

# **The Major Functions of the NP \***

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## 1 Introduction

In this chapter we will discuss the major functions of noun phrases (NPs) in the languages of the world. We can think of NPs as having three different kinds of functions: semantic, pragmatic and grammatical. Semantic and pragmatic functions are aspects of the meanings of sentences, grammatical functions aspects of their structure.

Semantic functions, often called semantic roles, are the different ways in which a sentence can describe an entity as participating in a situation. Consider (1):

- (1) The farmer kills the duckling

Here the verb *kill* indicates that we have a situation in which one entity kills another. It provides two semantic roles, ‘killer’ and ‘killed’, taken by the referents of the preverbal NP *the farmer* and the postverbal NP *the duckling*, respectively. In order for the sentence to be true, the entities referred to by these NPs must act or be acted upon in accord with these roles. Semantic roles are thus an aspect of the relation between sentences and the situations they refer to.

But language is used not merely to depict the world, but to communicate in it: its users are part of the world they talk about. There is therefore a further aspect of meaning, concerning more than just what a sentence is about, which contributes to determining when it may be used. This aspect of meaning, called pragmatics, involves such things as the hearer’s presumed ignorance or knowledge of various features of the situation being talked about, the presumed spatial and social relationships between the speaker and the hearer, what the speaker thinks the hearer might be attending to, what the speaker wants the hearer to take special notice of, and so forth. These constitute ways in which utterances with the same objective content can fulfill different communicative purposes. Properties of NP that relate the sentence to its context of use without affecting objective content are called pragmatic functions.

In English, for example, (1) has the variants shown in (2):

- (2) a. It is the farmer that kills the duckling  
 b. It is the duckling that the farmer kills

The sentences of (2) designate precisely the same kind of situation as (1). But (2a) presumes that the hearer knows that somebody or something kills the duckling, but not who or what; and (2b) presumes that the hearer knows that the farmer killed somebody or something, but not who or what. (1), on the other hand, in its most straightforward articulation, with neutral intonation, does not presume that the hearer knows anything about the event of killing. These sentences therefore give their NPs the same semantic roles, but different pragmatic functions. We will say that (2a) ‘focuses’ the killer of *kill* (treating it as new information and as the unique entity filling the role of killer), and that (2b) does the same thing for the role of entity killed.

The semantic roles and pragmatic functions of the NPs in a sentence may be called their ‘semiotic functions’, since they have to do with the meaning of the sentence. Semiotic functions are ultimately signalled by ‘overt coding features’ such as word order, case marking and cross referencing (agreement). But it is usually quite difficult to provide a coherent account of how this occurs in terms of a direct connection between the coding features and the semiotic functions they express. Rather it normally seems better to posit an intervening level of ‘grammatical structure’: the coding features indicate the grammatical structure of the sentence, and the grammatical structure determines the semiotic functions.

The grammatical functions of NPs are the relationships in this grammatical structure which matter for determining the semantic roles and grammatical behavior of NPs. For

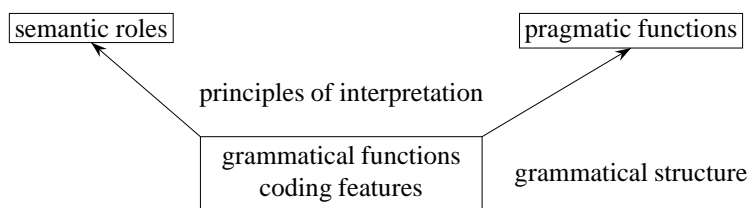


Figure 1: Organization of Grammatical Structure

example, in (1) we recognize the grammatical functions of ‘subject’ (preverbal NP) and ‘object’ (postverbal NP). There is a rule for using the verb *kill* which says that the subject should express the ‘killer’ role and the object the ‘killed’ role. The semantic role of an NP is thus determined jointly by the verb and the grammatical function of the NP. The structural positions of *the farmer* and *the duckling* of (2a) and (2b) respectively, likewise cause them to have the pragmatic function of focus.

Grammatical functions are also important for principles governing the form of sentence structure. A familiar example is the principle of subject-verb agreement in English, whereby a present-tense verb with a third person singular subject takes a special form ending in /-z/. Thus, if the subject of (1) is pluralized, the form of the verb must change, but pluralizing the object does not have this effect:<sup>1</sup>

- (3) a. The farmers kill(\*s) the duckling  
 b. The farmer kill\*(s) the ducklings

The grammatical function of subject is thus involved in this constraint on the form of English sentences.

The relationships between semiotic functions, grammatical functions and coding features may be illustrated in figure 1: Principles of grammatical structure determine the distribution of grammatical functions and how they are expressed by coding features: on the basis of grammatical structure, principles of semantic interpretation determine the assignment of semantic roles, pragmatic functions and other aspects of meaning not considered in this chapter, such as logical scope of quantifiers.

Here we will be primarily concerned with the grammatical functions of NPs in clause-structure. But since the task of the grammatical functions is to express the semantic and pragmatic ones, we first need to survey these briefly. This will be done in section 2 of the chapter, where the coding features will also be discussed. Then in section 3 we will present a basic classification of grammatical functions into three types, ‘core’, ‘oblique’ and ‘external’, and discuss the latter two. In section 4, we will discuss the core grammatical functions in detail. Finally, in section 5, we will discuss phenomena that suggest a re-evaluation of the standard view of grammatical relations, at least for some languages.

In the literature, the term ‘grammatical relation’ is used as a virtual synonym of ‘grammatical function’. However, we will find it useful to differentiate between these terms here. A ‘grammatical function’ will be any defineable relationship which it might be useful to recognize in the sentence structures of a language, regardless of how important it seems to be, or how sensible it might be to see it as a *primitive* ingredient of sentence-structure. A ‘grammatical relation’ on the other hand will be a grammatical

<sup>1</sup>In these and subsequent examples, ‘\*’ within parentheses indicates that the example is bad if the material within the parentheses is included, while ‘\*’ immediately in front of them indicates the example is bad if the material within the parentheses is omitted. Hence the verbal ending is impossible in (3a), but obligatory in (3b).

function that is of particular importance for the workings of the language, so that it would be reasonable, although not necessarily correct, to regard it as a primitive ingredient of sentence-structure. This terminological distinction, although novel, is useful for discussing sentence structures in a language without making controversial claims about what their ultimate analysis ought to be, and what kind of linguistic theory it ought to be framed in.

For example, in English, subject and object are grammatical relations, since they are relevant for the operation of many grammatical rules, so that one could plausibly view them as primitive ingredients of English sentence structure. But 'subject of a transitive clause' ('transitive subject') and 'subject of an intransitive clause' ('intransitive subject'), although they are grammatical functions (since they are defineable within any reasonable theory of English sentence structure), do not qualify as grammatical relations in English, since they are not relationships that are relevant for the operation of a significant number of grammatical rules, and treating them as primitives of sentence structures will obscure the statement of grammatical rules (one would have to say 'verbs agree with the transitive subjects or their intransitive subjects, whichever is present', rather than just 'verbs agree with their subjects').

## 2 Preliminaries

### 2.1 Semantic roles

In the most usual type of sentence structure, there is a verbal element that designates a type of situation, which usually implies various roles, that is, ways of participating in that situation. Thus we have seen that *kill* designates a type of situation with ‘killed’ and ‘killer’ roles, among others. The element that defines the type of situation and the roles we call a ‘predicate’,<sup>2</sup> the NPs filling the roles we call ‘arguments’.

The predicate needn’t be a single verb. Sometimes it is a complex consisting of several verbs, or a verb plus a nominal or adverbial element. (4a) illustrates a two-verb predicate from the Papuan language Barai (Foley and Olson 1985), (4b) a verb + noun predicate from the Dravidian language Malayalam (Mohanan 1982), and (4c) a verb + (adverbial) particle predicate from English. The complex predicate in each example is italicized: Complex predicates recently been the subject of a great deal of research; see Alsina et al. (1997) for a recent collection.

- (4) a. Fu fase isema *fi isoe*  
 he letter wrongly sat write  
 He wrongly sat writing a letter
- b. Kutṭi ammaye *salyam ceytu*  
 child mother annoyance did  
 The child annoyed the mother
- c. The guards *beat* the prisoners *up*

Languages also have sentence types in which a non-verbal element is the predicate, or where there is no overt predicate word, the predicate being understood from the syntactic structure of the sentence as a whole. We illustrate this possibility with some examples from Russian (see section 1 of chapter I.4, Clause Types by Dryer, for more discussion):

- (5) a. Kniga na stole  
 book on table  
 The book is on the table
- b. U menja kniga  
 of me book  
 I have a book

In addition to a main predicate, a sentence may have additional, subsidiary predicates. In the sentence *John made Mary happy*, for example, the principal predicate is the verb *made*, and the adjective *happy* is a subsidiary predicate applying to *Mary*. In spite of these possibilities, we will generally refer to the main predicate simply as ‘the verb’.

A predicate defines a set of highly specific roles, such as ‘killer’ and ‘killed’, which can in fact be thought of as being rather like roles for the actors in a drama: the role determines what happens to its filler. Examining the nature of the relations between these roles and grammatical relations, we find that it is far from arbitrary: there are always far-reaching regularities and generalizations, storable in terms of semantically definable classes of roles. Thus it is no accident that *kill* expresses the killer as subject and the killed as object; *kill* is one of a large class of verbs in which one participant,

<sup>2</sup>Note that this is different from the use of the term ‘predicate’ in traditional grammar to refer to the verb and its objects and complements’.

possibly exercising his or her will, does something to another which significantly affects the other. When two-participant verbs in English meeting this description are in their active form (we will discuss passives later), they always have the acting, ‘Agent’ argument as subject, and the acted-upon or ‘Patient’ argument as object.

I will use the term ‘semantic role’ to refer to both the specific roles imposed on NPs by a given predicate, such as ‘killer’ and ‘killed’, and to the more general classes of roles, such as ‘Agent’ and ‘Patient’. Semantic roles are important in the study of grammatical functions since grammatical functions usually express semantic roles in a highly systematic way.<sup>3</sup> In our subsequent discussion we will first examine the Agent and Patient roles, and the intimate connection they have with the basic grammatical forms of all languages. Then we will survey a variety of further semantic roles which it is useful to recognize.

### 2.1.1 Agent and Patient

To begin with, it is essential to understand that there is an element of arbitrariness in the definitions of Agent, Patient or any other semantic roles. We try to define them in such a way that they will be most useful for helping us to identify and understand phenomena, but there will always be issues that people can disagree about. For example some people might think that Agents should be conscious and volitional performers of their actions; others might be happy with unconscious and accidental agency. Paradoxically, it’s the very importance of these concepts that makes it difficult to be sure about the best way of defining them: the fully volitional performer of an action, and the substantially affected undergoer of one, seem to be ‘grammatical poles’ in the sense that other semantic roles that don’t quite meet these criteria, such as the Seer and Seen of the verb *see*, tend to be expressed in the same way. The assimilation in mode of expression of many different semantic roles to Agent- and Patient- like concepts makes it hard to work out how best to define these concepts.<sup>4</sup>

Another point is that we need to distinguish between what a verb itself actually implies, and what might be true in a situation described by the verbs. In a situation described by the sentence ‘Mary hit John’, for example, Mary might intend to hit John, or hit him by accident. The sentence itself is neutral on this issue. In our accounts of semantic roles, what we will be interested in is what the verbs and sentences themselves imply, not what is actually the case in the situation described.

With these cautions in mind, I will define an Agent as a participant which the meaning of the verb describes as doing something, or causing something to happen, possibly intentionally (that is, because (s)he wants it to). We take intentionality as a possible but not required property of the role because in many languages, such as English, many verbs, such as *hit* as discussed above, are neutral about intentionality. On the other hand, if a language has constructions in which the causer of an action is explicitly characterized as not intending it, such as the ‘Involitive’ forms of Sinhala (Inman 1993) and many other South Asian languages (Klaiman 1986), these causers will not be classified as Agents.

A Patient will be defined as a participant which the verb describes as having something happen to it, and as being affected by what happens to it. By this definition, the objects of *kill*, *eat* and *smash* are clearly Patients, while those of *watch*, *hear* and *love* are clearly not. The objects of *hit* and *kick* are intermediate in status, because although

<sup>3</sup>Semantic roles first began to be discussed extensively in recent American linguistics in the work of Gruber (1965, 1976) and Fillmore (1968). For more recent discussion, see for example Jackendoff (1990), Dowty (1991) and Wechsler (1995).

<sup>4</sup>See Dowty (1991) for a very useful discussion of this problem.

something obviously happens to them, they are less clearly affected by it. In most languages, NPs with these roles behave like Patients, and can be considered as marginal instances of this role.

But sometimes their grammar is significantly different. For example in Northwest Caucasian languages such as Abkhaz and Adyghe, verbs with meanings such as *beat*, *stab*, and *push*, which we would tend to think of as taking Patients, take a different case-marking pattern than verbs with meanings such as *kill*, *write* or *see*, illustrated here with examples from Adyghe (Catford 1976:44) (See the beginning of the volume for an explanatory list of abbreviations used in the glosses):

- (6) a. bojetsı-m    pıjı-r        ıwık'R  
       warrior-ERG enemy-NOM killed  
       The warrior killed the enemy
- b. bojetsı-r    pıjı-m        jepıdʒR  
       warrior-NOM enemy-ERG stabbed  
       The warrior stabbed the enemy

The stab-type verbs are taking the same case-marking pattern as verbs taking non-Patient arguments, with meanings such as 'help' and 'wait-for', which frequently diverge from the standard treatment of full Patients. The examples indicate that the ERG-NOM pattern is used when the Patient changes its state, the NOM-ERG pattern when it doesn't.

Agent and Patient play a fundamental role in all languages. The class of two-argument verbs taking an Agent and a Patient is important enough to give it a name: we shall call these verbs 'primary transitive verbs' (PTVs). Languages always seem to have a standard way or small set of ways in which they normally express the Agent and Patient of a PTV. If an NP is serving as an argument of a two-argument verb, and receiving a morphological and syntactic treatment normally accorded to an Agent of a PTV, we shall say that it has the grammatical function A; if it is an argument of a verb with two or more arguments receiving a treatment normally accorded to the Patient of a PTV, we shall say that it has the grammatical function P.<sup>5</sup> Abkhaz and Adyghe, as illustrated above, are unusually limited in the extent to which they extend the grammatical treatment of PTVs to verbs that don't have the core semantics of PTVs. It is a further unusual feature of these languages that the same case form is used for the Agent of PTVs as for the more Patient-like argument of two-argument non-PTVs. Two-argument non-PTVs with significant difference in appearance from PTVs are frequently called 'semi-transitive'; for further discussion of semi-transitives, see Dryer, chapter I.4, section 2.5.

It is especially important to emphasize that we are speaking of the grammatical treatment associated with the semantic roles, not the semantic roles themselves. In an English sentence such as 'John likes Mary', John is not an Agent, and Mary is not a Patient, but John is an A and Mary is an P, because these NPs are getting the same grammatical treatment as an Agent and a Patient of a PTV.

A sentence is called 'transitive' if it has A and P functions in its syntactic structure, 'intransitive' if one or both of these is missing. These definitions apply to the possibly abstract syntactic structure of the sentence: the NPs needn't appear in the overt, visible form. An NP in an intransitive sentence that is receiving the treatment normally

<sup>5</sup>A widely used alternative to P is the label O, which is in fact the original notation for the concept, introduced in Dixon (1972:xxii). In conformity with the other chapters in this volume, we here use P to indicate the affiliation of the syntactic concept with the semantic role of Patient, in the same way that A reflects the affiliation with Agent.

accorded to the single argument of a one-argument predicate will be said to have S function. Languages always seem to have A and P functions, in the sense of having a uniform treatment of Agent and Patient of a PTV. On the other hand we will see in section (5.3.2) that it may be the case S is sometimes absent.

A, S and P are important because languages always seem to use PTVs as a grammatical model for a great many other types of verbs. We have already mentioned *like* as a verb that takes non-Agent A and non-Patient P, and there are many more. *See*, for example, is like this in most languages, while the Liker and Liked of *like* are often expressed differently than Agent and Patient. The widespread use of PTVs as a syntactic model makes it difficult to be absolutely precise about drawing the boundaries of the class, but, fortunately, a high degree of precision is not required.

A, S and P are grammatical functions, not grammatical relations, though often one of them coincides with a grammatical relation in a language. In English, for example, P can be identified with the grammatical relation ‘object’, but neither A nor S by themselves can be identified with ‘subject’, since A comprises transitive subjects and S intransitive ones, neither of which are plausible grammatical primitives of English sentence-structure, because too many principles of English grammar would have to be formulated in terms of A or S individually. But they are grammatical functions, because they are easily definable in terms of any set of plausible primitives for English sentence structure, for example A as ‘subject of a sentence that has an object’, and S as ‘subject of a sentence that does not have an object’.

Although A, S and P cannot in general be regarded as grammatical relations, they are closely related to them, and they are furthermore associated with the syntactically most active ones, those most important in the grammatical system of a language. Hence identifying them is the first step in working out the system of grammatical relations in a language.

Most often, one finds one grammatical relation associated with A and S, and another with P. The former can be called a ‘canonical subject’, the latter a ‘canonical object’. But as we shall discuss below, there are a number of languages in which canonical subjects and objects don’t exist. For such languages, there is usually a debate about whether the terms ‘subject’ and ‘object’ should be used at all, and, if so, what they should be applied to. In this chapter, ‘subject’ and ‘object’ will therefore be taken as recurrently convenient terms, rather than presumedly universal grammatical primitives.

### 2.1.2 Other Semantic Roles

Besides Agent and Patient a number of other semantic roles are also important for grammar. Semantic roles in general may be divided into two rough classes: Participatory and Circumstantial. Participatory roles are borne by what one would think of as actual participants in the situation implied by the verb. Agent and Patient are the most essential and typical Participatory roles. Circumstantial roles are borne by entities that do not really participate, but instead form part of the setting of the event. Benefactive, the person for whom something is done, is a typical Circumstantial role.

Aside from Agent and Patient, some of the other more important Participatory roles are Directional, with Source and Goal subtypes; ‘inner’ Locative (giving the location of a participant, rather than of the event or state as a whole), Experiencer (a participant who is characterized as aware of something), Recipient (a participant who ‘gets’ something), Theme (a participant which is characterized as being in a state or position, or changing its state or position, sometimes treated as a kind of Patient), Causer (a participant who causes something to happen, but does not act intentionally), and Instrumental (a participant that the Agent uses to act on the Patient). Note that the Theme and Pa-



tient roles are closely related, though not identical: unlike Patients, Themes needn't be acted upon by anything, and it is sometimes appropriate to regard as Patients certain arguments, such as things that are hit or kicked, which may be regarded as affected by what is done to them, but do not necessarily undergo a clearcut change of state.

Our list of roles is furthermore not supposed to be a valid and thorough classification of all forms of participation, but simply an assortment of ones which get distinctive treatment by grammars often enough to be worth setting up names for. Here are some examples of these roles:

- (7) a. Tiger snakes<sub>Theme</sub> inhabit Australia<sub>InnerLocative</sub>.  
 b. George<sub>Agent&Theme</sub> walked from/to the store<sub>Source/Goal</sub>  
 c. I<sub>Experiencer</sub> love Lucy.  
 d. Frederika<sub>Causer</sub> annoys me<sub>Experiencer</sub>  
 e. Darlene<sub>Agent</sub> handed Bruce<sub>Recipient</sub> a sausage<sub>Theme</sub>  
 f. Bill<sub>Agent</sub> prodded the snake<sub>Patient</sub> with a stick<sub>Instrumental</sub>  
 g. The Earth<sub>Causer</sub> attracts the moon<sub>Theme</sub>  
 h. The car<sub>Theme</sub> is expensive

Note that not every NP in these examples is labelled with one of our semantic roles. This is because no presently known system of semantic roles can be applied in a comprehensive and convincing manner. For example *Lucy* in (7c) isn't subscribed for a role; some possibilities might be 'Goal' or 'Object of Emotion', but no specific proposal has received widespread acceptance.

Aside from Benefactive, some other important Circumstantial roles are 'Outer' Locative, (the place where something is done), Reason (why something is done), Circumstantial Comitative (something that accompanies a participant, but does not itself participate), and Temporal. These are illustrated below:

- (8) a. Susan caught a lizard in the garden<sub>OuterLocative</sub>  
 b. Bruce barbecued a sausage for Darlene<sub>Benefactive</sub>  
 c. Alvin shot up a sign for fun<sub>Reason</sub>  
 d. Shirley went diving with a speargun<sub>CircumstantialComitative</sub>  
 e. Jack ate a sausage during the race<sub>Temporal</sub>.

The distinction between Participatory and Circumstantial roles is closely related to a distinction between 'arguments' and 'adjuncts' that will be introduced in section 3.3.

There are of course many (perhaps infinitely many) more semantic roles that might be significant for the grammar of a language. The ones discussed here are merely some of the more recurrent ones. It should also be pointed out that, in accord with most of the literature, we have paid no serious attention to the problem of *defining* the semantic roles, but just contented ourselves with rather vague characterizations.

## 2.2 Coding strategies

There are three basic techniques which languages use to code syntactic functions: order and arrangement, NP-marking, and cross-referencing. In addition, verbs sometimes ‘register’ the presence of an NP with a given grammatical function, without specifically identifying which NP has that function. Furthermore, two different techniques can function together as a strategy.

### 2.2.1 Order and arrangement

This technique is familiar from English. It is the order of NPs in (1) relative to the verb that indicates which is the subject (and therefore the Agent) and which the object (and therefore the Patient). English is an example of what we will call a ‘fixed’ word-order system, one in which grammatical principles to a considerable extent prescribe the order of NPs. In such systems we find a ‘basic’ order, with various alternative orders systematically related to it. Since the workings of such systems are familiar from English, there is no need to discuss them here.

We also find systems in which there is a preferred order, but where a great deal of variation is possible as long as ambiguity is not introduced (although some languages seem to tolerate surprising amounts of ambiguity). Thus in Dakota (Van Valin 1985:366-367), the preferred order is subject-object-verb (SOV). If the semantics of the verb is not sufficient to determine which NP takes which role, this order is obligatory. Hence changing the order of the NPs in (9) changes the meaning:

- (9) a. Wičása ki mathó wą ktę  
 man the bear a killed  
 The man killed a bear
- b. Mathó wą wičása ki ktę  
 bear a man the killed  
 A bear killed the man

But if there is only one semantically plausible choice for subject, the relative order of NPs becomes free (though NPs and other constituents must remain in front of the verb):

- (10) a. Wičása ki ixʔé wą wáyále  
 man the rock a saw
- b. Ixʔé wą wičása ki wáyále  
 rock a man the saw
- The man saw a rock

In Dakota syntax, it does not seem to be sensible to try to describe the order possibilities in terms of a basic order and specific alternatives. Rather the order is flexible, subject to an SOV preference, especially when needed to prevent ambiguity. This sort of system we will call ‘fluid’, as opposed to the highly determinate word-order system of languages like English.

Fluidity seems to be characteristic of many languages of diverse word order types. Fluid word order is usually not actually free, but is rather signalling pragmatic functions rather than grammatical relations. See Kiss (1987) and King (1995) for recent studies of two such ‘discourse-configurational’ languages, Kiss (1995) for a collection of studies, and Choi (1999) for detailed analyses of the phenomenon in Korean and German. The main difficulty in assessing the fluidity of word order is the fact that elicitation of

sentences from informants will tend to produce the normal word order rather than a full spectrum of possible variants. Observation of actual language use, and examination of narrative and other natural genres of texts, will often reveal a much wider range of orders in their appropriate contexts.

### 2.2.2 NP-marking

No language makes exclusive use of ordering to code grammatical relations, and many make very little use of it for this purpose. A technique which every language uses to some extent, and some use almost exclusively, is NP-marking. In this technique, the syntactic function of an NP is indicated by a morphological marker on the NP. This marker may take the form of an inflection (see chapter III.3, Inflectional Morphology, by Bickel and Nichols), or be a morphologically autonomous element, such as a clitic (which might also be called a ‘particle’), a preposition (if it precedes the NP), or a postposition (if it follows). Both the inflections and the morphologically autonomous elements are often called ‘case-markers’.

