

Chapter 4: Syntactic Relations and Case Marking

4.0 General Considerations

An important locus of the interaction of syntax, semantics and pragmatics is grammatical relations. RRG takes a rather different view of grammatical relations from other theories. In the first place, it does not consider them to be basic, nor does it derive them from structural configurations. Second, it recognizes only one syntactic function, not three like other theories; there is nothing in RRG corresponding to notions like direct object and indirect object. The syntactic function posited in RRG is not, therefore, part of the same system of oppositions as the traditional notions of grammatical relations (i.e. subject vs. direct object vs. indirect object), and consequently it is not really comparable to the traditional notion that is its closest analog, subject. Third, RRG does not assume that grammatical relations are universal, in two senses. On the one hand, it does not claim that all languages must have grammatical relations in addition to semantic roles, which are universal. On the other hand, in those languages in which a non-semantic grammatical relation can be motivated, the syntactic function posited need not have the same properties in every language; that is, the role of this syntactic function in the grammar of language *X* may be very different from that played by the syntactic function in language *Y*, and consequently, the two cannot be considered to be exactly the same. Variation in grammatical relations systems is directly related to differences in the syntax-semantics-pragmatics interface across languages.

4.1 Do All Languages Have Grammatical Relations?

Most syntactic theories postulate that each of the core arguments bears some kind of grammatical relation, in addition to its semantic relation. The justification for positing syntactic relations in a language in addition to semantic predicate-argument relations is that there are phenomena in the language in which the distinction between two or more semantic roles is neutralized for syntactic purposes. A very simple example of this can be found in English: the verb agrees with the first NP in the core, regardless of whether it is actor or undergoer, i.e. whether it is the actor of an active-voice transitive verb, the undergoer of a passive-voice transitive verb, the actor of an intransitive verb, or the undergoer of an intransitive verb; hence the contrast between actor and undergoer is neutralized here.¹ This is summarized in (4.1).

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|---------------------------------------------|-------------------------------------------|
| (4.1) a. The teacher has read the words. | Actor of transitive V |
| b. The teacher has sung. | Actor of intransitive V |
| c. The teacher has fainted. | Undergoer of intransitive V |
| d.*The teacher have read the words. | *Undergoer of transitive V [active voice] |
| e. The words have been read by the teacher. | Undergoer of transitive V [passive voice] |

The contrast between (4.1d) and (e) shows that the issue is not semantic; in both examples, the word triggering agreement is the undergoer of *read*. Rather, the crucial difference is the syntactic function of the NP: it is a direct object in (d) but a subject in (e). Hence the determination of the trigger for verb agreement is syntactic, not semantic. However, there is no general neutralization of the opposition among arguments bearing semantic roles; the neutralization is restricted to actor and undergoer and does not apply to every argument bearing a thematic relation to the predicate. This is,

¹The same principle applies to inverted constructions like those in (4.17) and (4.18), discussed below, because the postverbal NP is still the first NP in the core.

therefore, a restricted neutralization of semantic roles for syntactic purposes, and it is evidence for the existence of a syntactic predicate-argument relation in addition to the semantic relations of actor and undergoer. Most languages have phenomena such as these which motivate the postulation of both semantic roles and grammatical relations.

Acehnese (Austronesian, Sumatra) is an example of a language in which this kind of restricted neutralization is not found, and accordingly there are no grounds for positing grammatical relations of any kind in addition to semantic roles, according to Durie (1985, 1987). In this language statements of grammatical phenomena make reference to actor, to undergoer, or to core status; there is no construction in Acehnese which exhibits the kind of restricted neutralization of the actor-undergoer opposition of the kind described for English above. Verb ‘agreement’ (actually cross-reference, as this is a head-marking language) is sensitive to whether an argument is actor or undergoer, regardless of the transitivity of the verb; this is in sharp contrast to the situation in English, for example.²

