that *phrasal* non-verbal predicates can undergo head-movement. This, of course, will require a serious revision of our notion of what an $X^\circ$ or an XP is. I make the highly surprising claim that
there is no primitive phrase/head distinction. I claim, instead, that rather than the phrasal or head status of a phrase marker determining its behavior, the behavior of the p-marker determines its head or phrase status. Since X-bar status is a derivative notion, I will show that complex nominal predicates can behave like words with respect to head-movement.

Finally, I take issue with several recent proposals that there is a single "be" construction throughout languages. Many authors (Partee 1986, Heggie 1988, Heycock 1991, 1992, Moro 1991, 1993, DeGraff 1992 among many others\(^2\)), following the Fregean tradition, assume that there is no structural difference\(^3\) between the two sentences below in (3):

\[3) \begin{align*}
\text{a) } & \text{John is a doctor} \\
\text{b) } & \text{John is the doctor}
\end{align*}\]

These authors all claim that the argument structure of both these sentences involves one NP functioning as a predicate, the other as a subject:

\[4) \text{NP2 (NP1)} \]

I argue that this approach is false. I argue, following Rapoport (1987) among many others, that the sentence in (3b) involves a two place "equative" verb (COP) that takes both NPs as arguments:

\[5) \text{COP(NP1, NP2)} \]

This equative verb, I claim, is not a true "=" relation in the mathematical sense. Rather, I claim that the relation is asymmetrical and that the two arguments bear different theta roles (attribute and attribute recipient).

---

\(^2\)For a more complete list, see chapter 7.
\(^3\)other than, of course, the difference in determiner type.
1.2 Organization

The thesis will be organized as follows. Part one provides some background information on Irish syntax. The bulk of data in this thesis concerning non-verbal predicates comes from Irish. Irish is a VSO language:

6) Leanann an t-ainmní an briathar i nGaeilge
    follow.PRES the subject the verb in Irish
    ‘The subject follows the verb in Irish’

In chapter 2, I provide a historical survey of the literature on VSO order. I show there that Flat Structure, Subject Lowering, and Raising to C° analyses of VSO order are inadequate to deal with the facts of Irish and many other VSO languages. In chapter 3, I provide an account of Irish VSO order that makes use of verb raising to the highest inflectional head, and the raising of the arguments via NP movement to the specifiers of case assigning inflectional heads. To account for certain problems of adverbial placement, word order in infinitives, auxiliaries, and aspectual morphology, I propose certain revisions to the architecture of heads:

7)
(7) shows this revised architecture as well as the location of arguments and verbs in Irish. Of interest in this structure is the fact that there are two inflectional complexes separated by a VP. Both inflectional complexes consist of a tense projection (T or ASP) which dominates case-assigning Agreement nodes. The higher VP is headed by a light verb which introduces external arguments. In Irish, I claim, the verb raises through all the inflectional heads (and the upper light verb) to rest in the highest T. The subject NP raises to the specifier of AgrSP, where it receives case. It does not raise any further, thus resulting in VSO order. In a parallel manner, objects raise to the specifier of AgrOP. Evidence for this proposal comes from infinitives, auxiliary placement, and adverbials.

In part II, we turn to non-verbal predication in Modern Irish. In chapter 4, I take a look at the various kinds of Irish copular constructions. There, I show after Doherty (1992, forthcoming) that the traditional Irish copula *Is* bears many of the characteristics of a complementizer particle, rather than a verb. I then go on to claim that under appropriate circumstances, such as when they bear inflectional features, non-verbal predicates in Irish do not require verbal support. Rather, I claim that they take inflectional features directly and undergo head-movement to the front of the clause just like verbs. When they do not bear inflectional features, they require verbal support in the form of the verb *Tá*. The difference between *Tá* and *Is* constructions, I claim, is not one of the stage/individual level distinction of Carlson (1977), but is rather one of what elements are allowed to undergo head-movement in a given language. The apparent correlation between the stage/individual level distinction and the *Is/Tá* distinction, I claim, is a straightforward consequence of whether the predicate needs verbal support or not. The fact that *Is* predicates never have stage level readings correlates, I claim, with the fact that they don't have light verb support. I claim, following Harley (forthcoming), who is extending a claim by Kratzer (1993), that light verbs are required to introduce event arguments. If stage level predicates are simply individual level predicates plus a Davidsonian event argument (Kratzer 1988) and light
verbs are required to introduce such event arguments, then it follows that when there is no light verb, only individual level readings will be available. This is the case in Irish.

In chapter 5, I turn to some word order alternations within the syntax of Irish copular clauses. I claim there that the differences in word orders between the sentences in (8) follows only from a theory of copular constructions that distinguishes predicative from equative copular constructions.