There is a great deal of fluctuation in the literature as to whether morphologically autonomous NP-markers are called ‘particles’, ‘pre- or post-positions’, or ‘case-markers’. But there is widespread agreement that they should be seen as instances of a general technique which Nichols (1986) calls ‘dependent marking’, where the existence of a grammatical relation between two elements of a sentence is indicated by a marker placed on the dependent term. Dependent-marking can however apply to more than just NPs, for example to clauses or predicate adjectives.

In English the principal use of NP-marking is with prepositional phrase arguments and adjuncts. Thus the sentences of (11) are virtual paraphrases:

- (11) a. Bobby spoke to the meeting about the proposal  
 b. Bobby spoke about the proposal to the meeting

*To* marks its NP as the addressee of *speak*, *about* marks its NP as the subject matter of the talk. Although the former order is preferred, both are possible, and it is clear that order does not mark the roles of these NPs.

Many languages make far more extensive use of NP-marking, using it to mark almost all NP functions, including subject-object or their counterparts. One example of this is Tagalog, which will be discussed below. Here we shall discuss an even more extreme example, Warlpiri, a Pama-Nyungan language of Central Australia (Hale 1973, Simpson 1991).

In English, principles of order and arrangement not only indicate the functions of NPs, but the NPs themselves are also identified by means of such principles, since their constituent parts appear in a definite order, which can be described by phrase-structure rules, as explained in any reasonable introduction to generative grammar. In Warlpiri, both the functions and the constituency of NPs are usually indicated by NP-marking.

The one major principle of word order for Warlpiri simple clauses involves the ‘auxiliary element.’ This expresses the verbal categories of tense and mood (and also carries person-number markers for some of the verbal arguments, as we shall see in the next subsection), and comes in first or second position, depending on its phonological shape (Hale 1973:311-314, Simpson 1991:65). The order of all other elements is free. Furthermore there is no requirement that the constituents of an NP be contiguous; they must merely share the same endings.

The following three strings are therefore fully synonymous, and may be regarded as three versions of the same sentence:<sup>6</sup>

<sup>6</sup>Warlpiri, like many languages, lacks systematic indication of definiteness. The articles in the translations

- (12) a. Kurdu-ngku ka maliki wita-ngku wajili-pi-nyi  
 child-ERG PRES dog(ABS) small-ERG running-attack-NONPAST
- b. Wajili-pi-nyi ka wita-ngku maliki kurdu-ngku
- c. Maliki ka kurdu-ngku wajili-pi-nyi wita-ngku

The small child is chasing the dog

The auxiliary *ka* indicates that the tense is present. It is supplemented by the tense-ending on the verb, which shows non-past tense. The ergative ending *-ngku* on *wita* ‘small’ and *kurdu* ‘child’ marks these as comprising one NP that bears A function. The absence of any ending on *maliki* shows that this belongs to a different NP, which can bear P function (we will see below that the absence of marking is also a characteristic of S function). This unmarked form is called the ‘absolute’. The endings thus indicate how the NP components are to be grouped together, and what function the resulting NPs are to have. There are twenty-one more arrangements of the words of (12), with the auxiliary in second position, and they are all grammatical and mean the same thing as (12).

There are two further observations to be made. First, *-ngku* is not a subject marker, because it is not normally used for NPs in S function. Rather, single arguments of one-argument verbs are normally in the absolute case, with no marker:

- (13) Ngarrka ka purla-mi  
 man(ABS) PRES shout-NONPAST  
 The man is shouting

If we assume that the case marking directly reflects grammatical relations, we would have to deny that Warlpiri had a subject relation: rather, we would have to say that it had one grammatical relation covering A function, and another covering P and S functions. In fact, although they are not directly marked by the case forms, Warlpiri does seem to have subject and object grammatical functions, as we shall see in 4.1.4 below.

The second observation is that Warlpiri can group the members of an NP into a single overt constituent, and in this case the ending need only appear on the last word of the NP:

- (14) a. Wita kurdu-ngku ka maliki wajilipi-nyi  
 small child-ERG PRES dog(ABS) chase-NONPAST  
 The small child is chasing the dog
- b. Wita ka kurdu-ngku maliki wajilipi-nyi  
 small(ABS) PRES child-ERG dog(ABS) chase-NONPAST  
 The child is chasing the small dog

The position of *ka* after *wita kurdu-ngku* in (14a) indicates that these two words form a constituent, and that they are therefore taken together as an NP despite the difference in endings. In (14b), where *ka* appears between *wita* and *kurdu-ngku*, these two words do not form a constituent, so *wita* has to be construed with *maliki*, and the sentence means ‘the child is chasing the small dog’.

Warlpiri requires a somewhat more abstract kind of analysis than what we have so far required for English: English NPs can be identified as units in a ‘surface constituent structure’ directly reflected in the linear order of elements. In Warlpiri we need at least

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are arbitrarily chosen as ‘the’. This will also be the case in the treatment of other languages, unless there is specific indication that definiteness is relevant.

two levels of analysis: overt constituent structure, relevant for auxiliary placement and a few other things, and a deeper level at which ‘functional’ units such as NPs are recognized even if their constituent elements are scattered throughout the overt structure.

### 2.2.3 Cross-referencing

In cross-referencing, also called agreement, various grammatical properties of an NP, such as noun-class (gender), number, person or case are registered on a word bearing some specific syntactic relation to the NP. As mentioned above, the Warlpiri auxiliary cross-references certain grammatical functions by hosting markers for their person and number. Third person singular ergative and absolutive NPs take no marker, so overt cross-referencing does not appear in examples (12-14). But first or second person, and dual or plural NPs, take non-null markers, as illustrated in example (15):

- (15) *Nya-nyi ka-rna-palangu wawirri-jarra (ngajulu-rlu)*  
 See-NONPAST PRES-1SG(SUBJ)-3DU(OBJ) kangaroo-DU(ABS) (1SG-ERG)  
 I see two kangaroos

The clitic *rna* is here cross-referencing a first person singular A, *palangu* a third person dual P. In fact, as we shall see in 4.1.4 below, *rna* would also be used to cross reference an S, while a different clitic, *-ju* would be used for P, so the Warlpiri cross-referencing system is sensitive to subjects and objects, and provides some of the evidence that these are present, in spite of the case-marking.

In contrast to case-marking, where the marker appears on the dependent element, in cross-referencing, it appears on the head, so this technique was classified by Nichols (1986) as a kind of head-marking. Head-marking in Warlpiri and most other languages doesn’t function primarily to code the grammatical function of NPs. In (15), for example, the markers are redundant because the functions are already coded by the markers on the NPs themselves (dependent marking). Furthermore, in examples such as (12–14), where A and P are both third person singular, the markers are both zero, and thus provide no information at all about the functions of the NPs. Furthermore, in many languages, it is the case that most clauses have no overt NPs, so the cross-reference markers cannot be indicating their function. Rather the primary function of cross-referencing is to perform the function of pronouns.<sup>7</sup> Thus in (15), the A pronoun *ngajulu-rlu* ‘I-ERG’ is optional, and the meaning doesn’t change if it is omitted. The P *wawirri-jarra* ‘two kangaroos’ is also optional, but if it is omitted the sentence means ‘I saw them two’. A sentence such as *nya-nyi ka-rna* would mean ‘I saw him/her/it’: the absence of any cross-reference markers for P indicates that the P is third person singular.

Thus cross-referencing in Warlpiri (and most other languages that have it) is not a major part of the system for coding the syntactic functions of overt NPs. But since cross-reference markers often serve as substitutes for NPs, they are an important part of the system which specifies what entities take what roles in the situation denoted by the predicate. Since grammatical functions of NPs and the devices coding them are also part of this system, cross-referencing systems need to be investigated together with the more central NP function coding systems.

Occasionally, however, cross-referencing does provide the sole overt cue for the grammatical relation of an overt NP in a sentence. A good example is provided by Ancient Greek. Ancient Greek had case marking and very free word order (at least in writing). There is a participial construction in which the subject of the complement is suppressed when it is identical to some NP in the main clause. But the information is

<sup>7</sup>See Givón (1979b) for discussion of the close connections between pronominalization and cross-referencing, which Givón claims are in fact the same thing.

not lost as to what the subordinate clause subject is, because the participial verb form that the construction uses is marked for the gender (see below), number and case of the matrix NP that is to be understood as its subject. This information, especially the case information, is usually sufficient to identify what is to be understood as the subject of the complement.

It is thus the cross-referencing on the participle that disambiguates the following pair of sentences, by indicating the case of the s of the participle. Gender and number are also indicated, but these are the same (masculine singular) for both of the potential s for the participle. Only the case is glossed, since the NPs that might be the s of the participle have the same gender (masculine) and number (singular):

- (16) Klearchos       ape:nte:se Philippo:i   apio:n  
 Klearchus(NOM) met       Philip(DAT) leaving(NOM)  
 Klearchus met Philip while Klearchus was leaving
- (17) Klearchos       ape:nte:se Philippo:i   apionti  
 Klearchus(NOM) met       Philip(DAT) leaving(DAT)  
 Klearchos met Philip while Philip was leaving

This is an unusually straightforward example of cross-referencing marking grammatical relations. Usually, when cross-referencing manages to do this, it does so by means of complex interactions with other techniques and principles.

A particularly complex and interesting case of this are the ‘obviation and inverse-marking’ systems originally found in Algonquian languages, and then more widely.<sup>8</sup> The basic idea of these systems is that there are two third person categories, ‘proximate’ and ‘obviative’, where ‘proximate’ applies to an NP, unique at any particular point in the discourse, which is seen as the prime focus of attention (such as the protagonist of the current action), while ‘obviative’ applies to the other third person NPs. A normal ‘direct’ transitive verb with a third person subject and object then describes the proximate as acting on the obviative, while if the obviative is acting on the proximate, a specially marked ‘inverse’ form is used.

In Plains Cree, for example, (Wolfart 1973, Dahlstrom 1991), obviative NPs bear a marker *-ah* (it is clear that this does not mark case or grammatical function, but a kind of discourse status), while proximates are unmarked. In (a) below, the obviative is the Patient, and the verb is ‘normal’ (non-inverse), whereas in (b) the Agent is obviative, and the verb is inverse in form:

- (18) a. aya'hciyiniw-ah nisto e'=mipah-a't awa na'pe'sis  
 Blackfoot-OBV three kill-DIR this boy  
 This boy had killed three Blackfoot.  
 Bloomfield (1934:98), cited in Dahlstrom (1991:62)
- b. osa'm e'=sa'kih-ikot ohta'wiy-ah aw o'skini'kiw  
 too much love-INV his father-OBV this young man  
 for his father too much cherished this young man  
 Bloomfield (1934:58), cited in Dahlstrom (1991:63)

Dahlstrom shows that the obviative marking on the nouns, and the direct/inverse marking on the verbs, is irrelevant to grammatical relations, the A being a subject and the P an object regardless of these markings. These systems also constitute a case of PTVs having two different-looking treatments of A and P, depending on which is the proximate in the discourse.

<sup>8</sup>See Aissen (1997, 1999) for discussion, and an application to the Mayan language Tzotzil, where obviation had not been previously seen as relevant.

So we have a combination of dependent-marking (obviation on the nouns) and head-marking (direct/inverse marking on the verbs) conveying the semantic roles. Cross-referencing also enters the mix: when a verb has first or second person arguments, these are cross-referenced in fixed positions on the verb, with the direct/inverse marking indicating which is A and which P:

- (19) a. ki-wa`pam-i-n  
 2-see-DIR(1)-SG  
 You(sg) see me  
 Dahlstrom (1991:42)
- b. ki-wa`pam-iti-n  
 2-see-INV(1)-SG  
 I see you(sg)  
 Dahlstrom (1991:42)

In this language, second person is treated as proximate as opposed to first, but the opposite ranking is also possible. The entire system this comprises one kind of dependent marking and two kinds of head-marking (cross-referencing together with direct/inverse marking), which all work together in a complicated way to signal the semantic roles.

### 2.3 Pragmatic functions

Pragmatic functions involve a great variety of considerations, many of which are not very well understood. Some of the important concepts are: (a) what the hearer is presumed to be already conscious of ('given' vs. 'non-given'); (b) what the sentence is about ('topicality'); (c) whether an NP has or doesn't have a referent uniquely identifiable to the hearer ('definiteness' and 'identifiability'); (d) whether the speaker is referring to a particular instance of an entity as opposed to any instance of it ('specificity'); (e) what is 'foregrounded' as important vs. what is 'backgrounded' as secondary; (f) the point of view taken by the speaker on the situation being talked about ('empathy', or 'perspective'); (g) inherent 'salience properties' of NPs, such as animacy, humanness, or first-personhood.

Many of these concepts are discussed and clarified in Lambrecht (1994), and their interactions with sentence structure are examined in chapter I.8 (A Typology of Information Packaging in the Clause, Foley). In this section we will limit ourselves to discussing three major 'pragmatic articulations' of sentence-structure that tend to have significance for grammatical functions: 'topic-comment', 'presupposition-focus' and 'thetic'. Pragmatic functions are relevant to grammatical functions because there are frequently rules or tendencies relating the two. 'Subjects', for example, as we will discuss later, often show either a strong tendency or even an absolute requirement to be topics (Lambrecht 1994:131-137).

#### 2.3.1 Topics and Topic-Comment Articulation

Topics are generally thought of as entities previously known to the hearer, which it is the function of the sentence to provide some further information about (unfamiliar entities can however be introduced into the discourse and then become topics; this is the function of the thetic articulation, especially its presentational subtype). A sentence that has one or more topic entities can be said to have 'topic-comment' articulation. There are two principal kinds of topics: those whose topicality is predictable from the immediately preceding discourse, and those whose topicality is not. For an illustration of the two types, consider the following story:

Once upon a time there was a king with two sons. The older son expected to take over the kingship. *He* spent his time travelling with the army and working with the secret police. As for *the younger*, he concentrated on studying philosophy at the University.

The italicized pronoun *he* in the third sentence is expected to be topic, since its referent is also the topic of the immediately preceding sentence. *The younger* in the fourth sentence represents a new, unexpected topic. The switch in topic is registered by the *as for* construction, which seems to indicate that some entity, introduced previously in the discourse, but not referred to recently, is being made the new topic. We might call these two types ‘expected topic’ and ‘switch topic’. In many languages the subject grammatical relation is associated with the topic (expected or switch) function. This association can manifest itself as a requirement that subjects be definite, as discussed by Keenan (1976:252-253) for Malagasy and Kinyarwanda and Givón (1979:26-27) more generally, or as a tendency for them to be definite (Givón 1979:26-28).

On the other hand so-called ‘topicalization’ constructions are frequently (but not always) associated with switch-topic functions, as illustrated by the *as for* construction above.

We need to distinguish between a topic entity (the older or younger of the king’s sons in the passage above, depending on what sentence is being analysed), and a topic expression (NP), such as *he* or *(as for) the younger* (Lambrecht 1994:127-128). Expected topic entities tend to be expressed by reduced linguistic constituents, such as pronouns, or by nothing at all (this is called ‘null anapora’). Therefore, in some languages, it is common for sentences with a topic entity to have no topic expression, so that if we want to talk about a ‘sentence without a topic’, we need to be sure whether we’re talking about topic entities or topic expressions.

The topic expressions then are the linguistic materials referring to the entities that the sentence is about; the comment is the remainder, that is, what the sentence actually says about them. If there is no topic expression, but there is a topic entity, then the entire sentence will constitute the comment expression.

### 2.3.2 Focus-Presupposition Articulation

In this kind of articulation, there are again two components. One, the presupposition, presents incomplete information about a situation of which the speaker presumes the hearer to be aware. The other, the focus, is the missing information, which the speaker presumes that the hearer wants to know. The so-called *it*-cleft construction of (2), repeated below for convenience, is a typical example of focus-presupposition articulation:

- (2) a. It is the farmer that kills the duckling  
 b. It is the duckling that the farmer kills

As was pointed out at the beginning of the chapter, in (2a) ‘the farmer’ is the focus, and ‘kills the duckling’ is the presupposition. The speaker assumes the hearer knows that someone or something killed the duckling, and gives the information that it was the farmer that did it.

English has two other extensively discussed focus-presupposition structures, the *wh*-cleft construction and ‘contrastive stress’ on the focus:

- (20) a. A bear is what the man killed  
 b. The man killed *a bear*



In (20a), ‘a bear’ is the focus, and ‘what the man killed’ is the presupposition. The speaker assumes that the hearer knows that the man killed something and tells the hearer that this was a bear.

All three constructions differ in their usage. To see a difference between either kind of clefting and contrastive stress, observe that (20b) is a better answer to the question *What did the man kill?* than either (20a) or its *it*-cleft counterpart *It’s a bear that the man killed*. See Prince (1978) for the differences between the two cleft constructions.

Topic-comment articulation can be superposed on focus-presupposition articulation: in a sentence such as *George is looking for BEARS*, George might be the topic (so the NP *George* would be a topic expression), and *bears* an expression of the focus. The comment is expressed by *is looking for bears*, the presupposition by *George is looking for X*. Some languages such as Tzotzil, allow both to be marked simultaneously (Robinson 2002).

### 2.3.3 Thetic articulation

Not all sentences have topic-comment or presupposition-focus articulation. A less studied third alternative, recently emphasized by Lambrecht, is ‘thetic articulation’. In thetic articulation, the entire sentence can be taken as a comment whose topic is the ambient situation rather than some specific, delineated component thereof that has been accepted as something to talk about.

Lambrecht illustrates thetic articulation with the contrast between (21a) and (21b), emphasis represented by small capitals:

- (21) a. my car BROKE DOWN  
 b. MY CAR broke down

(21a) could be used to answer a question such as *where is your car?*, which would establish the car as a suitable topic to deliver more information about. (21b) on the other hand would be quite inappropriate for this purpose. What it would be good for is presenting as an excuse upon rushing into a meeting 20 minutes late, where (a) would on the other hand be out of place. In such a case the car is not the topic, but part of the comment, an explanation of the present situation, which is the actual topic.

In English, thetic subjects receive stress relative to the verb phrase, but in some language, such as French, they are just impossible. In French, it seems to be the case that subjects must be topics. Hence in (22a), the French counterpart of (21a), the car, which is topical, is the subject just as it is in English, while in (22b), the French counterpart to (21b), the car, which is thetic rather than topical, must be expressed as an object:

- (22) a. Ma voiture est en PANNE  
 My car is broken down  
 My car BROKE DOWN  
 b. J’ai ma VOITURE qui est en panne  
 I have my car which is broken down  
 MY CAR broke down

A more widely discussed subtype of thetic articulation is presentational articulation, used to announce the existence or appearance on the scene of a hitherto unknown entity:

- (23) a. There’s a snake in the shower  
 b. Once upon a time there was a king with three children

Although English has the special presentational construction illustrated above, it is also possible for presentational subjects to appear with no special marking (other thanthetic stress):

- (24) a. A king with three children lived in a valley  
b. A person is standing outside the door

But languages with a restriction that subjects be topics always need to use a special construction for sentences withthetic articulation, as illustrated above by French in (22).

### 3 Overview of Grammatical Functions

With these preliminaries completed, we will proceed to look at the grammatical functions themselves. We will first present a general classification of the types of grammatical functions, then examine specific types in greater detail. Figure 2 is a diagram of the taxonomy of grammatical functions that we will be looking at:<sup>9</sup>

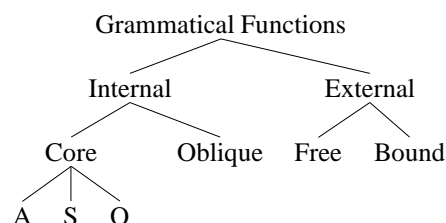


Figure 2: Taxonomy of Grammatical Functions

#### 3.1 Types of grammatical function

We will distinguish three fundamental types of grammatical function, core, oblique and external, which may be thought of as constituting successive layers of clause structure. The first division is between the external functions and the others, which we will call internal.

External functions give the appearance of being essentially outside of the basic clause structure, and are each associated with a fairly specific pragmatic function. The *it*-cleft construction of (2) and the *as for* construction above illustrate typical external functions. An external function never itself has an association with any specific semantic role, although the NPs bearing them often (but not always) acquire a semantic role by other means.

The internal functions have close associations with semantic roles, though they may be associated with pragmatic functions as well. Subject, object and the various prepositional phrases in (7) and (8) bear typical internal functions. Note that by saying that internal functions are associated with semantic roles we do not mean that they have them as invariant properties, but merely that they tend to go together. Subject in English is associated with the semantic role of Agent, but many subjects are not Agents; the preposition *to* is often associated with the semantic role Recipient, but not always.

Among internal functions, A, S and P have a special status, because they almost always have a variety of properties which set them off from most of the other grammatical functions. In English for example, with the exception of personal pronouns, A, S, and P are unmarked NPs, with functions coded by order relative to the verb, while most other functions are coded by prepositional NP-marking.

In English, not only do NPs with A, S and P functions differ in appearance from prepositionally marked NPs, they also differ in various aspects of their syntactic and semantic behavior. Two especially important properties are that they tend to express a wider range of semantic roles, and that they tend to be ‘targetted’, that is, singled out for special treatment, by various rules of syntax which appear to function in terms of specific grammatical relations, rather than in terms of semantic roles or pragmatic functions. For example subjects, are omitted in various kinds of nonfinite subordinate

<sup>9</sup>I’m indebted to Stuart Robinson for suggesting and providing this diagram.

clause constructions, such as the infinitive complement of *want* in (a), and the participial adjunct in (b), below:

- (25) a. John wants to buy a new computer  
       b. Having bought a new computer, John couldn't afford lunch for three months

On the other hand objects may be passivised:

- (26) a. John was arrested  
       b. John was given a book

Rules involving PPs, on the other hand, tend to apply to a wide range of constituents, including non-PPs, with restrictions being statable in terms of semantically specifiable categories rather than syntactic ones.

In most other languages there is a similar distinction between a small class of grammatical relations expressing A, S and P (and sometimes other) functions, which behave somewhat like subject and object in English, and a larger class, which behave like English PPs. We thus divide the internal function into two categories, calling the former class of grammatical functions 'core', the latter, 'oblique'. Thus the core functions are by definition A, S, P and whatever other grammatical functions are sufficiently like them to be plausibly grouped with them and opposed to the others, which are the oblique functions.

Languages in which the core/oblique distinction corresponds to that between bare NPs and those carrying a marker are not uncommon. Some additional examples are Jacaltec and other Mayan languages (Craig 1977, England 1983), Bahasa Indonesia (Chung 1976), Dakota (Van Valin 1985), and the Bantu languages, some of which will be discussed below. In other languages, there does not seem to be a significant syntactic distinction between marked and unmarked NPs. In Japanese (Kuno 1973), Russian (Comrie 1979), and Tagalog (Schachter and Otnes 1972), for example, all NPs are marked. In other languages, such as Warlpiri, some NPs are unmarked, but the marked NPs include some which are by definition core (A in Warlpiri). Furthermore, there is no striking overall difference in syntactic behavior between the marked and the unmarked NPs.

Nonetheless, something corresponding to the core/oblique distinction in English usually seems to exist even in languages where A, S and P normally carry the same kinds of markers as other grammatical functions. One set of cases, commonly called 'syntactic', 'structural' or 'direct' cases, mark the core functions, another, commonly called 'semantic' cases, mark the oblique functions. NPs with syntactic cases tend to express a wide range of semantic functions and to be targetted by rules sensitive to grammatical function, while NPs with 'semantic' cases tend not to have these properties.

Usually, the properties of core NPs suggest that they should be viewed as bearing 'abstract grammatical relations': structural relationships which are not necessarily directly reflected by coding features, and do not necessarily correlate precisely with semantic roles, pragmatic functions, or other aspects of meaning. By contrast, the grammatical function of obliques, such as the PPs in (7-8) can for the most part be identified with their semantic roles.

Most of the typological work on grammatical functions has been directed to core functions, although recently there has been increasing consideration of external ones. Obliques on the other hand still seem to be relatively neglected. In the remainder of this section we will briefly consider external and oblique functions, and then in section 3. discuss at greater length core functions and the grammatical relations associated with them.

### 3.2 External functions

As we observed above, external functions give the appearance of being essentially outside of the clause structure, and are each closely associated with a specific pragmatic function. But the grammar of a language does not specify any associations between external functions and semantic roles (ways of participating in the situation described by the sentence), and, for some external functions, their bearer needn't have any semantic role in the sentence at all.

Suppose Jim's wife, Harriet, has left him. If some of the couple's former friends were discussing Jim, one of them might say:

(27) Speaking of Jim, what's Harriet been up to lately?