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|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| (4.2) a. Gopnyan <i>geu-mat lôn./ geu-mat-lôn</i> . ³
3sg 3A-hold 1sg/ 3A-hold-1sgU
‘(S)He holds me.’ | NP _A A-V(-U) NP _U |
| b. (Lôn) <i>lôn-mat gopnyan</i> .
1sg 1sgA-hold 3sg
I hold him/her.’ | NP _A A-V(-U) NP _U |
| c. (Gopnyan) <i>geu-jak. / *gopnyan jak(-geuh)</i> .
3sg 3A-go go(-3U)
‘(S)He goes.’ | NP _A A-V/*NP _U V(-U) |
| d. (Lôn) <i>lôn-jak. / *lôn jak(-lôn)</i>
1sg 1sgA-go go(-1sgU)
‘I go.’ | NP _A A-V/*NP _U V(-U) |
| e. Gopnyan <i>rhët(-geuh). / *gopnyan geu-rhët</i>
3sg fall(-3U) 3A-fall
‘(S)He falls.’ | NP _U V(-U)/*NP _A A-V |
| f. Lôn <i>rhët(-lôn) / *lôn lôn-rhët</i>
1sg fall(-1sgU) 1sgA-fall
‘I fall.’ | NP _U V(-U)/*NP _A A-V |

The contrast between actor and undergoer in an Acehnese clause is coded primarily in the clitic pronouns on the verb: the obligatory proclitic indicates the person, number and social status of the actor (*geu-* codes a familiar third person argument, *ji-* one of higher social status), while the optional enclitic signals the same information about the undergoer. Note that the form of the clitic pronouns is the same in both instances; only position distinguishes actor from undergoer. The distinction between actor and undergoer is preserved with intransitive verbs, as (4.2c-f) show; *jak* ‘go’ takes only the actor proclitics, while *rhët* ‘fall’ takes only the optional undergoer enclitics. In other words, the verb always agrees with actors and undergoers the same way regardless of the transitivity of the verb; hence there is no neutralization of the actor-undergoer opposition in agreement (cross-reference).

The actor-undergoer contrast expressed in the verbal cross-reference is maintained in the

²All Acehnese examples are from Durie (1985, 1987). In the clause structure schemata on the right, ‘NP_A’ = Actor NP, ‘NP_U’ = Undergoer NP, ‘A-’ = Actor proclitic, ‘-U’ = Undergoer enclitic.

³The undergoer clitic cannot occur if the verb is immediately followed by the undergoer NP, unless the NP is marked by the focus particle *di*.

syntax. In control constructions with verbs like *tém* ‘want’, the omitted argument in the dependent core is always the actor. This is illustrated in (4.3).

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| (4.3) a. Gopnyan geu-tém [(<i>*geu-</i>)jak]. | Actor of intransitive V |
| 3sg 3A-want (<i>*3A-</i>)go | |
| ‘(S)he wants to go.’ | |
| b. Geu-tém [(<i>*geu-</i>)taguen bu]. | Actor of transitive V |
| 3-want (<i>*3A-</i>)cook rice | |
| ‘She wants to cook rice.’ | |
| c. <i>*Gopnyan geu-tém [rhët].</i> | <i>*Undergoer of intransitive V</i> |
| 3sg 3A-want fall | |
| ‘(S)he wants to fall.’ | |
| d. <i>*Aneuk agam nyan ji-tém [geu-peuréksa lé dokto].</i> | <i>*Undergoer of transitive V</i> |
| child male that 3A-want 3A-examine by doctor | |
| ‘That child wants to be examined by the doctor.’ ⁴ | |

In (4.3c) the undergoer verb *rhët* ‘fall’ is impossible, even though its undergoer enclitic has been omitted. In the final example, the undergoer of a transitive verb has been omitted, and this too is ungrammatical. In this construction, the omitted argument must always be an actor. Thus a general notion of syntactic subject subsuming the subject of transitive verbs and the single argument of intransitive verbs is inappropriate for this Acehnese construction; rather, the restriction can simply be stated in terms of the notion of actor, without reference to transitivity or any non-semantic syntactic relation. This construction is representative of many major constructions in Acehnese syntax, according to Durie (1985, 1987).