8) a) Is é Seán an platapas
   C agr John the platypus
   "John is the Platypus"

   b) Is platapas (é) Seán
   C platypus agr John
   "John is a Platypus"

In particular, I claim that order (8a) is reflective of an equative construction where both NPs are arguments connected by some abstract equative predicate. The order in (8b), on the other hand, is derived via the head-movement of a true NP predicate. This predicate takes a single NP argument.

In chapter 6, I take up the problem of complex nominal predicates in Irish. In chapter 4, I propose that nominal predicates that appear in the Is construction undergo head raising in Irish to initial position around their subjects, just like verbs. This may look problematic when it comes to sentences such as (9):

9) Is amhrán a bhuaifidh an píobaire
   C song C play.fut. the piper
   "Yellow Submarine"

   "‘Yellow Submarine’ is a song which the bagpiper is going to play”

In this sentence the entire NP predicate (in italics) precedes the subject (in bold). We have here a sentence which I claim involves head-movement; however, a phrase appears in the position of the head-moved constituent. Rather than claiming that this is a problem for my theory, I claim that this is evidence against a primitive notion of phrase or head. I follow work in Chomsky’s (1994) Bare Phrase Structure, in claiming that phrasal status is
determined by a p-marker's behavior with respect to output conditions rather than the behavior being determined by the X-bar status. I present evidence from the responsive/ellipsis system and from extraction phenomena that the phrasal predicates such as that in (9) are behaving like $X^\circ$s. I then extend this analysis to construct state nominals in Irish and to copular constructions in Tagalog.

Chapter 7 begins part III of this thesis. This part takes a brief look at previous proposals concerning non-verbal predication and copular word order alternations. In chapter 7, I examine the various "unified be" analyses of copular word order alternations (Heggie (1988), Heycock (1991, 1992), Moro (1991, 1993)) and show that their approaches do not argue for a single copular be construction. Further, I show that the canonical/inverse alternation of Moro (1991) and Heycock (1991) is not the same alternation as the predicative/equative alternation discussed in chapter 5. Finally, in Chapter 8, I discuss previous accounts of non-verbal predication without verbal support. I show that accounts of the distribution of agreement morphology in languages such as Irish, Hebrew, and Haitian cannot possibly fall out from ECP effects. Further, I show that Doherty's (1992, forthcoming) account misses several important generalizations about Irish syntax in general. The broad empirical failure of these other approaches thus provides support for the analysis given in part II.

1.3 Some Initial Assumptions

Before turning to the issues at hand, I would like to sketch out some initial assumptions. Throughout this thesis, I modify many of these assumptions (especially in chapters 3 and 6.) However, by listing these assumptions here I provide a starting point from which to view the rest of the thesis.
1.3.1 Minimalism and the Minimalist Program

This thesis is written within the version of the principles and parameters framework commonly known as *minimalism*. Early work in generative grammar (such as the standard theory, generative semantics, and the extended standard theory) concentrated primarily on determining mechanisms for describing and generating all the sentences of natural language. Later work in the 1970s and 1980s, such as, for example, the so-called *Government and Binding* (GB) framework (Chomsky 1981), focused on limiting the scope of generative power by increasing the role of constraints in grammar and limiting the power of generative rules. This research produced an enormous range of constraints and syntactic relations. Throughout much work late in the GB era, attention started to shift to notions of economy and simplicity (e.g. Rizzi 1990, Chomsky 1991). Chomsky's (1992, 1993) *Minimalist Program for Linguistic Theory*\(^4\)\(^5\) (henceforth MPLT) proposes to extend notions of economy and simplicity to their logical end point\(^6\). He proposes to reduce the conceptual machinery of the grammar to only the "conceptually necessary" components, eliminating as many stipulations as possible. For example, he eliminates such relations as Government, replacing them with the more local specifier/head and head/complement relations.

The minimalist program also eliminates all D-structure and S-structure conditions on the grammar. The only conditions on derivations are "output conditions"— those that hold at the levels of phonetic form (PF) and logical form (LF). Sentences are simple pairings of well-formed PF and LF representations. The generation of these levels may be

\(^4\)A note is order here about exactly what variety of Chomskyan "minimalism" I am adopting here. All of the work in this thesis was conducted prior to the publication of Chomsky (1995a). For this reason, it does not adopt any of the mechanisms (e.g., Affect-F) discussed therein. Minimalism as described in this thesis is minimalism a là Chomsky (1992, 1993).

\(^5\)Apart from my recasting of the clausal architecture in chapter 3, I am fairly consistent with canonical minimalism. One way in which I differ from Chomsky, however, is that I assume late insertion of morphological items. See chapter 6 for discussion.