Jim is brought up as the topic of the sentence, what the sentence is about, but does not have a semantic role with respect to the predicate. In English, such constructions have a fairly minor place in the system of the language, but in many languages they are the predominant form of sentence in ordinary usage. Such languages were called 'Topic Prominent' by Li and Thompson (1976), and seem to be especially characteristic of Southeast Asia.

We illustrate typical instances of such constructions with examples from Chinese, Lahu (Tibeto-Burman), and Japanese, with the Topic (which appears in initial position) italicized:

- (28) a. Chinese Li and Thompson (1976:482):  
*Nèi-chang huǒ* xìngkuài xiāofang-duì lái de kuài  
 that-CL fire fortunate fire-brigade come PCL quick  
 That fire, fortunately the fire-brigade came quickly
- b. Lahu Li and Thompson (1976:482):  
 Hɔ̃ ɔ̃ na-qɔ̃ yǐ ve yò  
 elephant TOP nose long PCL DECLAR  
 Elephant, noses are long
- c. Japanese Kuno (1973:65):  
*Nihon wa* Tokyo ga sumi-yoi  
 Japan TOP Tokyo NOM easy-to-live-in  
 As for Japan, Tokyo is comfortable to live in

These examples cannot be adequately glossed in English, since their nearest counterparts use constructions using *as for* and *speaking of*, which, as noted above, carry a switch-topic force that is absent in the examples of (28). Chafe (1976:50) characterizes the function of the Topic in these constructions as that of setting 'a spatial, temporal or individual framework within which the main predication holds' (see also Lambrecht 1994:118).

External functions whose bearers needn't have a semantic role in the accompanying clause will be called 'free'. Free external functions always seem to introduce topics, functioning more or less as described by Chafe. Furthermore they always place an NP at the beginning of the sentence, either with accompanying morphological material (Lahu, Japanese, English) or without it (Chinese).

Other external functions require their bearer to have a semantic role in the clause (of course this is also possible for free topics). We call these 'bound'. In English the *it*-cleft construction is a bound external function, as is the 'topicalization' construction in which an NP is preposed without additional marking. Observe the contrast below:

(29) a. As for American self-confidence, Columbia gave people a lift

- b. \*American self-confidence, Columbia gave people a lift  
 c. \*It was American self-confidence that Columbia gave people a lift

In all of these examples, the clause fails to assign a semantic role to the initial NP. The result is acceptable in the case of the *as for* construction (29a), but not in the case of the others, the topicalization construction (29b) and the *it*-cleft construction (29c). This illustrates that the *as for* construction is a free external function, while the topicalization and *it*-cleft constructions are bound external functions.

Bound external functions have a wider range of pragmatic effects than free ones, such as marking focus and presupposition or presentational articulation, and they are coded by a wider range of techniques, including movement to various positions in the sentence-structure, and also marking *in situ*, without any special position. This latter possibility is illustrated below for the Dravidian language Malayalam.

Malayalam (Mohanam 1982) is an SOV language with NP-marking by means of case markers and postpositions, and therefore, as one would expect, has fairly free word order (but, unlike Warlpiri, major constituents such as NPs cannot be broken up). There is a 'cleft' construction in which the verb is suffixed with *at* 'it', and the clefted NP is suffixed with a form of *aa* 'be'. The normal word order for this construction is the same as in a non-clefted sentence. Below we give a sentence in normal word-order, together with four clefted variants, the cleft NPs being italicized:

- (30) *kuṭṭi* *innale* *ammakkə* *aanaye* *koṭuttu*  
 child(NOM) yesterday mother(DAT) elephant(ACC) gave  
 The child gave an elephant to the mother yesterday
- (31) a. *kuṭṭiy-aanə* *innale* *ammakkə* *aanaye* *koṭutt-atə*  
 child(NOM)-is yesterday mother(DAT) elephant(ACC) gave-it  
 It is the child that gave an elephant to the mother yesterday
- b. *kuṭṭi* *innaley-aanə* *ammakkə* *aanaye* *koṭutt-atə*  
 child(NOM) yesterday-is mother(DAT) elephant(ACC) gave-it  
 It is yesterday that the child gave an elephant to the mother
- c. *kuṭṭi* *innale* *ammakk-aanə* *aanaye* *koṭutt-atə*  
 child(NOM) yesterday mother(DAT)-s elephant(ACC) gave-it  
 It is the mother that the child gave an elephant to yesterday
- d. *kuṭṭi* *innale* *ammakkə* *aanayey-aanə* *koṭutt-atə*  
 child(NOM) yesterday mother(DAT) elephant(ACC)-is gave-it  
 It is the elephant that the child gave to the mother yesterday

It is also possible to cleft the verb, although this does not concern us here. The elements of all of these sentences could be freely reordered.

In addition to rearrangements and markings, external functions can lead to the appearance of a variety of further subtle effects in the clauses they appear in (Zaenen 1983). Nonetheless it is clear that they are relatively independent of the system of internal grammatical relations that provide the primary expression of semantic roles, and are in effect 'superposed' on it.

Sentence-level intonational and stress features, operating either alone or in conjunction with syntactic mechanisms, may also be employed to express bound external functions. In English, for example, we can impose focus-presupposition articulation simply by stressing the focus:

- (32) The farmer kills the DUCKLING (c.f.(2))

Stress is frequently used as a focus marker. On the other hand it does not seem to be used to mark topics, except in contrastive constructions:

(33) Speaking of Mary and Jim, MARY will like this dish, but JIM will hate it

This is presumably because topics are familiar information with relatively less need for attention to be directed to them, while foci are the new information that is actually being communicated.

### 3.3 Oblique functions

In this section we examine oblique grammatical functions. We will first investigate English, showing that English obliques fall into two main classes: arguments and adjuncts. The distribution of arguments is governed by potentially idiosyncratic specifications on verbs (or other predicates). Adjuncts on the other hand appear whenever they would be semantically appropriate. In fact, we shall see that it is reasonable to think of the argument/adjunct distinction as overlapping the core/oblique distinction, with all core NPs and some obliques being included in the class of arguments. Adjuncts, on the other hand, always seem to be oblique, in that they do not seem to exhibit behavioral similarities to A, S and P.

Then we will look at obliques in Waripiri, to illustrate something of the behavior of obliques in a case-marking language. Finally we will briefly summarize the dimensions of typological variation in systems of oblique grammatical functions.

#### 3.3.1 Obliques (PPs) in English

English oblique NPs are usually expressed within prepositional phrases (PPs), except for certain time expressions, where a preposition does not have to be expressed: *Mary left the next day*. English PPs are not homogeneous but seem to fall into classes, which can be defined in terms of the way in which their form and distribution is or is not determined by the verb. As stated above, the two principal classes are what we shall call ‘arguments’ and ‘adjuncts’. The distribution of adjuncts is not subject to idiosyncratic restrictions imposed by the predicate, but only to the requirement that the sentence make sense. The Circumstantial roles of section 2.1.2 are often introduced by adjuncts. Thus in English, any verb which is semantically suitable may take a locative phrase, or a benefactive phrase with the preposition *for*. For example the reason that example (34b) is odd is not because of some syntactic restriction on adjuncts expressing reasons, but rather because tree-branches don’t have minds, and therefore lack motives for doing things:<sup>10</sup>

(34) a. John prodded the snake for fun.

b. # The branch fell off the tree for fun.

In contrast, the distribution of arguments is subject to idiosyncratic restrictions imposed by verbs. To see the nature of these restrictions, let us examine the nature of the constructions associated with verbs of giving, such as *give*, *hand*, *present*, etc., in which an Agent transfers a Theme from his/her own custody to that of a Recipient.

Such verbs take six patterns of association between their semantic roles and the grammatical relations that express them, as illustrated below. (a) and (b) are the major patterns, (c) minor, and (d-f) extremely minor:

<sup>10</sup>The ‘#’ mark in front of the (b) example indicates that the example is semantically bizarre, but not ungrammatical.

- (35) a. Susan handed Paul the shovel  
 b. Susan handed the shovel to Paul  
 c. They supply us with weapons  
 d. Cheech laid a joint on Chong  
 e. Geraldine foisted six kittens off on(to) Jock  
 f. J.R. bestowed many favors (up)on Afton

(35b-f) illustrate various oblique constructions, while (35a), with two bare NPs after the verb, illustrates something we haven't discussed yet, a 'double object' or 'ditransitive' construction. In section 4.2.1 below we will argue that the first postverbal NP is a 'primary object' bearing the same grammatical relation as the sole object of a transitive verb, while the second bears another core grammatical relation, 'secondary object'. See section 2.3 of chapter I.4, *Clause Types*, by Dryer, for further discussion of ditransitives.

There is considerable systematicity in the relations between semantic roles and their overt expressions in (35). In the double-object and *with* constructions, Recipients are the first or sole objects. Otherwise they are the objects of goal prepositions such as *to*, *on*, *into* and *onto* (the latter three sometimes being optional alternants). Themes, on the other hand, are primary objects (35b, d, e and f), second objects (35a), or objects of *with* (35c).

But there is also considerable idiosyncrasy. *Hand*, and a great many other verbs, appear in patterns (a) and (b), but not the others. *Supply* appears with (c) and (b), and maybe (a) for some speakers, but not with (d-f). *Equip*, on the other hand, appears only in (c). None of the verbs taking any of (a-c) take any of (d-e), except *fob off*, which takes (c) and (d), with substantially different meanings: *Fred fobbed Jack off with a scratched CD*, vs. *Fred fobbed a scratched CD off on(to) Jack* (in the first sentence, Fred is getting rid of Jack, in the second, a CD).

There are, furthermore, idiosyncratic restrictions on whether some of these obliques are optional or obligatory. The *with* phrase can be ellipsed with *supply*, but not *provide*, with the object retaining the Recipient role:

- (36) a. We supply Iran (with weapons)  
 b. We provide Iran \*(with weapons)

Similarly, *to*-objects are usually optional, but with some verbs they are obligatory:

- (37) a. Susan passed the shovel (to Paul)  
 b. Susan handed the shovel \*(to Paul)

There has been substantial recent work, such as Pinker (1989) and Wechsler (1995), on how to predict the choice of preposition, and whether the PP is obligatory or optional. But some facts of preposition choice seems to resist explanation (Wechsler 1995:122), as do some of the optionality facts, such as those in (36) and (37) above. So there still seems to be a category of obliques that are subject to lexical control, and which therefore may be reasonably regarded as a kind of argument.

Furthermore, even in the great majority of cases, where the choice of preposition is semantically predictable, we can make a case that it is not making an independent contribution to the meaning, since one cannot vary the choice of preposition independently to vary the meaning. This suggests that the verb is in some sense determining the



semantic role of the NP, which is in addition being marked by the preposition. Such a view is indeed taken by Wechsler (1995), following earlier work by Gawron (1986) and Jackendoff (1990).

But there are also PPs which appear to be arguments where the preposition does seem to make an independent contribution to meaning. The verb *put*, for example, takes an obligatory directional phrase in *in(to)* or *on(to)* (and most other goal PPs), while *move* takes an optional directional PP in *into* or *onto*, but not *in* or *on*:

- (38) a. Cally put the key \*(on(to) the table/in(to) the box)  
 b. Cally moved (the computer) (on\*(to) the table/in\*(to) the box)

The *in/on* components here indicate spatial relationships, while the possibilities for omitting or including *to* seem more arbitrary. (*on/in* is of course acceptable with *move* when the PP is an Outer Locative rather than a Directional).

These PPs seem clearly to be arguments rather than adjuncts, but they resemble adjuncts in that the preposition is a partially independent bearer of meaning. It seems appropriate to think of the PP as a whole as being an argument to the verb, rather than of the NP within it as being the argument, with the preposition marking its role.

We therefore classify English PPs into adjuncts, and two types of arguments. In the first kind of argument, which we will call ‘P-objects’, the verb determines the choice of preposition, and the NP within it functions as an argument of the verb. In the second type, which we will call ‘P-complements’, although the verb may constrain the choice of preposition, it does not determine it completely. Rather the preposition expresses meaning to some extent independently from the verb, and the PP as a whole functions as an argument.<sup>11</sup>

Although in many cases it is clear whether one is dealing with an argument or an adjunct, there are also doubtful (perhaps intermediate) cases. For example, almost any verb which is semantically appropriate may take an instrumental *with*-PP, which suggests that these are adjuncts:

- (39) a. The old man walks with a stick  
 b. Marcia watched the koalas with binoculars  
 c. Jimmy poked Owen with a stick

But Matthews (1981:18) notes that the verb *go* does not take instrumental *with*: *He went with a stick* means merely that he went carrying a stick with him, not that he used it as an instrument in the activity of going. It is not clear whether this restriction can be made to follow from the meanings of *go* and instrumental *with*. Therefore it is unclear whether instrumentals should be regarded as arguments or adjuncts.

Drawing the argument/adjunct distinction may require considerable knowledge of a language, and deep insight into its semantics. The core/oblique distinction, on the other hand, is usually relatively obvious, although in a few cases it too is somewhat obscure. For this reason the latter rather than the former distinction is emphasized in this study.

Oblique grammatical functions are typically more tightly tied to specific semantic roles than are the core grammatical relations. In the case of the adjuncts and P-complements, the NP-marker of the oblique grammatical function specifies the semantic role to a considerable degree independently of the verb, while the P-object markers are also more tightly tied to given semantic roles than are subject or object. Objects,

<sup>11</sup>The terms ‘P-object’ and ‘P-complement’ are borrowed from Bresnan (1982), see Bresnan (2001:275-280) for more recent discussion.

Local Semantic		Non-local semantic	
Locative (at):	-rla/ngka	Instrumental:	-rlu/ngku
Allative (to):	-kurra	Causal:	-jangka
Elative (from):	-ngurlu	Considerative:	-wana-wana
Perlative (along):	-wana		
Comitative (with):	-rlajinta		
Derivational		Syntactic	
Associative	-warnu	Ergative:	-rlu/ngku
Excessive	-panu	Dative:	-ku
Denizen of	-ngawurrpa	Absolutive:	-∅
Like	-piya		
Possessive	-kurlangu		
Privative (without)	-wangu		
Proprietary (having)	-kurlu, -parnta, -manji		
Source	-jangka		

Table 1: Warlpiri Cases

for example, can be Themes or Recipients, while *with*-objects can be Themes but not Recipients; *to*-objects Recipients but not Themes. To get a better sense of the nature of the core/oblique distinction, we will next examine obliques in Warlpiri, a language where the core/oblique distinction does not correspond to that between morphologically marked and unmarked NP.

### 3.3.2 Obliques in Warlpiri

Warlpiri cases (NP-markers) can be divided into two main groups: the ‘syntactic’ cases (ergative, dative and absolutive) and the ‘semantic’ cases (all the rest). The latter can be further divided into three subgroups: local semantic, non-local semantic, and ‘derivational semantic’. The syntactic cases code core functions, which will be reviewed for Warlpiri in section 4, comprising all core NPs and some obliques. The local and non-local semantic cases express oblique functions, with the local semantic cases expressing primarily spatial notions, the non-local cases non-spatial ones (the local cases also have some non-spatial uses). The ‘derivational’ cases seem for the most part to form modifiers of NPs rather than arguments or adjuncts of the verb, and are therefore largely beyond the scope of this chapter.

Table 1 presents some of the most important cases. The listing for the non-local semantic cases is incomplete, since the boundary of this category is unclear. The endings *-ngka* (LOC) and *-ngku* (ERG/INSTR) are used after stems with two syllables, *-rla* (LOC) and *-rlu* (ERG) after stems with three or more. Furthermore, the form of some of these endings is affected by a vowel harmony rule converting *u* to *i* after stems in *i*, so that we get *maliki-ki* ‘dog-DAT’, *wati-ngki* ‘man-ERG’, and *yumarli-ngirli* ‘from the house’.

The local semantic cases primarily indicate the spatial notions of location at (or on, or in), motion to, motion from and motion along and motion together with:

- (40) a. Lungkarda ka ngulya-ngka nguna-mi  
 bluetongue(ABS) PRES burrow-LOC lie-NONPAST  
 The bluetongue skink is lying in the burrow (Locative)
- b. Nantuwu ka karru-kurra parnka-mi  
 horse(ABS) PRES creek-ALL run-NONPAST

The horse is running to the creek (Allative)

- c. Karli ka pirli-ngirli wanti-mi  
boomerang(ABS) PRES stone-ELATIVE fall-NONPAST  
The boomerang is falling from the stone (Ablative)
- d. Pirli ka-lu-jana yurutu-wana yirra-rni  
stone(ABS) PRES-they-them road-PERLATIVE put-NONPAST  
They are putting stones along the road (Perlative)
- e. Maliki ka nantuwu-rlajinta parnka-mi  
dog(ABS) PRES horse-COMITATIVE run-NONPAST  
The dog is running along with the horse (Comitative)

Hale (1982) provides a detailed account of the semantics of these cases, Simpson (1991) a more formal analysis.

The Warlpiri case system makes fewer distinctions than the systems of prepositions of English, but similar effects are achieved by other means. There are, for example, adverbial particles which, although not syntactically bound to a local case-marked NP, nonetheless refine the locative concept expressed. *Kulkurru*, for example, specifies *between-ness*:

- (41) Maliki ka nguna-mi yuwarli-jarra-rla kulkurru-jarra  
dog(ABS) PRES lie-NONPAST house-DU-LOC between-DU  
The dog is lying between the two houses

Without *kulkurrujarra*, the sentence could be interpreted as meaning merely that the dog was near the houses.

Occasionally the local cases are used idiomatically, in ways not fully explicable in terms of their basic meanings. For example the verb *manyu-karri-mi* ‘play-stand-NONPAST’, meaning ‘to play a game’, takes the locative case on the game played. This may co-occur with a locative designating the place where the event takes place:

- (42) Ngarrka-patu ka-lu manyu-karri-mi kardi-ngka karru-ngka  
man-PL(ABS) PRES-they play-stand-NONPAST card-LOC creek-LOC  
The men are playing cards in the creek

These usages are reminiscent of idiomatic P-objects in English.

The non-local semantic cases are for the most part minor in the structure of the language. The ‘true’ instrumental expresses the instrument used by an Agent to act on a Patient. It *only* appears with transitive verbs taking an ergative Agent and absolutive Patient, not with intransitives (or with a category we shall discuss below of two-argument verbs not taking an ergative). See examples (43a) and (43b) below. There is another method for expressing the instrumental relation, and this one may be used with either transitives or intransitives. It involves one of the ‘derivational semantic’ cases, the proprietive *-kurlu* ‘with’. The basic meaning of *kurlu* is possession, but the meaning of can be extended to indicate not only possession but use, as shown in examples (43c) and (43d):

- (43) a. Wawirri kapi-rna kurlarta-rlu panti-rni ngajulu-rlu  
kangaroo(ABS) FUT-1SG spear-INSTR spear-NONPAST 1SG-ERG  
I will spear the kangaroo with a spear
- b. \*Purlka ka watiya-rlu warru-wapa-mi  
old man(ABS) PRES stick-INSTR around-walk-NONPAST  
The old man is walking around with a stick

- c. Ngarrka-ngku ka warlu paka-rni warlkurru-kurlu-rlu  
 man-ERG PRES firewood chop-NONPAST axe-with-ERG  
 The man is chopping firewood with an axe
- d. Purlka ka watiya-kurlu warru-wapa-mi  
 old man(ABS) PRES stick-with around-walk-NONPAST  
 The old man is walking around with a stick

(43c) could be interpreted as possessive for *-kurlu* rather than that of use, to give ‘The man with an axe is chopping firewood’ (using some other instrument) and so also (43d) ‘The old man with a stick is walking around’. The instrumental sense is nevertheless the usual one in sentences such as these, expressing an action where the use of the object in question is in fact likely.

The ending listed as causal is also widely used to indicate source of motion (elative), and preferred as such by some speakers. But it also indicates the cause for the situation designated by the sentence, or a potentially causal prior event:

- (44) Ngarrka-patu ka-lu warrki-jangka mata nguna-mi-lki  
 man-PL(ABS) PRES-they work-CAUSAL tired lie-NONPAST-now  
 The men are lying down tired now after work

It can also indicate the material out of which something is made: for example from wood in ‘they are making boomerangs from wood’. The ‘considerative’ (CONS) is applied to an NP denoting something that is given in exchange for something else:

- (45) Japanangka-rlu ka-ju karli yi-nyi  
 Japanangka-ERG PRES-1SG(OBJ) boomerang(ABS) give-NONPAST  
 miyi-wanawana  
 food-CONSIDERATIVE  
 Japanangka is giving me a boomerang in exchange for food

This illustrates nicely that a serious account of semantic roles must go considerably beyond the simple Agent, Patient, Source, Goal, etc., categories that were introduced in 1.1. above.

The uses of the cases we have considered so far mostly involve qualifications of some facet of the action of the verb: the path taken by some participant (and thereby, in some sense, of the ‘action’), or additional participant. They thus express participatory semantic roles (c.f. 1.1.2), and function analogously to the oblique argument (P-objects and P-complements) of English. The exception is the causal use of *-jangka*, which provides the background for the event, and is thus a circumstantial adjunct.

The principal circumstantial case is the locative, which can place an event in space (already illustrated in (42) above) or in time:

- (46) Ngapa ka wanti-mi wajirrkinyi-rla  
 water(ABS) PRES fall-NONPAST greentime-LOC  
 Rain falls in the “green” season

These uses of the locative correspond to adjuncts in English.

A striking difference between the obliques in Warlpiri and English is in the way in which the argument/adjunct distinction is drawn. Aside from the occasional idiomatic uses, as with *kardi-ngka* ‘card-LOC = with cards’ in (42), a Warlpiri semantic case always seems to be usable wherever its meaning would make sense. Idiosyncratic restrictions such as those discussed for English in 3.3.1 are quite rare. Most usages of Warlpiri oblique cases thus behave like adjuncts in English. The idiomatic uses might be taken

to be P-objects, so there would be a few representatives of this category, but there seems to be nothing whose grammatical behavior corresponds to that of P-complements. It may be that this impression is a consequence of our insufficient knowledge of Warlpiri, and that more study might reveal the familiar categories, but at the moment it seems that in Warlpiri the argument-adjunct distinction is much more closely aligned with the core-oblique distinction than it is in English.

## 4 Core grammatical functions

In this section we examine core grammatical functions in detail. As discussed at the beginning of section 2, core grammatical functions are those expressing A, S and P, along with any others that behave like these rather than like obliques. Core functions are interesting for several reasons. First, they are used to express a wide range of semantic roles beyond the clear-cut cases of Agent and Patient that provide the basis for defining A and P. Furthermore they tend to be syntactically ‘active’, participating in a wider range of grammatical processes than obliques. Finally, and most interestingly, they are usually (but perhaps not always) associated with what we have called ‘grammatical relations’: structural relationships, which could plausibly be regarded as structural primitives, which play an important role for the functioning of grammatical principles, but are often abstract with respect to coding features, semantic and pragmatic properties, or both.

The most commonly found and best evidenced grammatical relation is one expressing A and S functions, commonly known as ‘subject’ (although we shall see that this single label covers at least two rather different kinds of function). But the very prevalence of the subject grammatical relation perhaps leads people to be insufficiently critical in evaluating the evidence for its presence in particular languages. Therefore in 4.1 we will spend considerable time on how to argue that a subject grammatical relation is present in a language. Then in 4.2 we will look at some of the other grammatical relations that can be argued for in languages that have subjects. An important feature of our approach to subjects is that the evidence does not always support their existence in a language; in the remaining subsections we consider various kinds of languages in which subjects as we have defined them don’t exist (although they will show subject-like grammatical relations that we will introduce later). Our conclusion will be that although a subject grammatical relation does play an important role in the typology of grammatical relations, the subject as traditionally recognized in languages such as English, Latin and Greek combines two distinct kinds of ‘prominence’ which in many other languages are kept distinct.

### 4.1 Subjects

‘Subject’ is perhaps the oldest grammatical relation concept, found for example in the work of Aristotle.<sup>12</sup> There is furthermore a considerable amount of evidence in different languages for some kind of abstract grammatical relation associated with NPs traditionally regarded as subjects, much more so than for other grammatical relations. But there has unfortunately been considerable flexibility in the use of the term, with concomitant weakening of content, and controversy as to whether subjects are present in various languages. We will here adopt a rather narrow conception of subject, so that it will be relatively easy to assess whether or not we have evidence for the existence of a subject in this sense in a particular language (languages without a subject in our present sense might however have subjects under some other definition; it’s how the content of the definitions applies to particular languages that is interesting, not the terms that are used as labels).

After introducing our concept, we will discuss the various ways in which it can be applied to assess whether or not a subject is present in a language.

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<sup>12</sup>See Kneale and Kneale (1962) for discussion of the history of the term and concept.

#### 4.1.1 A Concept of subject

The concept of subject proposed here is that it is a grammatical relation that is the normal expression of the A and S grammatical functions, but not others such as P or obliques. As a grammatical relation, the subject concept should function as a significant ingredient in many of the grammatical phenomena of the language, so that it seems plausible to recognize it as a structural primitive. There are two major kinds of phenomena that are relevant to establishing the existence of subjects, first, the overt coding features in ordinary main clauses, and second, a variety of more complex and abstract grammatical phenomena, such as ‘subject ellipsis’, coding features in subordinate clauses, and others. When the coding features unambiguously indicate that a subject grammatical relation is present, the more abstract criteria seem to invariably concur. But it is also possible for the coding features to give no evidence, or equivocal evidence, about the presence of a subject. Then the more abstract properties sometimes show that there is a subject, sometimes not. We examine these in turn.

#### 4.1.2 Subjects and coding features in ordinary main clauses

In English and many other languages, there are a variety of coding features in ordinary main clauses that distinguish A of transitive clauses and S of intransitives from P of transitives and other grammatical functions such as obliques. For English, these include nominative as opposed to accusative case, preverbal position, and verb-agreement:

- (47) a. He           praises them  
           NOM.SG SG       ACC.PL
- b. He           sleeps  
           NOM.SG SG

The fact that these and more grammatical phenomena treat A and S alike indicates that in English, these should not be thought of as independent grammatical functions, but as related ones, most straightforwardly by an analysis in which they are both expressed by a single grammatical relation, which, given our definition, we can call ‘subject’.

A great many languages, including many of the familiar modern and classical languages of Europe, follow this pattern of unambiguous evidence for a subject grammatical relation on the basis of some combination of the coding features of word order, case-marking and agreement. In Ancient and Modern Greek, for example, subjects of ordinary main clauses occupy no definite position, but are for the most part regularly marked by nominative case and agreement with the finite verb.

But coding features frequently fail to give a clear indication of grammatical relations, or else give inconsistent indications, as happens for example in Warlpiri. We have already seen in 2.2.2 that Warlpiri NP-marking assigns ergative case to NPs with A function, and absolutive to NPs with P or S function. Case marking therefore does not reflect a subject grammatical relation. But the cross-referencing system does.

The NPs that are cross-referenced are those with the cases labeled as ‘syntactic’ in 2.2.2: ergative, absolutive and dative. Cross-referencing of absolutive and ergative NPs has already been illustrated in example (15) in 2.2.3., repeated below for convenience. (48) illustrates cross-referencing of a dative. (49) illustrates the failure of cross-referencing to apply with a semantic case, the allative:

- (15) Nya-nyi       ka-rna-palangu                   wawirri-jarra       (ngajulu-rlu)  
       See-NONPAST PRES-1SG(SUBJ)-3DU(OBJ) kangaroo-DU(ABS) (I-ERG)  
       I see two kangaroos

(48) Ngaju ka-rna-ngku                      nyuntu-ku wangka-mi  
 I(ABS) PRES-1SG(SUBJ)-2SG(OBJ) you-DAT talk-NONPAST  
 I am talking to you

(49) Ngaju ka-rna                      nyuntu-kurra parnka-mi  
 I(ABS) PRES-1SG(SUBJ) you-ALL run-NONPAST  
 I am running toward you

The form of the markers is not determined directly by the case of the NP being cross-referenced. Rather, it seems to be determined primarily by a subject-object distinction in grammatical relations quite similar to that found in English.

There are two sets of cross-reference markers, one for subjects, and another for objects. The cross-referencing is for number (singular, dual, plural) and person (first, second and third), with an inclusive-exclusive distinction in the first person dual and plural (see chapter III.3, Inflectional Morphology, section 8, for discussion of these inflectional categories), with a limited case-distinction in the object markers. The subject set is used to cross-reference NPs with A or S function, regardless of whether their case is ergative or absolutive:

- (50) a. Ngaju ka-rna                      purla-mi  
 I-ABS PRES-1SG(SUBJ) shout-NONPAST  
 I am shouting
- b. Nyuntu ka-mpa                      purla-mi  
 you(SG ABS) PRES-2SG(SUBJ) shout-NONPAST  
 you are shouting
- c. Ngajulu-rlu ka-rna                      yankirri wajilipi-nyi  
 I-ERG PRES-1SG(SUBJ) emu(ABS) chase-NONPAST  
 I am chasing an emu

The object markers cross-reference NPs with P function, which are absolutive, and also NPs in the dative case. Examples of absolutive object cross-referencing are:

- (51) a. Ngarrka-ngku ka-ju                      ngaju panti-rni  
 man-ERG PRES-1SG(SUBJ) I(ABS) spear-NONPAST  
 The man is spearing me.
- b. Ngaju ka-mpa-ju                      nyuntulu-rlu nya-nyi  
 me(ABS) PRES-2SG(SUBJ)-1SG(OBJ) you-ERG see-NONPAST  
 You see me.
- c. Ngajulu-rlu ka-rna-ngku                      nyuntu nya-nyi  
 I-ERG PRES-1SG(SUBJ)-2SG(OBJ) you(SG ABS) see-NONPAST  
 I see you.

Dative objects are cross-referenced by the same markers as are used for absolutives, except in the third person singular where *-rla* is used instead of zero. Dative objects will be discussed in 4.2.2

There are various additional principles which determine the form of cross-referencing in examples more complex than these (such as those involving plurals). These are described in great detail in Hale (1973), and needn't be considered here. But these complications do not alter the basic point that the systems of NP-marking and cross-referencing give conflicting testimony as to what the basic grammatical relations of A, S and P are.



Therefore coding features do not always provide consistent indications for grammatical relations. Does this mean that the grammatical relations are present, but coded inconsistently, or simply absent from the languages in question? The situation for each language should be decided on its merits. For some languages, reasonable cases have been made that grammatical relations such as subject and object are absent (Bhat 1991), but in others, such as Warlpiri, other aspects of grammatical behavior seem to indicate that they are present.

#### 4.1.3 Subject ellipsis

Perhaps the commonest property of subjects that is useful for identifying them is their tendency to be optionally or obligatorily ellipsed in various kinds of grammatical constructions, especially multi-clause sentence structures. A highly typical example from English is provided by adverbial clauses introduced by the conjunction *while*.

These clauses take two forms. In one, *while* is followed by an ordinary clause structure with a subject and a tensed verb. In the other, the subject is omitted and the verb put in the (gerund) *-ing* form, which does not show agreement:

- (52) a. The student watched the guard while he killed the prisoner  
 b. The student watched the guard while killing the prisoner

When the verb is tensed, the subject must be included; when the verb is in the *-ing* (gerund) form, its subject must be omitted, but is understood as being the same as the subject of the main clause:

- (53) a. \*The student watched the guard while killed the prisoner.  
 b. \*The student watched the guard while he/his/him killing the prisoner

Omission of a non-subject NP will not satisfy the requirement, as the reader can easily verify. The subject relation thus functions in the principles governing the form and interpretation of *while*-constructions.

It is also involved in a principle governing their interpretation. In (52a) we could understand the *while*-clause subject as referring to the guard, the student, or some third person. In the absence of wider context, we tend to interpret it as referring to some NP within the sentence, and from our knowledge of the world we tend to assume that it refers to the guard rather than to the student.

But the interpretation of (52b) is not so free. Here we would normally understand the student rather than the guard to be killing the prisoner, in spite of the oddity of this situation. There seems to be a principle to the effect that a *while* + gerund construction is interpreted as if it had a subject coreferential to the subject of the matrix clause (note that if *while* is omitted, we immediately understand the subject of the gerund to be coreferential with the object rather than the subject of the matrix clause).

On the basis of (52, 53) alone, one might venture an alternative account, in which it is the Agent rather than the subject of the *while* + gerund construction that is suppressed, and that it is understood as being the same as the Agent rather than the subject of the main clause. On this kind of account, we would have a direct connection between the overt form and the meaning, without an intervening level of grammatical relations.

This possibility may be discounted on the basis of sentences such as *John felt apprehensive while being wheeled into the operating room*, in which the overt and 'understood' subjects are not Agents, and even more strongly by examples in which the *while* + gerund construction is combined with the passive construction:

- (54) a. The student watched the guard while killing the prisoner  
 b. The student watched the guard while being killed by the prisoner  
 c. The student was watched by the guard while killing the prisoner  
 d. The student was watched by the guard while being killed by the prisoner

It is the subject of the matrix that is understood as the subject of the gerund, regardless of the semantic roles involved, and of how unusual the situation described is.

It also seems that no well-defined pragmatic notion such as topicality is the conditioning factor, although this is hard to show conclusively, since pragmatic functions are generally more elusive and less well understood. For example, in a sentence such as *A guard tortured the prisoner while watching television*, it seems pretty clear that *the prisoner* can be the Topic. Nonetheless, the principle for the interpretation of the *while* + gerund construction continue to operate as before.

Phenomena such as these illustrate the need for a level of syntactic structure at which abstract grammatical relations such as subject are defined, which are distinct from semiotic concepts, and which are significant for the functioning of grammatical rules.

From a theoretical point of view, there are three major possibilities for the analysis of *while* + gerund constructions. The first is that the gerund has no subject in syntactic structure, but that the principles of semantic interpretation treat it as if it had a subject coreferential with that of the matrix (main) clause. Second, the gerund might have a subject in the syntactic structure which is coreferential with the matrix subject, but does not appear in the overt form of the sentence. The third possibility is that the theory of sentence structure characterizes the NP in matrix subject position as the subject of both the main clause and the gerund.

The choice between these possibilities is a complicated question, which does not concern us here. What matters here is that whatever approach is taken, it is clear that the notion of subject plays a central and obvious role in the description of the constructions: it is the subject of the subordinate clause that is obligatorily omitted, and the subject of the matrix that obligatorily serves as its ‘controller’, that is, as the NP that is understood as the subject of the subordinate clause.

Subject ellipsis can often be used to provide more evidence about grammatical relations when the coding features are equivocal. In Warlpiri, there are counterparts to the *while*+gerund construction that show that this language has a subject grammatical relation (one expressing S and A functions) in spite of the inconsistent testimony of the coding features. These are ‘infinitival’ subordinate clauses (adverbial or relative in sense), in which no auxiliary appears, but an ‘infinitival complementizer’ is attached to the verb, which then appears finally in the infinitival phrase, and can’t be reordered within it (there is, however, a possibility of nominals within the infinitive phrase ‘leaking’ out of it into the matrix (Laughren 1989)).

Many of the infinitival complementizers require suppression of the complement subject, imposing various conditions on what it may be understood to be coreferential with. One of these is the complementizer *kurra*, which expresses action simultaneous with that of the main verb, and imposes the condition that the complement subject be coreferential with a non-subject (preferably object) argument of the matrix:

- (55) a. Ngajulu-rlu-rna yankirri pantu-rnu, ngapa nga-rninja-kurra  
 I-ERG-1SG(SUBJ) emu(ABS) spear-PAST water(ABS) drink-INF-while  
 I speared the emu while it (not I) was drinking water

- b. Ngarrka-rna                    nya-ngu    wawirri                    panti-rninja-kurra  
 man(ABS)-1SG(SUBJ) see-PAST kangaroo(ABS) spear-INF-while  
 I saw a man spear a kangaroo
- c. Ngaju ka-rna-ngku                    marri-jarri-mi                    nyuntu-ku  
 I(ABS) PRES-1SG(SUBJ)-2SG(OBJ) grief-being-NONPAST you-DAT  
 murrumurru nguna-nja-kurra(-ku)  
 sick                    lie-INF-while(-DAT)  
 I feel sorry for you while you are lying sick
- d. Karli-rna                    nya-ngu    pirli-ngirli                    wanti-nja-kurra  
 boomerang(ABS)-1SG(SUBJ) see-PAST stone-ELATIVE fall-INF-while  
 I saw the boomerang fall from the stone

The infinitival verbs of (55a-b) would take ergative subjects if finite, those of (55c-d) absolutive. The examples also illustrate a variety of semantic roles for the omitted subject and its controller.

It is crucial to the argument that *kurra* requires (rather than merely permits) omission of the subject: since NPs can be rather freely omitted in Warlpiri, if a complementizer merely permits an omitted argument in its clause to be understood as coreferential with one in the matrix, without actually *requiring* omission and understood coreference, we could simply say that the omitted argument was an ellipsed anaphoric pronoun which happened to be coreferential with an NP in the matrix clause (this would often be permitted by the usual principles governing null anaphora). There would then be no syntactic phenomenon specifically associated with the subject of a *-kurra* complement. The more general point is that what needs to be shown is some *difference* in omissibility from ordinary clauses. In English, for example, NP's aren't freely omissible, so the possibility of omission in the *while*+gerund construction is enough to make an argument for a grammatical relation, whereas in Warlpiri or other languages where NP omission is widespread, something stronger is required, such as obligatory omission, and it must furthermore not be possible to describe the class of NPs which can be omitted in purely semantic terms.

It is also important that the phenomenon involves a variety of semantic roles. If, for example, only Agents were obligatorily suppressed in this construction, one could claim that the principle referred to Agent, a semantic role, rather than to a grammatical relation in sentence structure.

The Warlpiri and English constructions we have discussed so far are both adverbial in nature, but subject ellipsis can be an optional or obligatory feature of virtually any kind of subordinate or coordinate clause construction in some languages. English non-finite (participial) relative clauses require ellipsis of the subject (which is understood as coreferential with the head):

- (56) a. People [reporting their neighbors to the authorities] will be rewarded.  
 b. People [reported by their neighbors to the authorities] will be investigated.
- (57) a. \*People [their neighbors(') reporting] will be investigated  
 b. \*People [their neighbors(') reported by] will be investigated

English has other strategies of relativization that can be used on non-subjects, but in some languages, such as Malagasy (Keenan 1977), relativization is possible only for subjects.

Complement and coordinate clauses can also be useful in arguing for a subject grammatical relation, although probably not as often as adverbial clauses. We present an example from Icelandic. In this language, there is a subject clearly identified by the coding features of preverbal position (in sentences without topicalization), nominative case, and agreement with the verb:

- (58) a. Við                    dönsuð-um  
           we(NOM.1PL) danced-1PL  
           We danced
- b. Þeir                dó-u  
           they(NOM.PL) died-3PL  
           They danced
- c. Þeir                drápu        hunda-na  
           they(NOM.PL) killed-3PL dogs-theACC  
           They killed the dogs

But there are also a group of verbs that take an NP in the regular preverbal ‘subject’ position, but differences in the other coding features, the case being genitive, dative or accusative, and no verb-agreement:<sup>13</sup>

- (59) a. Þá                    vantar        peninga  
           them(ACC.PL) lacks(3SG) money(ACC)  
           They lack money.
- b. Mér        líkar        vel við henni  
           me(DAT) likes(3SG) well with her(DAT)  
           I like her

Complement subject ellipsis provides evidence that these non-nominative NPs are subjects in spite of lacking the coding features of nominative case and agreement.

This is provided by the considerable number of verbs taking infinitival complements introduced by the complementizer *að*. These complements require their subject to be missing, and understood as coreferent to the main clause subject:

- (60) a. Ég        vonast til        að sjá hana  
           I(NOM) hope toward to see her(ACC)
- b. \*Ég        vonast til        að ég sjá hana  
           I(NOM) hope toward to I see her(ACC)
- c. \*Ég        vonast til        ég að sjá hana  
           I(NOM) hope toward I to see her(ACC)
- I hope to see her

Examples (b) and (c) are bad because they contain attempted complement subjects in position before and after *að*, which is not possible.

But the putative oblique subjects like those of (59) do basically satisfy the requirement that a subject be ellipsed, although ellipsis of a non-nominative subject does result in some degradation of acceptability (Thráinsson 1979:301-4, 469, Andrews 1990):

<sup>13</sup>There is considerably more to the subject position than just a tendency to appear first. See Jónsson (1996) for a recent analysis of Icelandic clause structure.

- (61) Ég vonast til að vanta ekki peninga  
 I(NOM) hope towards to lack not money  
 I hope not to lack money

This example also illustrates that the process applies to more semantic roles than just Agents.

Coordinate structures provide another possibility. In many languages, when clauses are conjoined, it is possible to omit an NP in one conjunct if it is coreferential with one in another conjunct, and if the NPs have the same grammatical relation in their respective conjuncts. Icelandic is one of those languages. In (a) below find that an oblique subject of a coordinated clause may be omitted under coreference with the subject of a preceding conjunct (Rögnavaldsson 1982), while in (b) we see that this is not possible for an object:

- (62) a. Ég sá stúlkuna og  $\emptyset$  líkaði vel við henni  
 I(NOM) saw the girl(ACC) and [I] liked well with her(DAT)  
 I saw the girl and liked her
- b. \*Ég sá stúlkuna og hún heyrði  $\emptyset$   
 I(NOM) saw the girl(ACC) and she(NOM) heard [me]  
 I saw the girl and she heard me

(Objects can however be omitted upon coreference to preceding objects, see Thráinsson (1979:471)). Likewise, only a subject, including oblique subjects, may control the ellipsis of the subject of a coordinate clause:

- (63) a. Deim líkar maturinn og  $\emptyset$  borða mikið  
 them(DAT) likes the food(NOM) and [they] eat a lot  
 They like the food and eat a lot
- b. \*Deir sjá stúlkuna og  $\emptyset$  heyrir þá  
 they(NOM) see the girl(ACC) and [she] hears them  
 They (masc) see the girl and she hears them

As with the other kinds of instances of subject ellipsis, it is necessary to ascertain that there isn't any free and general process of NP ellipsis that might be responsible for the 'missing subjects' in order for there to be evidence of a subject grammatical relation, and that its conditions can't be described in purely semantic terms.

#### 4.1.4 Coding features in non-main clauses

It frequently happens that the coding features of subjects are different in subordinate clauses than in main clauses. One of the commonest instances of this is when subjects of subordinate clauses acquire special case-marking. In English, for example, the subject of a gerund can be accusative or genitive, but not nominative, which is the normal case for subjects:

- (64) a. Him/\*he running Ewing Oil is difficult to imagine  
 b. His/\*he running Ewing Oil would upset a lot of people

Another is the Ancient Greek 'circumstantial participle' construction discussed in 2.2.3, with examples (16) and (17). If the subject of the participle is not coreferential with any NP in the matrix, it is expressed in the genitive instead of the nominative, which is the normal case for subjects:

- (65) Ape:nte:sa Philippo:i Klearchou apiontos  
 I-met Philip(DAT) Klearchus(GEN) leaving(GEN)  
 I met Philip while Klearchus was leaving

Cross-referencing is also affected: finite verbs in Greek agree with their subjects in person and number, while participles agree in gender, number and case (but infinitives, which take accusative subjects, don't agree at all).

Special NP-marking in subordinate clauses is usually restricted to subjects, although it sometimes involves other core grammatical relations such as object, as for example in the Saibai dialect of Kala Lagaw Ya (Comrie 1981). Sometimes subordinate-clause coding features provide useful arguments for subjecthood. This happens in Warlpiri. For older speakers, instead of requiring subject ellipsis, some non-finite clause constructions permit the subject to be expressed, and some of these permit or require a special case-marker on that subject (Nash 1980:233-4). One of these complementizers is *-rlarni*, whose meaning specifies that the action of the complement is contemporaneous with that of the matrix. Below are some examples with this complementizer:

- (66) Ngarrka-ngku-ka karli jarnti-rni.  
 man-ERG-PRES boomerang(ABS) carve-NONPAST  
 The man is carving the boomerang, . . .
- a. . . kurdu-ku/-∅ purla-nyja-rlarni  
 child-DAT/(ABS) shout-INF-while  
 while the child is shouting
- b. . . kurdu-ku/-ngku maliki wajilipi-nyja-rlarni  
 child-DAT/ERG dog(ABS) chase-INF-while  
 while the child is chasing the dog
- c. . . karnta-ku/-ngku kurdu-ku miyi yi-nyja-rlarni  
 woman-DAT/-ERG child-DAT food(ABS) give-INF-while  
 while the woman is giving food to the child

The subject takes either its normal case marking or the dative. Furthermore the subject, if it is there, must be initial in the *-rlarni* complement, regardless of its case-marking. If, for example, *kurdu-ku* were placed after *maliki* in (66b) above, it would have to be interpreted as a Beneficiary, so the meaning would be 'The man is carving the boomerang, while somebody is chasing the dog for the child' (Laughren p.c.).

The *-rlarni* construction, in sharp contrast to main clause constructions, expresses the subject grammatical relation directly in terms of both case-marking and linear ordering: the subject may be marked dative instead of its usual case (regardless of whether that is ergative or absolutive), and the subject must be initial in the complement. These additional phenomena complete the case for the existence of subjects in Warlpiri.

#### 4.1.5 Switch reference

The third grammatical test for identifying subjects that we will discuss involves what are called 'switch reference' systems. These are systems in which the verb of a clause bears a marker which indicates, among other things, whether the subject of that clause is the same or different from that of some other coordinated or subordinated clause.

Austin (1981a, 1981b) uses switch reference to argue for subjects in the Australian language Diyari. Grammatical relations are not directly reflected by coding features in Diyari because, like many other Australian languages, Diyari has a 'split ergative' case marking system in which different sorts of nominals have different systems of case

forms for A, S and P. First and second person non-singular (dual and plural) pronouns have a nominative (A/S) and accusative (P); singular common nouns and masculine proper names have an ergative (A) and an absolutive (P/S), while all other nominals have distinct forms for all three functions: ergative (A), absolutive (S) and accusative (P).

Most complex sentence constructions have switch reference marking expressed as an affix on the verb of the subordinate clause. The affix indicates the type of construction, and whether the subjects of the two clauses are the same or different. One of these constructions is the ‘relative clause’, a type of subordinate clause which further specifies either some participant in the main clause (an ‘NP-relative’ interpretation (Hale 1976)), or the time of the clause (a ‘T-relative’ interpretation). If the subject (A or S NP) of the subordinate clause is the same as that of the main clause, *-na* is added to its verb: if the subjects are different *-ḡani* is added. It is the A/S function rather than the case forms that are relevant for the switch-reference system.

(67) is an assortment of subordinate clauses with same subject (SS) marking, (68) an assortment with different subject (DS) marking. Note that the subordinate clause corresponds to a considerable range of subordinate clause types in English, including relative clauses, *when*-clauses, conditionals, and complement clauses. A shared subject may or may not be deleted in the subordinate clause.

- (67) a. *ḡawu ṭika-ḡa / ḡawu yaṭa-l ḡana-yi yiḡaḡu*  
 he(ABS) return-REL(SS) he(ABS) speak-FUT AUX-PRES you(SG LOC)  
 If he comes back he’ll talk to you
- b. *ḡaṭu kaṅta kul<sup>y</sup>aku<sup>y</sup>a ṭayi-ḡa / ḡani piṭi-yi*  
 I(ERG) grass(ABS) green(ABS) eat-REL(SS) I(ABS) fart-PRES  
 When I eat green grass, I fart
- c. *wiṅa ḡani pali-ḡa / ḡaṭu kaḡa ḡakaṅi*  
 when I(ABS) die-REL(SS) I(ERG) person me(DAT) have-PRES there(LOC)  
 When I die, I will have my people there  
 (*ḡakaṅi* is here functioning as a possessive modifier of *kaḡa* ‘person’)
- (68) a. *kaṅ<sup>y</sup>t<sup>y</sup>i mindi-ya ḡani / ḡaka-lda ḡawu wakaḡa-ḡani*  
 can run-PAST she(ABS) there-LOC he(ABS) come-REL(DS)  
 She could have run (the distance) if he had come back again
- b. *ṭanali ṅiṅa ḡayi-yi / ṅiṅa waraḡa-ḡa wanti-ḡani*  
 they(PL ERG) he(ACC) see-PRES he(ACC) leave-PART AUX-REL(DS)  
 They see him after he had been left (for a long time)
- c. *ḡani ṅiḡki-ya wakaḡa-ḡa / ḡaṭu ṅaḡa wiḷa ḡayi-yi*  
 I(ABS) here(LOC) come-REL(SS) I(ERG) she(ACC) woman(ABS) see-PRES  
 / *yinda-ḡani*  
 cry-REL(DS)  
 When I come here I see that woman [who is] crying

In (67a), there are coreferential NPs in S function in the two clauses, so SS-marking appears. In (67b) the main clause S is coreferential with the (preceding) relative clause A, so again SS marking appears, even though the coreferential nominals differ in their case forms. In (67c), the relative clause S is coreferential with the matrix A, so again SS marking appears.