\(^6\)For an excellent and clear discussion of the MPLT see Marantz (1995a).
parallel for an early part of the derivation of the sentence. The stage at which the derivations diverge is called \textit{SPELLOUT}. SPELLOUT has no formal status in the grammar, other than being the dividing line between PF and LF derivations. There are essentially two kinds of operations in minimalism: overt and covert operations. Overt operations occur before the level of PF (thus are "pronounced"); covert operations occur after SPELLOUT on the way to LF. The structure of the grammar thus looks something like (10):

\begin{equation}
\text{SPELLOUT} \\
\text{overt operations} \\
\text{covert operations}
\end{equation}

The determination of when an operation occurs (i.e. overtly or covertly) is a function of language-specific conditions specified in a language’s inflectional morphology. Movement of XPs and X°s occurs for reasons of convergence. Terminal nodes in trees are inserted with inflectional features attached. The principle of \textit{greed} requires that these inflectional features must be checked against an inflectional head to insure they match other inflectional features in the sentence. This feature checking may occur via head-to-head-movement (in the case of predicates) or via movement to the specifier of a phrase (in the case of arguments)\textsuperscript{7}. The grammar prefers to wait until after SPELLOUT (covertly), if it can, to do such feature checking. This is the principle of \textit{procrastinate}. Procrastinate is counteracted by "strong" morphological features which need to be checked before both LF and PF. If a language allows such features to appear in a phrase marker, then movement for checking must occur overtly (before SPELLOUT), so that the features can be checked before both LF and PF. If this movement does not occur, then at the level of PF the strong features will not be checked and the derivation will \textit{crash} (i.e. not converge). A principle of \textit{Full

\textsuperscript{7}Chomsky (1994) reduces these operations to the operations of MERGE and MOVE. See Chapter 6 for more discussion.
Interpretation applies which requires that before a relevant interface level all features that must be checked are checked. If this does not occur, the derivation is said to crash.

Language-specific syntactic variation in this view is simply a matter of the differing strengths of the inflectional features involved and, consequently, the stage at which SPELLOUT occurs. The derivation, movement, and LF of all languages is identical. Language-specific variation lies simply in where the derivation to PF breaks off from the derivation to LF.

Movement within the syntax (both overt and covert) is constrained by yet another principle. That is the minimality constraint of shortest move. Shortest move requires that all movement take the shortest path available to it. Following an observation of Holmberg (1986), Chomsky ties movement of objects to the head-movement of the verb. Movement of the verb to an inflectional head allows an object NP to move to the specifier of that head (for a contrasting view see Zwart (1995)). This is the intuitive notion behind Chomsky's principle of Equidistance and is often called Holmberg's generalization.

Now that I have outlined the basic outline of the model of grammar proposed in the MPLT, I will sketch some relevant details. Again in many cases the points sketched below are meant only as starting points from which we will depart.

1.3.2 Phrase Structure: a Starting Point

For the first 5 chapters of this thesis, I am assuming a version of Jackendoff's (1977) proposal that phrase structure is constrained by an X-bar schema. Every head (X°) projects to a maximal category (XP); it may take a complement (sister to head) which must be phrasal. It may also have a specifier (sister to unit of complement and head):
These notions are primitive and determine the behavior of a phrase marker in the syntax. In chapter 6, following Chomsky (1994) *Bare Phrase Structure*, I reject this approach and claim that X-bar status of a particular phrase marker is determined by its behavior. The assumptions underlying this claim are sketched out in chapter 6.

**1.3.3 Movement as Feature Checking: A Starting Point**

Chomsky (1991, 1992, 1993) assumes that the underlying architecture of the clause is:

The clause consists of an inflectional complex and a VP shell. The VP shell contains the verb, its complement, and, following Kuroda (1986), Fukui and Speas (1986) among many others, its subject. The inflectional complex consists of two non-distinct AgrPs, one for the subject and one for the object, and a TP. In chapter 3, we will make extensive revisions to this architecture, proposing a split VP and two inflectional complexes each consisting of a Tense node dominating an Agr node (see (7) above).
Chomsky (1991, 1993) has suggested that both structural cases (i.e. nominative and accusative) are realized in a parallel manner, via movement (either overtly or covertly) of the arguments to positions within the inflectional complex. Specifically, it is suggested that all agreement and structural case is the realization of a specifier/head relationship with an appropriate functional (Agr) head. As the agreement heads are non-distinct\(^8\), the case with which each is associated is determined by the nature of the element which adjoins to it. The accusative case, being in some sense a verbal attribute, must be realized in the specifier/head relationship with the complex head \([V, \text{AgrO}]\) derived via the first step of the head-to-head-movement of the verb when the verb is transitive.

13) **ACCUSATIVE CASE:**

\[
\begin{array}{c}
\text{AgrOP} \\
\text{obj}_i \\
[[V]_j [\text{AgrO}]] \\
\text{VP} \\
\text{V'} \\
\text{t}_j \\
\text{t}_i
\end{array}
\]

By similar logic, head-movement of Tense (T) to AgrS will create the complex head \([T, \text{AgrS}]\), and nominative case will be realized in a specifier/head relationship to this head.