In (68a), the matrix and relative clause contain no coreferential NPs, so DS-marking appears. In (68b) there are coreferential NPs, but they are Ps in both clauses (it is understood that the people who see him are different from the ones who left him, who are represented by an ellipsed subject for the clause). In (68c) there are two relative clauses, the first with a temporal interpretation with S coreferential with the matrix A, the second interpreted as a perception complement with S coreferential with matrix P. So the first relative clause has SS-marking, the second DS-marking.

Switch reference in this and other types of subordinate clauses provides evidence that Diyari has a subject grammatical relation comprising A and S functions, in spite of the completely ambiguous testimony of the NP-marking system. More than simple coreference between subjects is normally involved in switch-reference systems; see Stirling (1996) for a detailed study.

#### 4.1.6 Reflexivization

Many languages have special pronouns, called reflexive pronouns, that are used to indicate that an NP is coreferential with an NP bearing a certain structural relationship to it. In many languages, such pronouns are used when an NP is to be coreferential with the subject of a clause that contains it.

One such language is Malayalam (Mohanan 1982). Malayalam has free word order, expressing grammatical relations by NP marking. NPs in A/S function are nominative, P are accusative if animate, nominative if inanimate. In this language, the reflexive possessive pronoun *swaṅṅam* requires an antecedent which is a subject (either of the clause immediately containing *swaṅṅam*, or of some higher one). Therefore the following two sentences are good, even though *swaṅṅam* follows its antecedent in the first and precedes it in the second, since in both cases the antecedent is subject:

(69) a. Raajaawə swaṅṅam bhaaryaye nulli  
king(NOM) self's wife(ACC) pinched

b. Swaṅṅam bhaaryaye raajaawə nulli  
self's wife(ACC) king(NOM) pinched

The king pinched his own wife

But when an attempted antecedent is object, the result is ungrammatical:

(70) \*Raajaawine swaṅṅam bhaarya nulli  
king(ACC) self's wife(NOM) pinched  
His own wife pinched the king

These examples show that reflexivization depends on the grammatical relations rather than on linear order.

Like English, Malayalam has a passive construction in which the argument expressed as an object in the active is expressed as the subject, and the argument expressed as the subject in the active is expressed as an instrumental (with the ending *-aal*). The interaction of reflexivization with passivization shows it to be dependent on grammatical relations rather than semantic roles such as Agent and Patient. The controller of the reflexive has to be the subject even when in the passive construction the subject is the Patient:

(71) a. Raajaawə swaṅṅam bhaaryaal nullappettu  
king(NOM) self's wife(INSTR) pinch(PAST.PASS)



- b. Swaṅṭam bhaaryaal raajaawə nullappettu  
 self's wife(INSTR) king(NOM) pinch(PAST.PASS)

The king was pinched by his own wife

- (72) \*Raajaawinaal swaṅṭam bhaarya nullappettu  
 king(INSTR) self's wife(NOM) pinch(PAST.PASS)  
 His own wife was pinched by the king

Malayalam shares with Icelandic the feature of having NPs that lack some of the usual coding properties of subjects, but show some of their other grammatical properties, as do many other of the languages of South Asia (Masica 1971, Verma and Mohanan 1990). In Malayalam, most verbs take subjects in the nominative (unmarked) case, but some seem to have subjects in the dative case as a lexical property. Also certain derivational affixes, such as the desiderative *-aṅam*, impose the requirement that the derived verb take a dative subject (if a verb *V* means 'to *X*', the verb *V-aṅam* means 'to want to *X*'). Reflexivization provides one of the arguments that these datives are indeed subjects, since they can antecede *swaṅṭam*, while dative Recipients with ordinary verbs of giving cannot:

- (73) a. Raajaawinə swaṅṭam bhaaryaye null-aṅam  
 king(DAT) self's wife(DAT) pinch-DESIDERATIVE  
 The king wants to pinch his wife
- b. Raajaawinə swaṅṭam bhaaryaye iṣṭam-aanə  
 king(DAT) self's wife(ACC) liking-is  
 The king likes his wife
- c. \*Raajaawə makalikkə swaṅṭam bhartaawine koṭuttu  
 king(NOM) daughter(DAT) self's husband(ACC) give(PAST)  
 The king gave his daughter her husband

In a similar fashion, reflexivization also provides evidence for dative subjects in various other South Asian languages, such as Hindi (Kachru et al. 1979).

#### 4.1.7 Other properties of subjects

There are a very large number of other properties that subjects can have in a language, too many to list here. In Icelandic, for example, there are currently at least 13 known properties that can be used to argue that certain non-nominative NPs are subjects (Andrews 2001). An early compilation of common subject properties is Keenan (1976); see Manning (1996:12-14, 17) for more recent discussion. The most important point is that it is not sufficient simply to note that some property that frequently characterizes subjects in other language happens to be true of subjects in the language under discussion: it must also be shown that the property does not apply to non-subjects, and that it cannot be described solely in terms of semantic roles.

For example, in English, one can note that reflexive pronouns can have the preverbal NP as their antecedent, in the same way that Malayalam reflexive pronouns can have the nominative as their antecedent:

- (74) a. John<sub>i</sub> talked about himself<sub>i</sub>
- b. John<sub>i</sub> told Mary<sub>j</sub> about himself<sub>i</sub>

But there is no argument for subjects in English here, because non-subjects can also be the antecedent of reflexive pronouns:

(75) John<sub>i</sub> told Mary<sub>j</sub> about herself<sub>j</sub>

To provide evidence for a grammatical relation of subjects, a property must apply to the putative subjects but not to clear cases of non-subjects, and most also not be stateable in terms of other concepts such as semantic roles, since we shouldn't postulate abstract concepts such as grammatical relations if other independently motivated concepts are sufficient to account for the phenomena.

## 4.2 Other core grammatical relations

In this subsection we discuss some of the other core grammatical relations that are commonly found in languages that have subjects. These grammatical relations are commonly called 'objects': direct objects, indirect objects, and so forth. Objects are generally more problematic than subjects because there are fewer grammatical processes applying exclusively to specific types of objects. It can therefore be difficult to tell whether variations in the coding features of object-like NPs reflect differences in their grammatical relations. Some important studies and collections on aspects of objecthood are Plank (1984), Dryer (1986), Baker (1988), and Alsina (1996a).

The most important type of object, and the most widely distributed is the direct object. These are discussed immediately below, together with the highly similar second objects. Next we consider indirect objects, and then finally certain other less commonly found core grammatical relations.

### 4.2.1 Direct objects and second objects

We have already defined 'direct object' as the grammatical relation, if there is one, associated with P function. There turn out to be two potential kinds of problems that arise in connection with recognizing direct objects. The first is that sometimes P function is expressed by more than one morphosyntactic technique, without there being a clear basis for saying that there is a difference in grammatical relations. Most commonly, animate and/or definite P are expressed differently than inanimate and/or indefinite ones. In Hindi, for example, animate P require the accusative case-marker *ko*, while inanimate P allow (but don't require) the marker if they are definite, and don't allow it if they are indefinite (Mohanan 1995:79-80). Besides accusative, the inanimate objects can be nominative if they are definite, and must be if they are indefinite:

- (76) a. Ilaa ne bacce-ko/\*baccaa uṭaayaa  
 Ilaa ERG child-ACC/child(NOM) lift(PERF)  
 Ilaa lifted the/a child
- b. Ilaa ne haar uṭaayaa  
 Ilaa ERG necklace(NOM) lift(PERF)  
 Ilaa lifted the/a necklace
- c. Ilaa ne haar-ko uṭaayaa  
 Ilaa ERG necklace-ACC lift(PERF)  
 Ilaa lifted the/\*a necklace

A somewhat similar phenomenon appears in Spanish. Here full NP animate objects, regardless of definiteness, are marked with an object-marker *a* (77a), while inanimates are marked by nothing (77b). But pronominal objects are marked by an accusative case clitic in front of the verb, regardless of animacy:<sup>14</sup>

<sup>14</sup>There is however an option, called *leísmo*, of using dative rather than accusative forms of animate object pronouns, so the treatment of these two types seems to be diverging.

- (77) a. *Vimos a alguien*  
 we saw OM somebody  
 We saw somebody
- b. *Vimos (\*a) el interruptor*  
 we saw (OM) the switch  
 We saw the switch
- c. *Lo vimos*  
 it(ACC) we-saw  
 We saw it/him

Pronominal animate objects can also be ‘doubled’ as full NPs, in which case one sees the marker on the NP together with an accusative pronoun:

- (78) *Lo vimos a él*  
 him(ACC) we-saw OM him  
 We saw HIM

There doesn’t seem to be any solid basis for saying that one or the other of these treatments is characteristic of a ‘real P’ (participant receiving the normal treatment accorded to a Patient of a PTV). Rather in many languages there are just two treatments, apportioned in accord with animacy, or definiteness. This is in fact probably the commonest situation in which there are two different ways of expressing P function. It is important that in all such cases, all PTVs can use either technique, providing that its semantic/pragmatic conditions are met.

A different but related issue is whether or not there are two grammatical relations involved. In the case of Spanish, this seems unlikely: both animate (marked) and inanimate (unmarked) P are represented the same way, as accusative clitics, when pronominal, and both can likewise be Passivised. In the case of Hindi, there doesn’t seem to be a comparable argument for identifying the two treatments of P as one grammatical relation, but neither is there any against it, and treating them as the same gives us a simpler account of verbs in the lexicon, since a transitive verb will simply be specified as taking a subject and an object, rather than a subject and one of two types of object. So one can say that P is consistently realized by a grammatical relation, although the evidence for this is not overwhelming.

The second problem is more serious, which is that of distinguishing P’s from potential cases of non-Ps. These cases arise in at least two ways. First, there can be ‘non-canonical’ objects that share some but not all of the properties of P. Second, there can be ‘multiple’ objects where there is more than one NP that shows some of the characteristic properties of P.

The first kind of case often arises in languages where grammatical relations are coded by NP-marking. In such languages, it often happens that a large number of two argument verbs take non-subject arguments in some case not normally found on P. In Warlpiri, we have noted verbs taking non-subject arguments in the dative and locative cases (examples (48) and (42), respectively). Simpson (1991:311-317) argues that these dative arguments should be considered as objects because they can be cross-referenced like ordinary objects, and serve as controllers for *kurra* nonfinite clauses, as illustrated in (55c).

Another kind of example is afforded by German. Here Ps are expressed as accusative NP, illustrated in (79a). But there are a fair number of two-argument verbs that take their second (non-subject) argument in the dative, illustrated in (b):

- (79) a. Sie sah ihn  
 she(NOM) saw him(ACC)  
 She saw him
- b. Sie halfte ihm  
 she(NOM) helped him(DAT).  
 She helped him.

In German, there don't seem to be any phenomena which clearly unite the accusative of (a) and the dative of (b) as bearers of a single grammatical relation, other than that of appearing as a bare NP, without a preposition.

For example both kinds of verbs can passivize, but an accusative object becomes nominative and obligatorily occupies the subject position, while the dative retains its dative case, and remains in the VP:

- (80) a. Er wurde gesehen  
 he(NOM) became seen  
 He was seen
- b. \*Es wurde ihn/er gesehen  
 It(NOM) became him(ACC/NOM) seen  
 He was seen
- c. \*Er wurde geholfen  
 He(NOM) became helped  
 He was helped
- d. Es wurde ihm geholfen  
 It(NOM) became him(DAT) helped  
 He was helped

*Es* 'it' in (d) is functioning as a 'filler' in sentence initial position in cases where there is no subject; it is impossible in (b) because the passive verb form *gesehen* in this example has the nominative *er* 'he' as its subject.

It is possible to put the dative into sentence initial position (like almost any other constituent of the clause), with consequent disappearance of *es*, but these datives pass none of the relevant tests for subjecthood. For example they can't be ellipsed as understood subjects of complements (Jónsson 1996:127-129):

- (81) a. Uns wurde von der Polizei geholfen  
 we(DAT) became by the police helped  
 We were helped by the police
- b. \*Wir möchten von der Polizei geholfen werden  
 We(NOM) want by the police helped to become  
 We want to be helped by the police

By contrast, in Icelandic, when such postverbal dative putative objects are passivized, they obligatorily occupy subject position and pass tests for subjecthood:

- (82) a. Þeir hjálpuðu honum  
 they helped him(DAT)  
 They helped him
- b. Honum var hjálpað  
 him(DAT) was helped  
 He was helped

- c. Hann vonast til að verða hjálpað  
 he hopes toward to be helped  
 He hopes to be helped

So in Icelandic we have a reason for grouping the canonically marked (accusative) objects with the noncanonically marked (dative) putative objects, but in German we don't appear to. It may thus require substantial investigation to work out which NPs are direct objects in languages with rich case-marking systems.

The other case tends to arise in systems that code grammatical relations by order. Here it is frequent for two non-subject arguments to appear without distinguishing role-markers, in what is often called a 'double object' constructions such as that of *Susan handed Paul the shovel*, mentioned in (35a) above. In this construction, after the verb *handed* appear two bare NPs, *Paul* and *the shovel*. In traditional terminology, *Paul* would be described as the 'indirect object' and *the shovel* as the 'direct object', but this classification is based on the semantic roles, and is partly based on the fact that in many languages with case-marking, the Recipient would be in the dative case and the Theme in the accusative.

Examining a range of languages with double object constructions reveals a rather complex situation. In the most straightforward type, one of the two NPs, usually but not always the one expressing the Recipient, takes on all of the grammatical properties of a P, and may thus be non-controversially considered to be the direct object and bearer of P-function.<sup>15</sup>

A language of this type is the Bantu language Chi Mwi:ni (Kisseberth and Abasheikh 1977). The general form of Chi Mwi:ni sentence structure is not unlike that of English: subjects and objects being unmarked and appearing in SVO order, followed by obliques with prepositional NP-marking. There is furthermore a passive construction like that of Malayalam, which puts an extra affix on the verb but does not add an auxiliary. Among the differences is that Chi Mwi:ni has a rich agreement system, with subjects triggering obligatory and objects optional cross-referencing on the verb.

P are distinguished from S and obliques by the two properties of triggering optional cross-referencing on the verb (the cross reference marker appearing between the tense marker, if there is an overt one, and the stem, unlike the obligatory subject cross-reference marker, which precedes the tense marker) and being able to undergo passivization. These two properties are illustrated below (Kisseberth and Abasheikh 1977:192-3):

- (83) a. Nu:ru  $\emptyset$ - $\emptyset$ -chi-tes-ete chibu:ku  
 Nuru he(SUBJ)-PAST-it(OBJ)-bring-ASP book  
 Nuru brought the book
- b. Chibu:ku chi- $\emptyset$ -tes-el-a na Nu:ru  
 book it(SUBJ)-PAST-bring-ASP-PASS by Nuru  
 The book was brought by Nuru

There are double object constructions in which two NPs appear postverbally without NP-marking. The simplest constructions of this sort occur with verbs taking a Theme and a Goal/Source (which may be a Recipient or Loser, or simply something to which something is applied, such as a cart that is oiled). We will refer to these non-Theme arguments as 'Recipients', though their range of semantic roles is wider than indicated by this term.

<sup>15</sup>This is sometimes called the 'Primary Object', in part to avert potential confusion with the traditional usage of the term 'direct object', but for theoretical reasons as well (Dryer 1986).

In a double object construction, both of the properties characteristic of P accrue to the Recipient (which normally occupies the immediately postverbal position), as illustrated in (84), but not to the Theme, as illustrated in (85) (Kisseberth and Abasheikh 1977:192-3):

- (84) a. Nu:ru  $\emptyset$ -m-*let-el-ele* mwa:limu chibu:ku  
 Nuru he(SUBJ)-him(OBJ)-bring-DAT-ASP teacher book  
 Nu:ru brought the book to the teacher
- b. Mwa:limu  $\emptyset$ -*let-el-el-a* chibu:ku na Nu:ru  
 teacher he(SUBJ)-bring-DAT-ASP-PASS book by Nu:ru  
 The teacher was brought the book by Nuru
- (85) a. \*Nu:ru  $\emptyset$ -chi-*let-el-ele* mwa:limu chibu:ku  
 Nuru he(SUBJ)-it(OBJ)-bring-DAT-ASP teacher book  
 Nuru brought the book to the teacher
- b. \*Chibu:ku chi-*let-el-el-a* mwa:limu na Nu:ru  
 book he(SUBJ)-bring-DAT-ASP-PASS teacher by Nuru  
 The book was brought (to) the teacher by Nuru

Note that the presence of a Recipient object is signalled by the affix *el* glossed DAT (it is generally called the ‘applied’ affix in Bantu linguistics). This is not a cross-reference affix because it doesn’t show agreement with the grammatical features of the Recipient; rather it signals the application of a valence-change operation.

It seems quite unproblematic to view the Recipient in the Chi-Mwi:ni double-object construction as the syntactic direct object, since it monopolizes the properties of a sole object. The Theme in these constructions would then bear a different grammatical relation, which we may call ‘second object’, or ‘secondary object’, if the term ‘primary object’ is being used. The availability in Universal Grammar of a direct vs. second object distinction is further indicated by the existence in some languages such as Ojibwa (Rhodes 1990) of a distinction between normal transitive verbs, which take a subject and a direct object, and ‘pseudo-transitive’ verbs, which can be strongly argued to take subject and a second object, the same grammatical relation that expresses the Theme in a ditransitive verb, the Recipient being expressed as a direct (or ‘primary’) object.<sup>16</sup>

Chi-Mwi:ni illustrates what is called ‘asymmetric’ behavior with respect to object properties: the clause contains multiple NPs whose appearance is not distinct from an NP in P function. Only one exhibits the properties normally exhibited by a sole P (but not an S, and therefore can be plausibly analysed as bearing a ‘direct object’ grammatical relation). Asymmetric behavior is widely found in the languages of the world, see for example Chung (1976) for an example involving five object properties in Bahasa Indonesia, but there are two additional possibilities.

One is ‘symmetrical’ behavior, where more than one of the NPs that superficially look like P also share substantial grammatical behavior with a sole P. Ojibwa in fact has a limited degree of symmetry: both direct and second objects trigger object-agreement on the verb, when only one is present (Rhodes 1990). And so in fact does English. For most speakers, if a Recipient appears as a full NP in a double object construction, it is the sole candidate for passivization; the second object is excluded.<sup>17</sup>

<sup>16</sup>True PTVs belong to the normal transitive class, however certain verbs with Theme objects are pseudo-transitive. This is an example of why Patients need to be distinguished from Themes in defining the class of PTVs.

<sup>17</sup>The ‘%’ indicates the variable acceptability of the (b) example. Some English speakers accept it and some do not.

- (86) a. Paul was handed the shovel (by Susan)  
 b. %The shovel was handed Paul (by Susan)

We can normally only passivize the Theme if the Recipient is expressed as an (oblique) to-object, as in *The shovel was handed to Paul (by Susan)*. Thus we seem to have an asymmetric construction with the Recipient as direct object. But if the Recipient is a pronoun, it seems to be possible to passivize the Theme, at least in some dialects:

- (87) a. No explanation was given them  
 b. The job was offered him  
 c. Fake documents were given him

Oehrle (1975:177) finds such examples scattered throughout English writing and broadcasting (the postverbal dative is almost always a pronoun).

In these cases the degree of symmetry is limited enough so that there isn't a real problem in deciding which NP should be regarded as the direct object, but in some languages the symmetrical behavior is far more pervasive, to the point where it seems plausible to postulate multiple direct objects.

The original and still one of the most extensive examples of symmetric behavior is provided by another Bantu language, (Gary and Keenan 1977, Kimenyi 1980).

In this language, as in Chi-Mwi:ni, there can be multiple bare NPs after the verb that look like P, but in many cases either or both of them can manifest the grammatical properties of P, rather than only one. Two of these P-properties are the ability to be Passivized, and to be replaced by a verbal prefix when pronominal.<sup>18</sup> Below is an example with three P-like postverbal NPs, and a variant where they are all replaced by pronominal object prefixes (Kimenyi 1980:65):

- (88) a. Umugóre a-rá-hé-er-a                      umugabo ímbwa ibíryo  
 woman she-PRES-give-APPL-ASP man dog food  
 The woman is giving food to the dog for the man  
 b. Umugóre a-ra-bi-yí-mu-hé-er-a  
 woman she-PRES-it-it-him-give-APPL-ASP  
 The woman is giving it to it for him

And here we see any of the three being passivized (but only one at a time):

- (89) a. Ibíryo bi-rá-hé-er-w-a                      umugabo ímbwa n'úmugóre  
 food it-PRES-give-APPL-PASS-ASP man dog by-woman  
 The food is given to the dog for the man by the woman  
 b. ímbwa i-rá-hé-er-w-a                      umugabo ibíryo n'úmugóre  
 dog it-PRES-give-APPL-PASS-ASP man dog by-woman  
 The dog is given the food for the man by the woman  
 c. Umugabo a-rá-hé-er-w-a                      ímbwa ibíryo n'úmugóre  
 man he-PRES-give-APPL-PASS-ASP dog food by-woman  
 The man is given food for to the dog by the woman

<sup>18</sup>In Chi-Mwi:ni, the verbal object-marking prefixes serve as agreement markers which can cooccur with full NPs, which can also be omitted, while in Kinyarwanda they are mutually exclusive with NPs. See Bresnan and Mchombo (1987) for discussion of this typological difference.

By contrast, there are other multiple-apparent-P constructions where not all of the bare postverbal NP's can show the grammatical object properties. For example a locative argument can be expressed as a bare NP after the verb (which has a locative marker suffixed to it), along with the Patient, but it is the locative not the patient that shows the object properties of pronominalization and passivization (Kimenyi 1980:94-95):

- (90) a. Úmwáalimu y-oohere-jé-ho iishuûri igitabo  
 teacher he-send-ASP-to school book  
 The teacher sent the book to the school
- b. Úmwáalimu y-a-ry-oohere-jé-ho igitabo  
 teacher he-PAST-it-send-ASP-to book  
 The teacher sent the book to it
- c. Iishuûri ry-oohere-j-w-é-ho igitabo n'úmwáalímu  
 school it-send-ASP-PASS-ASP-to book by-teacher  
 The school was sent the book by the teacher
- d. \* Úmwáalímu cy-oohere-je-é-ho ishuûri  
 teacher he-PAST-it-send-ASP-to school  
 The teacher sent it to school
- e. \* Igitabo cy-oohere-j-w-é-ho ishuûri n'úmwáalímu  
 book it-send-ASP-PASS-ASP-to school by-teacher  
 The book was sent to school by the teacher

This shows that in the Benefactive-Dative-Patient constructions of (89), it is reasonable to regard all the postverbal NP's as being 'direct objects', but in the Locative-Patient constructions of (90), only the Locative.

Crucial to the idea of multiple objects is that more than one NP be able to exhibit an object property at the same time; in Kinyarwanda this has been demonstrated only for object-pronominalization, but Bresnan and Moshi (1990) illustrate this for various other combinations of properties in the Bantu language Kichaga.

Symmetric languages afford the problem that because object properties are shared between multiple NPs, there doesn't appear to be a clear basis for picking out a unique NP as direct object. However we've seen that asymmetric languages can show a limited amount of symmetric behavior, and the reverse turns out to be the case as well: Dryer (1983) shows that in Kinyarwanda there are differences between the grammatical behavior of Recipient, Benefactive and Theme/Patient objects.<sup>19</sup> Symmetry and asymmetry thus appear to be matters of degree, and a final complexity is what can be called 'split objecthood': here in a double-object construction, one of the objects takes some of the P-properties, while the other takes some of the others. Dryer (1986:829-830) discusses some cases of split objectivity in Southern Tiwa, Mohawk, and other languages.

Passivization and cross-referencing are the most widely available tests for direct-objecthood, although a wide range of other phenomena can provide evidence in particular languages. A final point is that although second objects usually appear only in the presence of direct objects, this isn't always the case; in Ojibwa for example Rhodes (1990), there appear to be 'secondary objects' that can appear either with or without the presence of an ordinary direct object.

<sup>19</sup>Assuming the framework of Relational Grammar, Dryer interprets the facts as evidence for a direct object/indirect object distinction, although in other frameworks there are different possibilities.



#### 4.2.2 Indirect objects

In the ‘double object’ constructions discussed above, there are two non-subject NPs that are similar in appearance, which may or may not be similar in behavior. Another option is for the two NPs to look different. Of course one way for two non-subject arguments to look different is for one of them to be a core argument and the other an oblique; this is what happens for example in English examples like these:

- (91) a. Mary presented a watch to Tom  
 b. Mary presented Tom with a gold watch

Here the arguments introduced by the prepositions *with* and *to* are classed as oblique, because of their difference in appearance and behavior from A, S and P, which are bare NPs, and their similarities in appearance and behavior to other non-core roles, such as instrumental and locative adjuncts. But it is also possible for the different-looking argument to present the behavior of a core argument rather than an oblique.

This happens, for example, in Warlpiri. In Warlpiri, verbs of giving and related notions take their Agent in the ergative case, their Theme in the absolutive, and their Recipient or related role, such as Loser, in a dative. These datives are cross-referenced on the auxiliary by the ordinary object markers except for the third person singular, which is cross-referenced by *-rla*:

- (92) a. Nyuntulu-rlu ngaju-ku ka-npa-ju  
 you-ERG me-DAT PRES-2SG(SUBJ)-2SG(OBJ)  
 karli-patu yi-nyi  
 boomerang(ABS)-PAUCAL give-NONPAST  
 You are giving me a few boomerangs
- b. Ngajulu-rlu kapi-rna-rla karli-patu  
 I-ERG FUT-1SG(SUBJ)-3(DAT) boomerang(ABS)-PAUCAL  
 punta-mi kurdu-ku  
 take away-NONPAST child-DAT  
 I will take the boomerang/the few boomerangs away from the child

Note in particular that a plural third person P of a transitive verb would be cross-referenced with *-jana*, on the auxiliary, while here all we have is cross-referencing of the Recipient with *-ju* (92a) and *-rla* (92b).

If we assume that case should directly reflect grammatical relations when this is possible, we would want to analyse these examples by treating the Theme as a direct object, and the Recipient/Loser as a new grammatical relation, which we can call ‘indirect object’ (defined as the grammatical relation, if there is one, normally associated with Recipients).

But the evidence for an indirect object grammatical relation is quite equivocal. The cross-referencing on the auxiliary treats the dative NP almost exactly as if it were the direct object, showing agreement with it rather than with the absolutive (note that in the examples of (92) above, the plural absolutives would elicit the cross-reference marker *-jana* if they were direct objects of transitive verbs, but this does not appear, the Recipient monopolizing the cross-referencing). The only difference between the cross-referencing of the Recipient in a ditransitive and that of an ordinary absolutive direct object is that in the former case, there is overt cross-referencing expressed by a morpheme *-rla*, rather than null cross-referencing. This would be straightforwardly explained if the datives were the direct objects (participating in agreement), and the

absolutives were second objects (failing to agree), with the appearance of *-rla* being attributed to the case-marking.

The syntactic behavior likewise speaks against indirect object status, rather than in favor of it. The evidence comes from the use of the nonfinite complementizer *kurra*, already illustrated in (55) above, with three-argument verbs. In such cases, it seems to be more natural to interpret the subject of the *kurra*-marked verb as being the dative rather than the absolutive (Simpson 1991:341-342):

- (93) a. Karnta-gku ka-ju kurdu milki-yirra-rni  
 woman-ERG PRES-1SG(OBJ) child(ABS) show-put-NONPAST  
 nguna-nja-kurra(-ku)  
 lie-INF-OBJCOMP-(DAT)  
 The woman is showing the child to me while I am lying down
- b. ?? Yu-ngu-rna-rla kurdu parrja-rla  
 give-PAST-1SG(SUBJ)-3(DAT) child(ABS) coolamon-LOC  
 nguna-nja-kurra yali-ki  
 sleep-INF-OBJCOMP that-DAT  
 I gave the child sleeping in the coolamon to that one

Simpson (citing communications from Mary Laughren) reports that the [b] example, with the absolutive controlling the *kurra*-verb, is questionable, and that speakers prefer an interpretation where it is the Recipient that's sleeping in the coolamon rather than the theme. This suggests that the dative is indeed the object, rather than an indirect object.

In Romance languages, on the other hand, NP's marked with the preposition *a* often have certain properties such as the ability to be cross-referenced, indicating that they are core arguments (Alsina 1996b:150-160), but do not undergo passive (as ordinary direct objects do), indicating that they might have a different grammatical relation, which could then be appropriately called 'indirect object' (however, Alsina (1996a:13,150) rejects this kind of analysis, taking the *a*-marked Recipients to be simply objects, with their differences from other objects, such as the non-applicability of passive, being due to their dative case-marking).

In English, Bantu, and many other languages, on the other hand, we do not seem to find even *prima facie* plausible candidates for an indirect object grammatical relation. In these languages Recipients are expressed either as direct objects, usually in a double object construction, or as obliques. For example, the *to*-object construction in English gives no evidence of being anything other than an ordinary oblique prepositional phrase. There is no reason to set up a special indirect object relation borne by it but not by other kinds of PP.

The status of the notion of 'indirect object' is thus problematic and difficult to sort out. The top priority is to work out what properties Recipients and Themes do and do not share with P arguments of PTVs.

#### 4.2.3 Other core relations

Aside from subject, object and perhaps indirect object, various other core grammatical relations sometimes seem to be motivated. An example of an unusual core grammatical relation is provided by Warlpiri. Any Warlpiri verb may be supplemented by what Hale (1973) calls an 'adjunct dative', but which we will call a supplementary dative, to avoid confusion with the terminology of this chapter. A supplementary dative is a dative which expresses various semantic roles, but is cross-referenced as an indirect object. If associated with a verb with no special marking, the supplementary dative is interpreted as a Beneficiary:

- (94) a. Ngarrka-ngku ka-rla kurdu-ku karli ngurrjuma-ni  
 man-ERG PRES-3(DAT) child-DAT boomerang(ABS) make-NONPAST  
 The man is making a boomerang for the child
- b. Ngarrka-ngku ka-rla-jinta kurdu-ku miyi karnta-ku  
 man-ERG PRES-3(DAT)-3(DAT) child-DAT food(ABS) woman-DAT  
 yi-nyi  
 give-NONPAST  
 The man is giving food to the child for the woman.  
 or: The man is giving food to the woman for the child

(94b) shows that the supplementary dative can co-occur with an indirect object, and is thus a distinct grammatical relation. *Jinta* is the form assumed by the second of two cross reference markers both referring to a third person singular dative (Hale 1973:336).

The interpretation of the supplementary dative may be altered by adding to the verb one of a number of so-called preverbs (which have a variety of additional functions in Warlpiri). Thus with the preverb *marlaja*, the adjunct dative indicates the entity who brings about the situation described by the sentence. With the preverb *piki(-piki)*, the dative represents an entity of which some participant is in danger from:

- (95) a. Kurdu-ngku ka miyi nga-rni  
 child-ERG PRES food(ABS) eat-NONPAST  
 The child is eating food
- b. Kurdu-ngku ka-rla karnta-ku miyi marlaja-nga-rni  
 child-ERG PRES-3(DAT) woman-DAT food(ABS) CAUSE-eat-NONPAST  
 The woman brought about the circumstance that the child is eating food
- (96) a. Ngarrka-ngku ka yujuku nganti-rni  
 man-ERG PRES humpy(ABS) build-NONPAST  
 The man is building a humpy (bush shelter)
- b. Ngarrka-ngku ka-rla warlu-ku piki-nganti-rni  
 man-ERG PRES-3(DAT) fire-DAT DANGER-build-NONPAST  
 yujuku  
 humpy(ABS)  
 The man is building a humpy in danger of fire (either man or humpy is in danger)

Since the semantic role of the supplementary dative is determined by the form of the verb, its status as a core grammatical relation is confirmed.

Supplementary datives are probably best viewed as the results of a lexical process which derives from one lexical item another with an additional argument whose semantic role is determined by which preverb, if any, is added.

It is quite common for Benefactives to be added by a lexical operation of this sort, although the technique employed in Warlpiri is unusual. More commonly, the Benefactive takes on the appearance and at least some of the properties of a direct object. In English, for example, we can express a Benefactive as a for-adjunct or as what looks like a direct (first) object:

- (97) a. Bruce barbecued the steak for Darlene  
 b. Bruce barbecued Darlene the steak

Although the benefactive object in (97b) looks like a direct object, it is behaviorally somewhat different, since for most speakers it cannot passivize: *\*Darlene was barbecued the steak by Bruce* (Fillmore 1965). It is not clear whether we should think of benefactive objects as having a different grammatical relation than ordinary direct objects, or whether the differences are simply a consequence of the semantic role of the Benefactives.

In many Bantu languages, Benefactives can only be expressed as derived object-like NPs, benefactive adjuncts being absent. Furthermore, the benefactive objects take on object properties more readily than in English, being freely cross-referenced, passivized, etc. Similar processes also add arguments with a wide range of other semantic roles, such as Instrument, Locative, Reason, etc. Such processes are widely discussed under the title of rules of 'Applicative' formation (Baker 1988, Austin and Bresnan 1997).

### 4.3 Syntactic ergativity

In many languages with an ergative case-marking system, such as Warlpiri, the syntax appears to be organized along subject-object lines, as originally argued by Anderson (1976), and confirmed by much subsequent work, as reviewed and extended in Simpson (1991). But there are also languages in which at least some of the syntax is organized along absolutive-ergative lines, with rules targetting P/S rather than A/S. This phenomenon is called 'syntactic ergativity'. Languages that appear to be overwhelmingly ergative in their syntax are quite rare (there is only one well-described example, Dyirbal, Dixon 1972); for languages with syntactic ergativity, the usual case is for some subject-like properties to apply to the P/S, others to the A/S, a situation that is called 'mixed ergativity'.

In this subsection we will introduce syntactic ergativity in the Australian language Yidjɪn (Dixon 1977b), and then provide some discussion of the more extensively ergative (and therefore more unusual) language Dyirbal. These two languages are concisely described and compared in Dixon (1977a). Then in the next section we will consider mixed ergativity together with another problematic kind of system of grammatical relations, the 'Philippine type', and will use these to motivate some revisions to our conception of grammatical relations.

Yidjɪn, like Warlpiri and most other Australian languages, has rather free word order (though there are strong preferences), relying entirely on NP-marking to code syntactic functions. Under certain circumstances, the components of an NP may be split (Dixon 1977b:268-71), but this is far more restricted than in Warlpiri (or Dyirbal, which is similar to Warlpiri in having very free word-order). The NP marking system is of the split ergative type, with different categories of nominals having different systems of case forms.

The three relevant categories are common nominals (nouns and adjectives), pronouns, and deictics. Common nominals inflect ergatively, taking an ergative form in A function, an absolutive form in P/S function. Pronouns (existing only for first and second persons; for third person reference demonstratives are used) take an accusative in P function and a nominative in A/S function. Deictics (comprising demonstrative and interrogative/indefinite pronouns, the former also serving as third person pronouns) have two stems, human and non-human. Humans may only be referred to by a human stem, while non-humans may be referred to by either, the use of the human stem being more likely the more humanlike the referent of the NP. Human deictics take an ergative A form, an accusative P form, and an absolutive S form, while non-human deictics inflect like common nominals, except that for some there is an optional accusative.

Some examples illustrating case marking for personal pronouns and common nouns are the following:

- (98) a.  $\eta$ ayu maŋga:-ŋ  
I(NOM) laugh-PAST  
I laughed
- b. buŋa maŋga:-ŋ  
woman(ABS) laugh-PAST  
The woman laughed
- c.  $\eta$ aŋa-ŋ buŋa:-ŋ wuɹa:-ŋ  
I-ACC woman-ERG slap-PAST  
The woman slapped me
- d.  $\eta$ ayu buŋa wuɹa:-ŋ  
I(NOM) woman(ABS) slap-PAST  
I slapped the woman
- e. Waguɖa-ŋgu guda:ga wawa:-l  
man-ERG dog(ABS) see-PAST  
The man saw the dog

The evidence for syntactic ergativity in Yidiŋ comes from the subordinate clause constructions of the language. These are similar in function to the relative clauses of Diyari—see (67), (68), having what from the English point of view are a variety of relative and adverbial interpretations. There are four morphological types of subordinate clauses, ‘dative’, ‘causal’, ‘purposive’ and ‘apprehensional’, each with a different ending on the subordinate verb. The first three types are quite similar in their behavior, while the apprehensional clauses are somewhat different.

There is no switch-reference system in Yidiŋ. But there is in the dative, purposive and causal subordinate clauses a near requirement that if the matrix and subordinate clauses contain coreferential NPs (about 85% do in Dixon’s texts (Dixon 1977b:323)), this NP should have P/S function in both clauses. This requirement is absolute for clauses with a relative interpretation, that is, for those in which the coreferentiality is essential to the function of the clause, though it is occasionally violated by those with adverbial interpretations (Dixon 1977b:323-49). Furthermore, the coreferential NP in the subordinate clause may only be ellipsed if it is in P/S function (Dixon 1977b:332-2).

Thus we can use the dative subordinate clause construction DATSUB, signaled by the verbal suffix *-ŋunda*, which expresses simultaneous action, to combine (98a) and (98c) to yield either (a) or (b) below:

- (99) a.  $\eta$ ayu manga:-ŋ ( $\eta$ aŋa-ŋ) buŋa:-n wuɹa:-ŋunda  
I(NOM) laugh-PAST I-ACC woman-ERG slap-DATSUB  
I, who was slapped by the woman, laughed
- b.  $\eta$ aŋa-ŋ buŋa:-ŋ wuɹa-ŋ / ( $\eta$ ayu) maŋga-ŋunda  
I-ACC woman-ERG slap-PAST I(NOM) laugh-DATSUB  
I, who was laughing, was slapped by the woman.

In (99a) the matrix coreferential NP is S, and the subordinate is P; in (99b), the matrix coreferential NP is P and the subordinate one is S. S-S and P-P combinations are also possible. In these examples the matrix and subordinate coreferential NPs differ in their case form, since the shared NP is a personal pronoun, and therefore has a nominative form in S function and accusative in P. But the same coreference possibilities would

exist if the NPs in both clauses were common nominals, with the same case forms in both clauses. The examples of (99) also illustrate optional omission of the subordinate clause NP: it is also possible to omit the main clause NP, or, rarely, both.

If one of the coreferential NPs is A, the clauses cannot normally be combined as they are. Rather a rule that is both similar to and different from the passive of languages like English must be used to convert the A to S function, except, very rarely, when the clause is adverbial in sense, and the coreferentiality, is ‘accidental’ (not essential to the function of the clause).

All transitive verbs have a so called antipassive form, derived by adding the suffix designated *-đi-n* by Dixon (the *n* represents the conjugation class of the antipassivized verb, which manifests itself by its effects on the form of what follows it). The role normally expressed as A is then expressed as S, while the role normally expressed by P is expressed by an NP in the dative or locative case, the choice determined by humanness in the same way as the choice between human and nonhuman deictic stems: NPs referring to humans must be dative, while those referring to non-humans may be either dative or locative, but are more likely to be dative the more like humans they are (Dixon 1977b:110-112). This alternation extends to many but not all values of the dative and locative case forms.

The antipassive construction is illustrated below, where (100a) is the antipassive of (98e), and (100b) is the antipassive of (98d):

- (100) a. *wagu:đa gudaga-nda/-la wawa:-đi-ju*  
 man(ABS) dog-DAT/LOC see-ANTIPASS-PAST  
 The man saw the dog
- b. *ŋayu buŋa:-nda wuɔa:-đi-ju*  
 I(NOM) woman-DAT slap-ANTIPASS-PAST  
 I slapped the woman

In the change from (98e) to (100a), the Agent changes its case from ergative to absolutive, since it is a common noun, but the pronominal Agent in (98d) (100b) has no case change, since it takes the nominative form for both A and S functions.

Antipassives appear to be virtually exact paraphrases of the corresponding non-antipassive constructions. Questions, for example, will often be answered in the antipassive simply for the sake of injecting grammatical variation into the discourse (Dixon 1977b:118). Like passives in English, however, antipassives appear to be secondary constructions in that they have greater morphological complexity in the verb, and are not used without some reason (one might answer a question in the antipassive to vary the style, but wouldn’t ask it that way out of the blue).

The antipassive permits us to get the effect of combining (98a) and (98d), in which the shared NPs is S in one clause and A in the other. (98d) is converted to its antipassive form (100b), and we get the sentences below as the result:

- (101) a. *ŋayu maŋga:-ŋ / (ŋayu) buŋa:-nda wuɔa:-đi-ŋunda*  
 I(NOM) laugh-PAST I(NOM) woman-DAT slap-ANTIPASS-DATSUB  
 I, who was slapping the woman, laughed; I laughed while slapping the woman
- b. *ŋayu buŋa:-nda wuɔa:-đi-ju / (ŋayu) maŋga-ŋunda*  
 I(NOM) woman-DAT slap-ANTIPASS-PAST I(NOM) laugh-DATSUB  
 I, who was laughing, slapped the woman; I slapped the woman while laughing

The purposive and causal subordinate clauses, which I will not illustrate here, behave in exactly the same way. In these three types, we have a strong preference (though

there are a few counterexamples) for a shared NP to be in P/S function in both the subordinate and matrix constructions. Furthermore this requirement must be met if the clause is to be interpreted as an NP-modifier, or if the subordinate clause instance of the NP is to be deleted (Dixon doesn't state whether deletion of the matrix NP obeys this condition). The syntactic rather than semantic character of the principles constraining clause combination is revealed by the fact that the antipassive, which turns an A into an S, permits an Agent NP to come to satisfy them.

These principles treat P and S equivalently, and therefore motivate establishing a grammatical relation, which we shall call 'absolutive', expressing P and S functions. For A function we would propose another grammatical relation, 'ergative'. In Yidjɪn there is very little further corroboration for this analysis.

But in Yidjɪn's southerly neighbor Dyirbal, the case for P-S identification is much stronger. All of the complex sentence constructions of the language (two to four, depending on how one counts) provide evidence for treating P and S as having one grammatical relation, and there are various morphological phenomena that do as well.

Symptomatic of the difference between the two languages are the differences in their sentential coordination constructions. One of the most characteristic features of Dyirbal discourse is that long sequences of coordinate clauses tend to be strung together in a 'topic chain', in which all the conjuncts have a shared NP in P/S function, that is, with the absolutive grammatical relation (Dixon 1972:130-132).

In Yidjɪn on the other hand, one does not find such topic chains: coordinations (expressing simultaneous action of two or three clauses containing a shared NP) are reasonably common, but not the sequences of up to a dozen or more clauses that one finds in Dyirbal (Dixon 1977b:388). Furthermore the shared NP is not always constrained to have the absolutive grammatical relation. Rather, if it is a common nominal, it must be in the absolutive case in both clauses, while if it is a pronoun, it must be in the nominative in them (Dixon 1977b:388-92). Thus, if the shared NP is a pronoun, it will have A/S function in both clauses, but if it is noun, P/S.

We thus have a *prima facie* case, strong in Dyirbal, but weaker in Yidjɪn, that these languages have an essentially different sort of syntactic organization from that found in standard 'subject oriented' systems such as English. They seem to lack a 'subject' grammatical relation (under the definition presented in this chapter) but have instead an 'absolutive' grammatical relation expressing P/S function. This raises the question of exactly what kind of a grammatical relation this 'absolutive' is? Is it simply the familiar 'subject', with a different alignment to semantic roles, or something more essentially distinct, suggesting a change in our conception of how grammatical relations work? A problem with the former view is that there are a substantial number of languages for which it is unclear whether they are syntactically ergative or not,<sup>20</sup> which is troubling because one would not expect frequent ambiguity about a basic feature of a language's organization. In the next section we consider evidence that the latter view is in fact the case.

In the next section we will consider a variety of phenomena that motivate a reconsideration of grammatical relations.

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<sup>20</sup>Dixon (1977b:393) observes that participants in a conference session devoted to whether various Australian languages were syntactically ergative or not were frequently doubtful of the correct treatment of their languages, often changing their minds in the course of preparing final versions of their papers.

## 5 Reconsidering Grammatical Relations

In the conception of grammatical relations that has been assumed by our work so far, each NP in a clause bears a single grammatical relation. One problem for this view arises from syntactic ergativity: in some languages with ergative features, it is unclear whether the subject grammatical relation should be regarded as expressing A/S or P/S functions, since the evidence is weak, or, as we shall see below, contradictory. But syntactic ergativity is not the only problem for grammatical relations. Another set of difficulties comes from the so-called ‘Philippine type’ of language structure, which seems in a sense to have two systems of grammatical relations functioning at the same time. In this section we will suggest a solution to both problems, that originated with some proposals by Keenan (1976) about the nature of the subject concept, and has been developed by many other authors since then.<sup>21</sup>

The basic idea of the solution is that the familiar concept of subject should in fact be split into two concepts, one associated with the semantic role of Agent, the other with the pragmatic role of Topic. In English these two concepts pick out the same NP in the sentence, but in certain others, such as syntactically ergative languages and the Philippine type, they don’t. Therefore in English we have the grammatical relation of subject, while in some other languages we must distinguish what we might call ‘a-subject’ (Agent-oriented) from ‘p-subject’ (pragmatic, Topic-oriented, pivot).

We will first show how this idea helps with the problem of ‘mixed ergativity’, where a language shows a combination of ergative-absolutive and nominative-accusative organization. We will then show how it applies to the problematic features of the Philippine type.

### 5.1 Mixed Syntactic Ergativity

Early work on syntactic ergativity assumed that languages would either show ergative-absolutive or nominative-accusative organization, depending on whether their sentence structures treated S and A alike (the majority), or S and P. But this assumption proved initially to be dubious, ultimately, false.

An initial reason for doubt is that the evidence for setting up the grammatical relations one way or another in ergative languages is often rather weak, as we saw for example in Yidj. More serious is the fact that there are often contradictory indications about which way they should be set up. Sometimes one can make a case that the syntactic phenomena are showing ergative-absolutive organization, and that the apparently nominative-accusative phenomena are being semantically conditioned, but there are also instances where it is clear that some syntactic phenomena are ergative-absolutive, while others are nominative-accusative. In example of the first type is Yidj (Dixon 1977b), of the second, Inuit (Bittner 1994, Manning 1996). Yidj also illustrates the rather common case where the available evidence about grammatical relations is rather scanty, so we will discuss it first.

We have already seen the evidence for an S/P grouping (putative p-subject) in Yidj (see (98)). But there are two constructions that treat A and S alike as opposed to P. The first is the imperative: imperatives require a second (or occasionally a first) person pronoun in S/A function (Dixon 1977b:370-1). Imperatives with S and A addressees are illustrated below (following Dixon’s presentation, ‘/’ serves as a clause-separator):

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<sup>21</sup>Such as Schachter (1976, 1977), Foley and Van Valin (1984), Guilfoyle et al. (1992), Kroeger (1993), Wechsler and Arka (1998) and others writing on Austronesian languages, and Dixon (1979), Bittner (1994), and Manning (1996) on syntactic ergativity.



- (102) a. (ɲundu) guwa gali-n  
 vou(SG) west go-IMP  
 (You) go west!
- b. (ɲundu:ba) buɲa wawa  
 you(PL) woman watch(IMP)  
 (All of you) watch the woman!

The second involves a number of particles whose grammar treats S and A alike (Dixon 1977b:372-82, 387). For example the particle *gana:ɲgar* indicates that the referent of the NP in S or A function was the first to perform a certain action:

- (103) a. ɲayu gana:ɲgar gali:-ɲ  
 I(NOM) first go-PAST  
 I went first
- b. ɲayu gana:ɲgar gunda:-l  
 I(NOM) first cut-PAST  
 I was the first person to cut [that tree]

But these phenomena don't constitute a truly compelling case for saying that the syntax is recognizing an S/A category, because what might be happening is that the phenomena have a semantic rather than a syntactic basis. In particular, the semantics of both the imperative and the particle constructions might be such that they involve an Agentive argument in their interpretation, and impose constraints on it. Since P's are never Agents, Ps won't be able to be involved in these constructions, for reasons that are quite independent of how the syntax is organized.