\(^8\)In this framework, they are only a collection of relevant \(\phi\)-features such as person, number, and gender.
As discussed above, the motivation for such movement prior to SPELLOUT, when this occurs, comes from the strength of the inflectional features involved. Chomsky (1992, 1993) proposes that each of the heads (Tense and the two Agrs) have N[ominal] and V[erbal] features which may be parameterized with either a “strong” value or a “weak” one. Strong features are required to be checked in the derivation by Spell-Out (i.e. in the overt syntax), while weak features need not be. The interaction of these features with independent principles (for example, Procrastinate) will dictate whether certain steps of the derivation occur overtly or covertly. The N-features correlate with the specifier positions, governing NP movement, and the V-features with the heads, governing head-movement.  

\[\text{Let us consider how this system accounts for the difference between English and French discussed in Pollock (1989) and Chomsky (1991). French is a language which exploits overt verb raising; English is not. This is represented here by the feature valencies in (i) (as presented by Bobaljik and Carnie (1992, forthcoming) contra Chomsky (1992, 1993)):}\]

\[\begin{array}{ccc}
\text{AGR} & \text{V} & \text{Tense} \\
\text{N} & \text{weak} & \text{strong} & \text{strong}
\end{array}\]

\[\begin{array}{ccc}
\text{English} & \text{French} \\
\text{weak} & \text{strong}
\end{array}\]

Strong features must be checked in the overt syntax. As N-features are correlated with the specifier/head relationship, the specification \text{strong} for the N-feature of Tense in both languages requires that an NP argument raise to check its features in the specifier/head configuration with Tense overtly. This, in essence, is what ultimately derives the requirement that all sentences have a subject (i.e. the “Extended Projection Principle” of Chomsky (1981); see Harley (forthcoming) for an alternative view). By hypothesis (Chomsky 1993), both English and French require that Tense raise overtly to AgrS to check its N features. This is encoded by a strong valence for the V-features of Tense, requiring overt raising (head-movement) of T to AgrS to check these features. This raising will mean that the specifier of the Tense Phrase is not licensed for feature-checking, despite its strong N feature. In order for the strong N-features of Tense to be checked, then, an NP-argument (the subject) will have to raise overtly to the specifier of the complex head [AgrS T+AgrS] resulting from the head-movement of Tense to AgrS. This is illustrated schematically in...
1.3.4 Predication

This is a thesis about non-verbal predication; however, I am going to have almost nothing to say about what "predication" is. The issue of what "predication" is is the subject of a great deal of literature, which I will not review here. See Williams (1980, 1983a, 1983b, 1994), Stowell (1983, 1991), Safir (1987), Higginbotham (1987), Culicover and Wilkins (1984), Napoli (1987b), Baltin (1995), Kearns (1989), Stroik (1994), Hoekstra (1988), Zwart (1992), Rothstein (1983), Higgins (1976), Bowers (1993), Rapoport (1987), and Déchaine (1993) for more discussion. These authors differ on whether predication is identical to theta marking or is a binding relation; whether it is a syntactic relation or a semantic one; whether it requires mediation of a "predicate" head or not; and whether or not it is represented by a [+Predicate] feature. These issues need not concern us here. For the purposes of this thesis I assume the common-sense approach presented in Stroik (1994). Roughly, this approach holds that predication is an LF requirement that "unsaturated" predicates must be saturated, either through base generation in a small clause

(ii)

There are three distinct head-movement processes in English and French: (1) T moves to AgrS, (2) V moves to AgrO, and (3) [V + AgrO] moves to AgrS. The first movement is overt in both languages as required by the strong V-features of Tense. The remaining movements are governed by the V-features of the Agr nodes. In English, the V-features of Agr are weak and thus only the raising of Tense to AgrS occurs overtly, whereas in French, the V-features of Agr are strong and the both of the remaining head-movements occur overtly, with all (finite) verbs raising in the visible syntax. Following Pollock (1989) and Chomsky (1991, 1993) this accounts for the differences between the two languages. The only relevant difference between the two languages then is in the specification for the V-features of AGR.

10What has been called the Head Movement Constrain (HMC) (Travis 1984) is also subsumable under Shortest Move. I will use the HMC terminology throughout this thesis to disambiguate cases of Short Move constraining argument movement and Shortest Move constraining head movement.
structure or by movement before LF. Saturation is accomplished by indexation of the subject with the predicate. See Stroik's paper for more discussion.

1.4 Now, Let's Get On With It

In this chapter, I have given a rough sketch of issues under consideration in this thesis and the controversial conclusions that I will draw. I've also provided a rough sketch of a set of starting assumptions underlying much of the work in this thesis. However, I reserve the right to (and will) modify these assumptions as the thesis goes on. Now, let's get on with the issues at hand.