In principle, one could investigate this issue by looking at intransitives with non-agentive S, and also antipassives, but Dixon doesn't provide significant discussion of this, although he does provide a suggestive example of the 'cessation' particle *wala* modifying the presumably nonagentive S of *die* (Dixon 1977b:375):

- (104) ɲayu wala wula:ɲ / ɲayu galwayala burgin  
 I finish die / I spirit walk about  
 I really did die; I'm walking about as a spirit now

Regardless of the uncertainties of Yidiɲ (which are typical of what one finds with data from fieldwork), there are languages with clearer cases of mixed ergativity, such as Inuit, which we now consider.

Inuit, also known as Central Canadian Eskimo, is a language with relatively free word order, an extremely rich system of word-formation, and a system of case-marking and cross-referencing on verbs that is somewhat reminiscent of Australian Aboriginal languages, as well as older or conservative Indo-European ones such as Sanskrit or Russian. The case-marking is ergative, with the ergative case being identical to the possessive; this ergative/possessive case is traditionally called the 'relative'. Intransitive verbs agree with their S, transitives with A and P, via a complex system of cross-referencing affixes, which cannot convincingly be resolved into distinct A and P markers. Basic case-marking and cross-referencing are illustrated in these examples:

- (105) a. Atuagaq ataasiq tikis-sina-nngi-la-q  
 book(ABS) one(ABS) come-PERF-NEG-IND-3SG  
 One book hasn't come yet
- b. Juuna-p atuagaq ataasiq tigu-sima-nngi-laa  
 Juuna-ERG book(ABS) one(ABS) get-PERF-NEG-IND-3SG.3SG  
 There is a book which Juuna hasn't got yet

Note that the absolutive case is ‘marked’ by the absence of any case-affix. So the case-marking is ergative, but the morphology of the verbal cross-referencing is too complex to support a clear judgement of whether it is ergative/absolutive or nominative/accusative. However, there are a number of phenomena showing syntactic ergativity in Inuit, collected by various researches over the years, and summarized and discussed by Manning (1996:83-191). Here I will present two, participial relative clauses, and the ‘wide scope’ that applies to the absolutive.

The latter effect, discovered by Bittner (1994), is illustrated by the somewhat peculiar translations given to the examples above: the absolutive is interpreted as something that exists, about which the negative assertions are made, such as that it hasn’t come, or that Juuna doesn’t have it. The sentences do not have the following as glosses, where the existence of books is not assumed:

- (106) a. No books have come yet  
 b. Juuna hasn’t got any books yet

In Inuit, an absolutive argument will thus have semantically ‘wide scope’ over negative markers in the verbal morphology. An ergative-marked A on the other hand can have either wide scope over or narrow scope under a negative:

- (107) Atuartu-p ataatsi-p Juuna uqaluqatigi-sima-nngi-la-a  
 student-ERG one-ERG Juuna(ABS) talk toPERF-NEG-IND-3SG.3SG  
 No student has talked to Juuna yet  
 One student hasn’t talked to Juuna yet

Wide scope is a property often (but not necessarily) associated with subjects, so not only is the absolutive showing a distinctive property, but also one that is subject-like.

Our other example showing syntactic ergativity is relativization. Inuit has a series of participial moods that can be used to form relative clauses, but only relativizing on S or P in the relative clause (or marginally, their possessors (Bittner 1994:56-57)):

- (108) a. Miraaq kamat-tu-q  
 child(ABS) angry-REL.INTR-SG  
 the child that is angry  
 b. Nanuq Piita-p tuqu-ta-a  
 polar bear(ABS) Piita-ERG kill-TR.PART-3SG  
 a polar bear killed by Piita.  
 c. \*Angut aallaat tigu-sima-sa-a  
 man(ABS) gun(ABS) take-PERF-REL-TR-3SG.3SF  
*intended:* the man who took the gun

So we see that (a), with relativization on S, and (b), with relativization on P, are acceptable, while (c) with attempted relativization on A is not.

Participial relativization and wide scope are properties of S/P as opposed to A. They are also related to definiteness and topicality, and so characteristic of the properties of pivots in Tagalog. It is therefore natural to classify them as p-subjects.

There are also phenomena which involve S/A but not P, where this restriction can’t be explained away as a simple consequence of the meaning. The one we will discuss here involves the extremely complex verb-formation system of the language, for more details see Manning (1996:101-147).

Inuit is famous for a system of word-formation whereby more complex verb forms can be derived from simpler ones by suffixing formatives that are called ‘post-bases’

(whether they are affixes or not is controversial). These complex verb forms take on functions achieved by auxiliaries and complement structures in English. One of these suffixes means ‘want’, and it attributes the desire to S/A rather than P:

- (109) a. Hansi        sinik-kuma-vuq  
           Hansi(ABS ) sleep-want-IND.INTR.3SG  
           Hansi wants to sleep
- b. Aani-p        miiqqat        ikiur-uma-v-a-i  
           Aani-ERG children(ABS ) help-want-IND-TR-3SG-PL  
           Aani wants to help the children

In particular in the transitive (b) sentence, the desirer is Aani, the A of help, rather than the children, the P. One might suspect that this effect is caused by the semantics of the postbase, but there is clear evidence that it isn’t: one can ascribe the desire to the helpee by passivizing the *ikiur* ‘help’, and attaching ‘want’ to the result:

- (110) Miiqqat        Aani-mit    ikiur-niqar-uma-pp-u-t  
           children(ABS ) Aani-ABL help-PASS -want-INT-INTR-3SG  
           The children want to be helped by Aaani

In the passive, the former A is expressed as an ablative oblique, while the former P is expressed as an absolutive, and is evidently now an S. And concomitantly, it is interpreted as the desirer. This shows that which argument is understood as the desirer is determined by the grammatical structure rather than the semantic roles.

We can accommodate this mixture of ergative and non-ergative features by splitting the subject grammatical relation into two distinct and overlapping ones, ‘p-subject’ identified with P/S function, and ‘a-subject’ identified with A/S function. The phenomena showing syntactic ergativity are sensitive to p-subject, while the ones treating A and S alike are sensitive to a-subject. How do unmixed syntactically ergative languages such as Dyirbal fit into this picture? Clearly they have p-subjects following the same principle as with mixed ergative languages, but there are two possibilities for a-subject. The first that it is present, but the evidence for its existence has not yet been found and reported, the second is that in these languages a-subject does not exist. The issue will be discussed further below.

We now proceed to extend the split subject hypothesis to apply it to the Philippine type.

## 5.2 The Philippine Type

The current literature on grammatical relations and the Philippine type essentially begins with the analysis and discussion of Tagalog in Schachter (1976, 1977), which itself grew in part out of the discussion of the concept of ‘subject’ in Keenan (1976), as well as previous Philippinist literature. A distinctive feature of these languages is the possession of what has often been called a ‘focus’ system, in which one NP is singled out for special treatment in a manner reminiscent of subjects in more familiar languages, but with sufficiently different behavior to have made it controversial whether the singled-out NP should indeed be seen as a subject. We begin with a brief account of Tagalog, including the focus system, and then consider the issues that it raises for the notion of subject, and also the analysis of syntactically ergative languages.

Tagalog has verb-initial order, with NPs appearing in free order after the verb, with their functions marked by prepositional NP-markers (there is also a topicalization construction (Kroeger 1993:43-44,123-124), in which any NP may be placed in front of

the verb). Verbs are traditionally considered as taking three types of ‘core’ arguments, labelled ‘Actor’, ‘Object’ and ‘Directional’ by Schachter and Otanes (1972).

Actor and Object are marked by *ng* (pronounced [nəŋ]) which I will gloss as ACT when it marks an Actor, OBJ when it marks an Object, using two glosses rather than one in order to make the examples easier to follow. Directionals are marked by *sa*, unless they are ‘pivot’, as will be discussed below. The traditional names for these types of argument are semantically suggestive but not fully accurate: Actors needn’t be Agents, and Directionals needn’t be (semantically) Directional. There are also various sorts of adjuncts: Benefactives, Outer Locatives, Instrumentals, etc.

One of the arguments (or, more rarely, one of the adjuncts) must be chosen to be what we here call the ‘pivot’ (the terms ‘focus’ and ‘topic’ are also sometimes used), which we will later identify as the p-subject. The pivot bears the marker *ang*, glossed PIV, instead of the marker that would otherwise appear, and is obligatorily understood as being definite. The type of argument or adjunct that is chosen as the pivot is indicated by affixes on the verb. Below is illustrated an array of pivot choices for the verb *alis* ‘take out’, which has Actor, Object and Directional arguments, and here appears with a benefactive adjunct as well (AP = Actor Pivot, OP = Object Pivot, DP = Directional Pivot, BP = Benefactive Pivot):

- (111) a. Mag-a-alis      ang babae ng bigas sa sako para sa bata  
           AP-FUT-take out PIV woman OBJ rice DIR sack BEN child  
           The woman will take some rice out of a/the sack for a/the child
- b. A-alis-in       ng babae ang bigas sa sako para sa bata  
           FUT-take out-OP ACT woman PIV rice DIR sack BEN bata  
           A/the woman will take the rice out of a/the sack for a/the child
- c. A-alis-an       ng babac ng bigas ang sako para sa bata  
           FUT-take out-DP ACT woman OBJ rice PIV sack BEN child  
           A/the woman will take some rice out of the sack for a/the child
- d. Ipag-a-alis     ng babae ng bigas sa sako ang bata  
           BP-FUT-take out ACT woman OBJ rice DIR sack PIV child  
           A/the woman will take some rice out of a/the sack for the child

In these examples, the choice of determiners in the glosses is significant, and is governed by two principles, the one already mentioned that the pivot is always understood as definite, and another to the effect that non-pivot Objects (but not Actors or Directionals) are normally understood as indefinite. This is an indication that the pivot is associated with a topic-like pragmatic concept.

The first analyses of these constructions treated the *ang*-phrase as an ordinary subject, and the non-AP (Actor-Pivot) forms essentially as passives (see Bloomfield 1917 and other treatments discussed by Kroeger 1993:19), and such analyses have also been proposed by generative authors such as Schwartz (1976) and Bell (1976) for other Philippine languages. The AP form (111a) is taken as the primary form with the Actor as subject, the others as passives, with the Actor ‘demoted’ from the subject relation, and some other NP serving as subject.

That the pivot bears a subject-like grammatical relation is made clear by the fact that it is targetted by certain principles which tend to target subjects in various languages. Schachter (1976, 1977) presents three of these: relativization, quantifier launching, and an inability to appear as something whose existence is asserted in an existential sentence. We illustrate the first two.

Tagalog relative clauses take the form of sentences with ellipsed pivot. The ellipsed pivot is understood to be the head NP that the clause is modifying. Hence to relativize on an Actor, one uses an AP verb; to relativize on an object, an OP Object-Pivot verb:<sup>22</sup>

- (112) a. Matalino ang lalaki-ng b[um]asa ng diyaryo  
intelligent PIV man-LNK [AP]-read OBJ newspaper  
The man who read a newspaper is intelligent
- b. Interessante ang diyaryo-ng b[in]asa-∅ ng lalaki  
interesting PIV newspaper-LNK [PERF]-read-OP ACT man  
The newspaper that the man read is interesting
- (113) a. \*Matalino ang lalaki-ng b[in]asa-∅ ang diyaryo  
intelligent PIV man-LNK [PERF]-read-OP PIV newspaper  
The newspaper that the man read is interesting
- b. \*Interessante ang diyaryo-ng b[um]asa ang lalaki  
interesting PIV newspaper-LNK [AP]-read PIV man  
The man who read a newspaper is intelligent

The *-ng* suffix in these examples, glossed LNK, is an element often called a ‘linker’, which has various functions in the grammar: here it is regularly placed on a word in an NP immediately before a relative clause modifying that NP. In (112), we see that the pivot can be relativized upon: in (113) we see that non-pivots cannot be relativized upon. Relativization therefore targets the pivot.

The other pivot-targeting process is a ‘Quantifier Launching’ phenomenon. Tagalog quantifiers normally occur within the NP they modify, but for some speakers, the quantifier *lahat* may also be placed in an adverbial particle position directly after the verb (Schachter and Otnes 1972:147-148).

Such a ‘floated quantifier’ may modify only the pivot, not a non-pivot:

- (114) a. ∅-su-sulat lahat ang mga bata ng mga liham  
AP-FUT-write all PIV PL child OBJ PL letter  
All the children will write letters
- b. Su-sulat-in lahat ng mga bata ang mga liham  
FUT-write-OP all ACT PL child PIV PL letter  
The/some children will write all the letters  
*not* All the children will write the letters

The pivot thus functions as target for a number of grammatical processes, indicating that it is the bearer of a grammatical relation.

Although the phenomena of (112-114) show that the pivot has a subject-like grammatical relation, there are problems with treating the non-AP forms as passives. The OP (Object-Pivot) and DP (Directional-Pivot) forms are extremely common, rather than being relatively rare, as is typically the case with passives. Furthermore, they are not morphologically more complex than the putatively primary AP forms, but merely have different affixes, not additional ones.

But a much more serious problem with the passive analysis was first delineated by Schachter (1976, 1977), and then substantially reinforced by Kroeger (1993). Schachter observed that the Actor showed a substantial number of properties that are characteristic of subjects, regardless of whether or not it was the pivot: he cited three subject

<sup>22</sup>Some of the affixes are infixes, these are enclosed in square brackets, in the forms and glosses, rather than being separated from their stems by dashes.

properties for non-pivot Actors, and three subject properties for non-Actor pivots (an Actor pivot would have all six). Later work shows that these claims need to be qualified substantially. For example Andrews (1985:143-144), to be reviewed just below, showed that two of the supposed subject properties did not in fact discriminate between grammatical relations in Tagalog. But on the other hand, Kroeger (1993) showed conclusively that the non-pivot Actor is a core argument rather than an oblique, which is what a passivized A would be, decisively ruling against the passive analysis, and confirming Schachter's essential insight, since an oblique cannot be a core argument.

An alternative to the passive analysis which has sometimes been proposed is the ergative analysis (Gerds 1988, Payne 1982), in which the OP forms rather than the AP forms are taken as basic, and the AP as antipassives. But this analysis faces essentially the same difficulties as the passive analysis, but in a slightly different form: on the one hand the AP forms are too common to be plausibly regarded as antipassives, and on the other hand, non-pivot Patients also pass the tests for being core arguments, whereas an antipassive Patient is supposed to be oblique. So neither the passive or the antipassive analysis is genuinely satisfactory, because neither of them accommodates the roughly equal status of the AP and OP constructions as basic in the language, nor the core argument status of the non-pivot A and O. Therefore we need a new analysis. We will first examine the evidence more closely, and then present a solution.

We begin by looking at the arguments originally advanced by Schachter to the effect that the Actor should be regarded as a sort of subject. These arguments depend on the roles of the Actor in the phenomena of reflexivization, imperative formation, and complement subject ellipsis. Although these are weaker than one would hope (especially the second one), it is worth spending some time on them because they illustrate the kinds of issues that must be dealt with when arguing for grammatical relations in a language.

The first is the observation that Actors in Tagalog can be antecedents of reflexive pronouns regardless of whether they are pivots or not (Schachter 1977:292):

- (115) a. Nag-alala ang lolo sa kaniya-ng sarili  
 AP-worry PIV grandfather DIR his-LNK self  
 Grandfather worried about himself
- b. In-alala- $\emptyset$  ng lolo ang kaniya-ng sarili  
 PERF-worry-OP ACT grandfather PIV his-LNK self  
 Grandfather worried about himself

Schachter also shows that non-Actors cannot be the antecedents of reflexive Actors, so that the Actor, but not the pivot, is relevant to reflexivization possibilities. This is taken to be relevant to the subject status of the Actor because the ability to antecede reflexive pronouns is one of the characteristic properties of subjects listed in Keenan (1976).

But the problem with it is that although it is usually possible for subjects to antecede reflexive pronouns, and sometimes (as in Malayalam) only possible for subjects to do so, there are also languages where non-subjects and indeed non-core arguments can antecede reflexive pronouns, such as for example English:

- (116) John talked to Mary about himself/herself

And in Tagalog it is possible for arguments that are neither Actors nor pivots to antecede reflexives:

- (117) a. In-i-abot niya sa bata ang kaniya-ng sarili-ng larawan  
 PERF-OP -hand he(ACT) DIR child PIV his-LNK self-LNK picture  
 He<sub>i</sub> handed the child<sub>j</sub> a picture of himself<sub>i,j</sub>

- b. T[um]anggap ang Rosa ng sulat para sa bata sa kaniya-ng sarili  
 [AP]-receive PIV Rosa OBJ letter BEN child DIR her-LNK self  
 Rosa<sub>i</sub> received a letter for the child<sub>j</sub> from herself<sub>i</sub>/him-herself<sub>j</sub>

Bell (1976:30, 157) notes essentially the same facts in the closely related language Cebuano. She suggests that Cebuano reflexivization is governed by a principle referring to semantic roles rather than grammatical relations, the Thematic Hierarchy Condition of Jackendoff (1972) (she also notes some constraints involving surface word order). The same kind of analysis seems indicated for Tagalog. Since Tagalog reflexivization, as opposed to that of Malayalam, seems to function in terms of semantic roles rather than grammatical relations, it does not provide evidence that Actor is a grammatical relation independent of pivot. However the argument does at least show that Actors outrank some other NP's on a grammatically relevant hierarchy, since Actors can antecede reflexives with more semantic roles than other NPs.

Next we look at imperatives. Imperative sentences have the verb in a 'base' form with focus-marking, but no aspectual marker. Schachter observes that they can have the (second person) addressee as either pivot or non-pivot, as long as it is Actor:

- (118) a. Mag-bigay ka sa kaniya ng kape  
 AP-give you(PIV) DIR him OBJ coffee  
 b. Bigy-an mo siya ng kape  
 give-DP you(ACT) him(PIV) OBJ coffee  
 Give him some coffee!

In (a), the addressee-Actor is pivot, in (b) it isn't (note that the pronouns are morphologically fused with their function markers). Both are good as imperatives. Schachter's claim is that the only Actors tolerated in imperative sentences are second-person pronouns (1977:291). But there are two reasons why the evidence given doesn't show that there really is an Actor grammatical relation.

One reason is that the semantics of imperatives are such that one would expect them to occur with second person Agents, and no syntactic phenomena have been adduced to show that the relevant notion is a grammatical relations rather than a semantic role. In fact there is evidence that imperative addressees do have an agentivity condition on them: an imperative verb cannot be an 'Involitive' form (Schachter and Otnes 1972:402), involitives being verb forms that express accidental or involuntary action.

But there is also a deeper reason. The verb form used for imperatives is not restricted to imperative usage. It is rather used in a range of constructions expressing a desire that something happen, called 'hortatives' if the subject is first person plural, and 'optative' if the subject is third person singular (Schachter and Otnes 1972:407-409):

- (119) a. Walis-an natin ang sahig  
 Sweep-OP us(DU.ACT) PIV floor  
 Let's us two sweep the floor  
 b. Walis-an nila ang sahig  
 Sweep-OP they(ACT) the floor  
 I want them to sweep the floor

There are various constraints on these constructions, and on the use of various particles with them. In (119b), for example, the subject cannot be a third person full NP. It is possible that careful analysis of these constraints could provide grounds for individuating a specific imperative construction with a second-person Actor, but this work has not yet been done. So the imperatives (construed as a type of speech act) provide no evidence

relevant to grammatical relations in Tagalog, not only because there is no evidence of syntactic restrictions on them, but furthermore due to the absence of even a *prima facie* case that there is a distinct imperative construction in the grammar.

The final phenomenon is argument ellipsis in complement constructions (Schachter 1977:293). Schachter argued that Actors and only Actors could be ellipsed, regardless of whether they were pivot:

- (120) a. Nag-atubili siya-ng h[um]iram ng pera sa banko  
 AP-hesitate he(PIV)-LNK [AP]-borrow OBJ money DIR bank  
 He hesitated to borrow money from a/the bank
- b. Nag-atubili siya-ng hiram-in ang pera sa banko  
 AP-hesitate he(PIV)-LNK borrow-OP PIV money DIR bank  
 He hesitated to borrow the money from the bank

In (120a), the actor of *hiram* ‘borrow’ is pivot, as revealed by the AP morphology on the verb, and the absence of an overt ANG-phrase in the complement. In (120b), the object is pivot, but the actor is still ellipsed. Therefore both pivot and non-pivot actors can be ellipsed.

An object or other non-Actor does not normally undergo ellipsis, even if it is the pivot (Schachter 1977:295):

- (121) a. Gusto ni Juang sun-in siya ng doktor  
 want ACT John(LNK) examine-OP he(PIV) ACT doctor  
 John wants the doctor to examine him
- b. \*Gusto ni Juang sun-in ng doktor  
 want ACT John(LNK) examine-OP ACT doctor

Furthermore, ellipsis of Actors is not restricted to true Agents: non-agentive actors of various sorts may be ellipsed, even if they are not pivots:

- (122) a. Masagwa ang t[um]a-tanda  
 disagreeable PIV [AP]-IMPERF -become-old  
 It is disagreeable to become old
- b. Gusto niya-ng g[um]anda  
 want he/she(ACT)-LNK [AP] -beautiful  
 She wants to become beautiful
- c. Gusto ko-ng t[um]anggap ng gantimpala  
 want I(ACT)-LNK [AP] -receive OBJ prize  
 I want to be the recipient of the prize
- d. Gusto ko-ng ma-tanggap ang gantimpala  
 want I(ACT)-LNK OP -receive PIV prize  
 I want to receive the prize
- (123) Ayaw ko-ng ma-matay sa Maynila  
 not want I(ACT)-LNK AP -die DIR Manila  
 I don't want to die in Manila

On this evidence, the ellipsis process seems to target Actors regardless of whether they are pivots or Agents, providing an argument that Actors bear a grammatical relation distinct from the pivot. Since this grammatical relation expresses A and S functions, it is a subject.



Kroeger (1993) finds some issues with these generalizations, but nonetheless confirms that susceptibility to complement subject ellipsis is a genuine property of Actors, regardless of whether or not they are pivots. And he develops another extremely important point by showing that the non-pivot Actor and non-pivot Object are core rather than oblique arguments.

He presents three main arguments (Kroeger 1993:40-48) to the effect that in the non-AP forms, the actor does not become an adjunct or oblique argument, but remains a core argument. Here I will present one, the Participial Adjunct construction, which also shows that the Object in the AP constructions is a core argument, and thus provides evidence against the antipassive analysis of Actor-pivot constructions as well as the passive analysis of Object-pivot constructions, and therefore shows that neither construction should be considered as ‘derived’ from the other.

Participial adjuncts are clauses introduced by the particle *nang*, which express action simultaneous with that of the main clause, with the subject suppressed, but understood as coreferential to an Actor or Object argument of the main clause, regardless of focus. Coreference with a dative or prepositionally marked argument is not allowed:

- (124) a. B[in]isita ni Juan ang hari nang nag-iisa  
 [PERF]-visit(OP) ACT Juan PIV king ADV AP.IMPERF-one  
 Juan visited the king alone (either Juan or the king is alone)
- b. B[um]jista si Juan sa hari nang nag-iisa  
 [AP.PERF]-visit PIV Juan DAT king ADV AP.IMPERF-one  
 Juan visited the king alone (only Juan is alone)
- c. H[in]juli ng polis ang mganakaw nang pumapasok sa  
 PERF-catch(OP) ACT police PIV thief ADV AP.IMPERF-enter DAT  
 banko  
 bank  
 The police caught a/the thief entering the bank (either thief or police are entering)
- d. Nang-huli ng mganakaw nang polis nang pumapasok sa  
 AP.PERF-catch OBJ thief PIV police ADV AV.IMPERF-enter DAT  
 banko  
 bank  
 The police caught the thief entering the bank (either thief or police are entering)

The non-ambiguity of (b) shows the difference between the (non-core) dative, which can't be understood as the subject of the *nang* construction, and the arguments marked by *ng* and *ang* in the other examples, which can be. This together with Kroeger's other tests establishes a core-oblique divide with *ng* phrases on the core side, regardless of whether they are Objects of AP verbs or the Agents of OP ones.

So we have a situation where Actor and Object are core arguments regardless of whether they are pivot or not, and where furthermore the Actor is a privileged target for complement subject ellipsis, and also outranks other arguments on a hierarchy relevant for reflexivization (an Actor can reflexivize anything, and nothing can reflexivize it). The concept of core vs. oblique arguments seems supported, but one of the core arguments has subject-like properties regardless of whether or not it is the pivot. In terms of the ideas introduced at the beginning of the section, the Actor will be the a-subject, the pivot the p-subject. Therefore in AP sentences the a-subject and the p-subject are the same NP, which is also the A/S (giving a sentence structure similar to what is found

in nominative-accusative languages), but in OP sentences the P is p-subject while the A is the a-subject, giving a grammatical structure similar to what is found in syntactically ergative languages. This analysis thus provides the useful properties of the passive and antipassive analyses without suffering from their drawbacks.

Splitting the subject grammatical relation into a-subject and p-subject therefore helps to elucidate the Philippine type as well as syntactic ergativity, both mixed and un-mixed. The difference between these types of languages and more familiar languages such as English is that in the latter there is only one subject-like grammatical relation rather than two, with the sole subject-like relation tending to have the typical properties of both a-subject and p-subject (one could think of both kinds as existing, but always being the same NP).

### 5.3 The universal status of a- and p- subjects

We have now seen that some languages have a ‘full’ subject combining the properties of a- and p-subjects, whereas others split them into two distinct grammatical relations. A further question is whether these two kinds of subject are always found, whether individually or combined. The answer appears to be that p-subjects are clearly not universal, while the issue is rather doubtful for a-subjects.

The languages without p-subjects would be languages such as Warlpiri, which lack passive or antipassive rules that alter the semantic role of the NP in a recognizable pivot position (subject for nominative-accusative languages, absolutive for languages with ergative syntax). Although formally inclined linguists have tended to neglect the different significance of a putative subject relation in languages with and without a passive rule, it has been discussed at some length in Van Valin (1981), Foley and Van Valin (1984), and Van Valin and LaPolla (1997:265-266); see also chapter I.8, Information Packaging in the clause, Foley). It is hard to avoid the conclusion that if a language lacks any rules altering the semantic role of an NP in ‘subject’ position, the significance of that position in the functioning of the language must be different than that of a similar position in a language that has such rules.

Presence vs. absence of a p-subject provides a straightforward account of the difference, and has been what has been proposed since Foley and Van Valin (1984), under various terminologies. P-subjects for example are frequently preferred or required to be definite, but clearly, no such requirement can plausibly exist in a language without passives, where traditionally recognized subjects would be a-subjects.

What about absence of a-subject? One possible case is Dyrirbal, where there is no clear and compelling evidence for grouping S and A together, but only S and P. So Dyrirbal might be a language with a p-subject, but no a-subject, and the same would be true of other ‘pure syntactic ergative’ languages, if these exist. But after more than 25 years, Dyrirbal is still the only reported case of a pure ergative language that has withstood scrutiny. Furthermore the data on Dyrirbal is limited, and there is little prospect of getting additional data relevant to the question of whether or not it has a-subjects.

Another potential source of languages without a-subject is languages that have been argued to lack grammatical relations entirely. This claim has been made for a number of languages, including Manipuri and Kannada (Bhat 1991), and Chinese, Archi and Acehnese (Van Valin and LaPolla 1997), on the basis that grammatical phenomena in these languages are controlled directly by semantic roles and pragmatic functions, rather than requiring an intermediate system of grammatical relations. While these claims are very interesting and worthy of being taken seriously, I don’t think they are fully established yet. We will here consider Manipuri, and then the phenomenon of ‘split intransitivity’, which raises similar questions about the role of grammatical relations.

#### 5.3.1 Manipuri

Manipuri, spoken in India, Myanmar and Bangladesh has NP-markers which Bhat labels as ‘nominative’ and ‘accusative’ case, although their use departs somewhat from what is usual for cases with these names. Nominative can be found on transitive and intransitive putative subjects, and accusative on putative objects:

- (125) a. Ma-nə əy-bu kawwi  
           he-NOM me-ACC kicked  
           He kicked me

- b. Ma-nə kəppi  
 he-NOM cried  
 He cried

However the nominative is omitted from presumed A/S when these are not expressing volitionally controlling participants:

- (126) a. Ma əy-bu uy  
 He me-ACC saw  
 He saw me

- b. Ma sawwi  
 He angry  
 He is angry

Some verbs appear to require or forbid the use of *nə*, while for others it varies depending on whether the verb is expressing intentional activity or not (Bhat 1991:119-120). The suffix has some additional uses which are interesting, but not relevant to this discussion.

Bhat (1991:123) describes the use of the accusative marker as follows (p. 123):

- (127) a. the referent of the marked noun phrase must be animate  
 b. some effect must have been produced on it by an external agency  
 c. it must be involved in an action or a process (and not a state)

(128a) below is a clear case of an affected argument meeting this description:

- (128) a. ma-nə huy-bu kawwi  
 he-NOM dog-ACC kicked  
 He kicked the dog

- b. ma-nə tebəl kawwi  
 he-NOM table kicked  
 He kicked the table.

The (b) example lacks the marker because the affected object is inanimate. However it is unexplained why 'see' (126a) classes its 'seen' argument grammatically as if it was affected.

With some verbs, the presence of the Accusative marker *bu* seems to indicate a more active as opposed to less active version of the event:

- (129) a. əy ma-bu sawwi  
 I him-ACC angry  
 I am angry with him (showing anger)

- b. əy ma sawwi  
 I him angry  
 I am angry with him

But it is unexplained why 'see' classes with the overt display of anger rather than the mere existence of emotional state.

In addition to marking what might be regarded as somewhat generalized Patients, *bu* can under certain circumstances mark Recipients of verbs of giving, and what are sometimes called 'Causee Agents' of causative verbs, that is, participants who are acted upon by the instigating Agent of a Causative and then produce the effect described:

- (130) a. əy-nə ma-bu sel pi  
 he-NOM I-ACC money gave  
 He gave money to me
- b. əy-nə ma-bu tebəl ilhəlli  
 he-NOM I-ACC table caused to push  
 He made me push the table

These uses are subject to the restriction that none of the other arguments of the verbs be able to take *bu*; if this condition isn't met, the locative *də* is used instead, and can be used in any event (so both instances of *bu* in (130) could be replaced with the *də*).

There are several complexities in this system which we can't look at here:

- a. The predictable uses of *nə* and *bu* are optional. The full circumstances are not entirely clear to me from Bhat's discussion, but it seems that, for example, any of the case-markers in (128) could be omitted.
- b. The markers have additional uses to indicate strictly pragmatic functions, in which case they are placed after instances of the markers that are signalling semantic roles (Bhat 1991:126-130).

Now considering the issue of a-subjects, a proponent of the universality of grammatical relations could suggest that the marker *nə*, in its function as a semantic role marker, applies only to A/S, that is, a-subjects (since this language has no passive rules), therefore providing some evidence for the relevance of an a-subject concept. The counter-argument is that the distribution of the *nə* marker can be characterized in purely semantic terms, along the lines of 'instigating and intending agent' (someone who does something because they want to do it). This would be expected to prevent *nə* from appearing on a Causee Agent, because such an Agent is being described not as doing something because they want to, but because the Instigatory Agent makes them do it. So it is certainly plausible that the distribution of *nə*, insofar as this is related to semantic roles, might be determined directly by its semantic roles of Volitional Agent, rather than involving a-subject or other grammatical relations as an abstract intermediary.

Similarly the distribution of *bu* might well be determined by a semantic role, although it is not so clear from the evidence given exactly what that role would be. But an indication that a semantic role rather than a grammatical relation might be the crucial factor is provided by certain negative sentences, which can have *bu* rather than *nə* on their Agents:

- (131) a. ma-bu laktre  
 he-ACC came not  
 He didn't come
- b. layriksi əy-bu padri  
 book this he-ACC read not  
 He didn't read this book

Bhat suggests that the accusative is motivated by an implication that some outside influence affected the Agent, preventing them from performing the action (Bhat 1991:122-123). This is evidence that the distribution of *bu* is determined by a semantic role along the lines of 'something that is influenced', rather than by a grammatical relation such as 'object'.

Bhat considers various other phenomena beyond case-marking which might involve grammatical relations in Manipuri, and finds no evidence that they do. For example

there is a participial construction which doesn't allow both clauses to contain non-coreferential actors/causers, but does allow both clauses to contain coreferential actors/causers, only one of which is expressed (Bhat 1991:75):

- (132) a. Ra:ju akki tandu be:ysisida  
 Raju rice brought(PP) cooked  
 Raju brought the rice and cooked it
- b. \* Ra:ju akki tandu hari be:ysisida  
 Raju rice brought(PP) Hari cooked  
 Raju brought the rice and Hari cooked it

However if only one clause contains an actor/causer, or neither clause does, then no coreferential argument is required:

- (133) a. avanu be:gane bandu namage tondard a:youtu  
 he(NOM) early came(PP) us(DAT) trouble became  
 We were troubled by his coming early
- b. mara biddu ma:du muiyitu  
 tree fell(PP) roof broke  
 The tree fell and the roof broke

Obligatory ellipsis and understood coreference of an argument frequently provides evidence for a grammatical relation, but not in this case, because the constraint that this construction have non-coreferential Actors/Causers appears to be stateable in entirely semantic terms.

The conclusion is that no grammatical relations at all, including a-subject, are required to describe the grammatical structure of this language. Although this is a very interesting result, it is important to keep in mind that it is inherently difficult to prove a negative, and a few dozen pages of a single investigator's work can't provide conclusive proof that grammatical relations truly play no role at all in the language.

An example of a potential issue might be whether you could say something such as:

- (134) ma-bu læppi  
 he-ACC cried  
 He cried (because of something somebody did to him)

If this is acceptable, then the account of the accusative cases in (131) would be corroborated. If not, then it might be a problem to devise a meaning for *-bu* that allowed (131) while excluding (134), and consequently, there might be a role for a-subject in Manipuri, for example in the form of a constraint to the effect that a-subjects in positive sentences can't be marked with *bu*.

It is thus not fully established that Manipuri truly lacks grammatical relations, but it is clear that further detailed investigation of the semantic concomitants of the case-marking and other grammatical phenomena ought to lead eventually to a definite answer (and such investigation is possible, since the language is not endangered).

### 5.3.2 Split Intransitivity

One of the many interesting features of Manipuri is the capacity of the accusative marker to appear on a putative subject, as in (131). There turn out to be a considerable number of languages where some intransitive verbs take sole arguments which resemble A in their marking or grammatical behavior, while others take sole arguments

resembling P. This phenomenon, called ‘split intransitivity’, ‘split-S marking’, or ‘un-accusativity’, is widespread in the Americas, also occurring in languages of Indonesia, such as Acehnese (Durie 1985), and, it turns out, in a somewhat subtle form in, in many European languages. For excellent discussion of split intransitivity see Foley, chapter I.8, section 1.4, and Dryer, chapter I.4, section 2.4.2. Split intransitivity is easy to recognize, although the best way analyse the languages exhibiting it is not always clear.

A fairly typical example is Choctaw (Davies 1986:14-16, originally a language of Mississippi). In this language, A and P are cross-referenced with distinct series of affixes (some prefixes, others suffixes):

- (135) a. Chi-bashli-li-tok  
           2(ACC)-cut-1(NOM)-PAST  
           I cut you
- b. Is-sa-sso-tok  
           2(NOM)-1(ACC)-hit-PAST  
           You hit me

One of the two main types of intransitives takes the ‘nominative’ (A) agreement:

- (136) a. Hilha-li-tok  
           dance-1(NOM)-PAST  
           I danced
- b. Ish-ĩpa-h-õ  
           2(NOM)-eat-PRED-Q  
           Have you eaten?

These are verbs whose sole argument (S-function) NPs have Agent-like semantic roles.

The other main type takes the ‘accusative’ (P) agreement:

- (137) a. Sa-hohchafo-h  
           1(ACC)-hungry-PRED  
           I am hungry
- b. Chi-cha:ha-h  
           2(ACC)-tall-PRED  
           You are tall

These are verbs whose S arguments participate in various kinds of involuntary states and events.

The markers used to cross-reference the Agent-like S NPs (136) are the ones that are also used for A, while those used for the non-Agent like S NPs of (137) are the same as those used for P, as can be seen by looking at (135). The existence of these two types of intransitive verb is an instance of split intransitivity (there is also a third, small, class of intransitive verbs carrying the markers normally used for Recipients, but we will not consider them here). On the basis of this it is reasonable to call the first kind of S ‘S<sub>A</sub>’ (S with significant resemblances to A), the second ‘S<sub>P</sub>’ (S with significant resemblances to P).

What is really behind this and other instances of split intransitivity is, however, not so clear. A conclusion that one might start to draw from the data so far is that this language has direct reference to semantic roles, reflecting some kind of Agent/Patient distinction, and that grammatical relations are consequently unnecessary, as Bhat argues for Manipuri. But unlike Manipuri, there is a further coding feature whereby A is treated

the same as all S regardless of their semantic role or choice of cross-reference marker. This is nominal case-marking.

If an A/S argument is expressed as a full NP, then it appears in the nominative case, marked by the ending *-at*, expressed as *-at/yat/-t*, whereas full NPs with other grammatical functions optionally take the oblique marker *-yã*, regardless of their cross-referencing on the verb:

- (138) a. Ofi-yat towa(-yã) lhioli-tok  
 dog-NOM ball(-OBL) chase-PAST  
 The dog chased the ball
- b. Issoba-yat ìpa-tok  
 horse-NOM eat-PAST  
 The horse ate
- c. Chim-alla-t cha:ha-h  
 your-child-NOM tall-PRED  
 Your child is tall

The case-marking on NPs thus reflects a unitary S category, and treats it the same as A, in spite of the split treatment of agreement. Choctaw doesn't have a passive, which shows that the basis for identification of A and S is not that they are both p-subjects. We conclude that Choctaw has an a-subject category, in spite of the split in intransitive predicates, since the two kinds of S show behavior in common (NP-marking) as well as differences (cross-referencing), and the common behavior furthermore cannot be attributed to p-subject because the language has no passives, and therefore lacks p-subjects. Choctaw therefore conforms to the generalization noted by Dixon (1994:75) that there is almost (but not quite) always evidence that the two kinds of intransitive subjects should be grouped together as some kind of single grammatical relation, in spite of their differences (one of the exceptions is Acehnese, to be discussed below).

Split intransitivity has long been known as a feature of 'exotic' languages, but one of the more significant linguistic discoveries of the late 70s and early 80s is that it is also quite common, in a somewhat subtle form, in European languages, where it is generally known as 'unaccusativity'. In unaccusativity,  $S_A$  and  $S_P$  are superficially the same in terms of coding features, but more careful consideration of syntactic properties reveals differences, with  $S_A$  resembling A, and  $S_P$  resembling P.

This was demonstrated extensively for Italian by Perlmutter (1983). In this language there are two kinds of intransitive verbs, some taking *avere* 'have' to form a past tense, the others taking *essere* 'be'. In either case the NP in S function can appear before or after the auxiliary and the main verb:

- (139) a. Due persone sono rimaste  
 two people are remained  
 Two people remained
- b. Sono rimaste due persone  
 are remained two people  
 Two people remained
- c. Due persone hanno reagito  
 two people have reacted  
 Two people reacted



- d. Hanno reagito due persone  
 have reacted two people  
 Two people reacted

The semantic basis of this split has been a matter of debate; early authors such as Perlmutter (1983) argued that there wasn't any consistent one, while Van Valin (1990) argued that it was aspectually based: 'telic' verbs with a definite result state taking *sono*, those without taking *avere*.

Although all of these S are superficially similar (for example the finite verb agrees with them), there are a variety of syntactic differences. For example, for verbs taking *essere* 'be' as their auxiliary, when the S is postverbal, there can be a partitive clitic before the verb, applying semantically to a quantifier in the postverbal S position. This is not possible for verbs taking *avere* 'have':

- (140) a. Ne sono rimaste due  
 of them are remained two  
 Two of them remained
- b. \* Ne hanno reagito due  
 of them have reacted two  
 Two of them reacted

One might imagine that there is just a constraint that *ne* 'of them' cannot be used with the auxiliary *avere* 'have', but in fact it can be, to apply to the P of a transitive verb:

- (141) Giorgio ne ha comprato due  
 George of them has bought two  
 George bought two of them

What appears to be happening is that *ne*-cliticization is a property of P that is shared by postverbal  $S_P$  but not by  $S_A$  (also also of course not by A). This is one of a number of phenomena whereby A and  $S_A$  seem to be similar, and opposed to P and  $S_P$ . In spite of its greater subtlety, 'unaccusativity' in European languages seems to be the same phenomenon as the more obvious and longer-known cases of split intransitivity, and is recognized as such in Foley, chapter I.8, section 1.4.

There have been a variety of theoretical proposals about the nature of split intransitivity, typically involving arrangements whereby  $S_P$  shares some structural relationships with P, and  $S_A$  with A. In addition to Perlmutter (1983), see Marantz (1984), Burzio (1986), Levin (1988), Zaenen (1993) and Van Valin and LaPolla (1997) for a representative sample. However there is another possibility, which is that the distinction involves direct sensitivity to semantic roles.

In early work this possibility was discounted, due to difficulties in identifying exactly what semantic role was involved, but more recent investigations, such as Van Valin (1990), Mithun (1991), and Levin and Hovav (1995) have tended to find an increasing degree of semantic regularity. A small number of related semantic distinctions seem to be involved, such as whether the verb involves activity (as opposed to describing a state), whether the action is volitional, or whether it is 'telic', having a definite endpoint, as opposed to indefinitely continuous.

A semantic basis for the split has been specifically argued for Acehnese, a language of Sumatra in Indonesia, by Van Valin and LaPolla (1997:255-60), on the basis of work by Durie (1985, 1987, 1988). In this language, A/ $S_A$  take an obligatory proclitic, illustrated in (142a,b), while P/ $S_P$  take an optional enclitic, illustrated in (142a,c):

- (142) a. gopnyan ka lôn-ngieng(-gueh)  
 (s)he(P) already 1-see(-3)  
 I saw him/her
- b. gopnyan geu-jak  
 (s)he 3-go  
 (S)he goes
- c. gopnyan rhêt(-geuh)  
 (s)he fall-3  
 (S)he falls

However unlike the case in Choctaw, there is no clear evidence that  $S_P$  has significant properties in common with  $S_A$  and A, and hence no clear case for the existence of a-subject grammatical relation.<sup>23</sup> There are however various grammatical phenomena applying to A/ $S_A$ , and others to P/ $S_P$ , but none to  $S_A/S_P/A$ .

For example the verb *tém* ‘want’ requires its complement to have an A-like subject, which furthermore cannot be expressed as an overt NP, nor as a proclitic. A P-like argument is not acceptable, whether it belongs to a transitive or intransitive verb:

- (143) a. gopnyan geu-tém (\*geu-)jak  
 (s)he 3-want (3-)go  
 (S)he wants to go
- b. geu-tém (\*geu-)taguen bu  
 3-want (3-)cook rice  
 (S)he wants to cook rice
- c. \*gopnyan geu-tém rhêt  
 (s)he 3-want fall  
 (S)he wants to fall

Acehnese might then be an example of language with split S phenomena but no a-subject. A possible analysis would be to say that it has one grammatical relation associated with A function, and another with P function. Either of these would be available for one-place predicates, depending on the meaning. But there is also a very strong correlation between a core argument NP being a volitional Agent and an A/ $S_A$ , and not being such an Agent and being a P/ $S_P$ . This raises the alternative possibility that Acehnese does not distinguish core arguments by means of different grammatical functions, but rather that the differences between them are caused by direct sensitivity to semantic roles, as argued by Bhat.

Although Acehnese appears to lack a-subject, and may well lack distinct grammatical functions distinguishing the core argument, it does seem to have a clear distinction between core and non-core arguments, and very likely p-subject as well. In front of the verb there is a special position which Durie calls ‘core topic’, which can according to Durie be optionally occupied by a single core argument.<sup>24</sup> This is the position occupied by the initial nominal in all of the examples above that begin with an NP, but it can also be left unoccupied, in which case a postverbal Agent of a transitive verb is marked with the preposition *lé*:

<sup>23</sup>However Asyik (1987) makes a partial case for a unified intransitive subject relation, but doesn’t discuss all of the implications of the differences between his treatment and Durie’s. It would be very useful for someone to work out and reconcile the differences between the two treatments.

<sup>24</sup>However Asyik (1987) offers a significantly different treatment.

- (144) lôn-pajoh lé lôn pisang nyan  
 I-ate by me banana that  
 I ate that banana

The use of the preposition makes the form look somewhat like a passive, but note that the verb is still cross-referencing the Agent, and there are also significant complexities in the use of the marker which we won't discuss here. For a transitive verb, the core topic can be either A or P (it is P in (142a)); if the core topic is p-subject, then Acehnese would be a language in which choice of p-subject is relatively free.

Acehnese is therefore relevant to the two questions of whether a-subjects are universal, and whether split intransitivity involves a structural syntactic distinction or direct sensitivity to semantic roles. It also suggests that possession of a-subject and p-subject might be typologically independent features of languages, with different languages having either, neither, or both. Further investigation of the language will be required in order to get definitive answers to these questions.

We have thus learned a lot about the geographical distribution and semantic correlates of split intransitivity, but we still don't fully understand how it articulates with other aspects of grammatical structure, in particular whether it always involves a distinction of grammatical relations, or is at least sometimes best explained in terms of direct sensitivity of grammatical phenomena to aspects of meaning.

## 6 Conclusion

The functions of NPs can be usefully classified into three different types, semantic, pragmatic, and grammatical. Semantic and pragmatic functions can be expected to exist on the basis of what language does, since they are based directly on aspects of meaning. Certain kinds of semantic and pragmatic function, such as Agent and Topic, turn out to be important for the functioning of many languages. The status of grammatical functions is different: these are abstract intermediaries between the meanings and overt forms of sentences. Languages differ in their organization of grammatical functions, and some languages have been argued to lack them entirely, instead using more direct ways of signalling the semantic and pragmatic functions.

Although the typology of the grammatical relations is diverse, there are recurring principles of organization. One basic distinction is between 'core' and 'oblique' functions; although this can be subtle and hard to ascertain in some cases, it appears to almost always be present. A now well-established parameter of variation is the status of the 'p-subject', a grammatical relation associated with but not identical to the pragmatic function of topic. Languages may or may not have a p-subject, and if one is present, it may be preferentially identified with A or with P, or neither may be preferred (a chart of the resulting typology appears at the end of section 2.3 of chapter I.8, *A Typology of Information Packaging in the Clause*, Foley).

Less clear issues are whether languages may lack a-subject, and whether split intransitivity always has a structural basis, or may be a matter of direct sensitivity to semantic roles. It may thus be the case that certain languages lack grammatical relations functioning as abstract intermediaries between meaning and overt form. These questions are difficult to answer conclusively, because of the difficulty of proving the absence of something, but nevertheless they are extremely important: if some languages have grammatical relations and other lack them, that would be a profound difference in the mental structures responsible for language use in different communities, and therefore an extremely important result. Both positive and negative answers to it must therefore be considered carefully and critically.

## Further Reading

As presented here, the functions of NP comprise semantic roles, pragmatic roles, and grammatical functions and relations. The most important sources for semantic roles are Jackendoff (1990) and Dowty (1991), and for pragmatic functions, Lambrecht (1994). Chapter I.8 (Information Packaging in the Clause, Foley) also has much useful discussion on these topics. For more on the grammatical functions A, S and P see Dixon (1994), and Comrie (1981) for a very clear application to the Torres Strait Island language Kala Lagaw Ya.

The history of thought on grammatical relations is long and complex. Cole and Sadock (1997) is a classic collection of older papers, while Marantz (1984) is a good discussion of their status as abstract intermediaries between form and meaning. Dziwirek et al. (1990) is a large collection of studies investigating grammatical relations in a wide variety of languages from many current theoretical points of view, while Baker (1988) is an influential presentation of a framework where they are not presumed as primitives, but defined in terms of more basic structural relationships. Bresnan (2001) presents a different framework in which a typologically diverse range of data are analysed under the assumption that grammatical relations are primitives. Manning (1996) formally integrates into a variant of Bresnan's framework the results of much previous work in many frameworks on grammatical relations in ergative languages, and is the most immediate source of the 'a-subject' and 'p-subject' terminology used here. Wechsler and Arka (1998) applies this style of analysis to Balinese, showing how a language that superficially seems to be similar to English or Bantu languages is actually a variant of the Philippine type.

Foley and Van Valin (1984) is a central foundational work for the general approach to grammatical relations pursued here, which is extended to an extremely comprehensive typological study by Van Valin and LaPolla (1997), investigating an extremely diverse range of languages with extensive references to relevant descriptive and theoretical literature.

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