There are also constructions in Acehnese in which the relevant restriction is stated in terms of undergoer, rather than actor (or subject). Possessor ascension is illustrated in (4.4).

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|------------------------------------------------------------|---------------------------------|
| (4.4) a. Seunang até lôn. | |
| happy liver 1sg | |
| ‘I am happy.’ (lit: ‘My liver is happy.’) | |
| b. Lôn seunang-até. | Undergoer of intransitive V |
| 1sg happy-liver | |
| ‘I am happy.’ | |
| c. Ka lôn-tët rumoh gopnyan. | |
| IN 1sgA-burn house 3sg | |
| ‘I burned her house.’ | |
| d. Gopnyan ka lôn-tët-rumoh. | Undergoer of transitive V |
| 3sg IN 1sgA-burn-house | |
| ‘I burned her house,’ or ‘She had her house burned by me.’ | |
| e. <i>*Gopnyan ka aneuk-woe.</i> | <i>*Actor of intransitive V</i> |
| 3sg IN child-return | |
| ‘His/her child returned.’ | |

The occurrence of a possessor NP (*lôn* in (4.4a,b)) outside of the possessive NP (*até lôn* in (4.4a)) is possible only if the possessive NP functions as the undergoer of the clause; as (4.4e)

⁴The passive translation should not be taken to indicate that the Acehnese construction is a passive. Durie (1985, 1988) shows that this construction is an active sentence with a postposed actor *dokto* ‘doctor’; note that the actor is still cross-referenced on the verb in the usual way by a proclitic. *Aneuk agam nyan* ‘that boy’ is the actor of *tém* ‘want’ and the undergoer of *peuréksa* ‘examine’.

shows, this is not possible when the possessive NP serves as actor.

All of the Acehnese phenomena discussed so far involve restrictions (actor-only or undergoer-only) but no neutralizations. Several major constructions are sensitive only to whether the argument in question is a core argument, e.g. NP fronting, raising, and relativization; it makes no difference whether the argument is actor, undergoer or what Durie labels a ‘dative argument’. Here the actor-undergoer opposition is indeed neutralized, but there is no restriction. Hence it is not a restricted neutralization, like the one from English regarding verb agreement discussed above; ‘any core argument’ is not a grammatical relation. That is, the English neutralization nullifies the actor-undergoer contrast with intransitive verbs only, and it applies only to macrorole arguments; it is not a general neutralization, in that macrorole arguments are still singled out for special treatment in this construction. In Acehnese, on the other hand, this neutralization applies in all clauses regardless of the transitivity of the verb, and non-macrorole arguments may be involved in the construction, as illustrated in (4.5) with raising. It is, therefore, a general neutralization of the opposition among core arguments.

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| (4.5) a. Gopnyan teuntèe [geu-woe].
3sg certain 3A-return
‘(S)he is certain to return.’ | Actor of intransitive V |
| b. Gopnyan teuntèe [meungang-geuh].
3sg certain win-3U
‘(S)he is certain to win.’ | Undergoer of intransitive V |
| c. Gopnyan teuntèe [geu-beuet hikayat prang sabi].
3sg certain 3A-recite epic
‘He is certain to recite the Prang Sabi epic.’ | Actor of transitive V |
| d. Hikayat prang sabi teuntèe [geu-beuet].
epic certain 3A-recite
‘The Prang Sabi epic is certain to be recited by him’ | Undergoer of transitive V |
| e. Gopnyan lôn-anggap [na neu-bi pèng baroe].
3sg 1sg-consider BE 2A-give money yesterday
‘I believe him to have been given money by you yesterday.’
(lit.: ‘I consider him _i [you gave money [to] ___ _i yesterday].’) | ‘Dative’ of ditransitive V |

An argument of the verb in the linked core appears in clause-initial position: it is the actor of an intransitive verb in (4.5a), the undergoer of an intransitive verb in (4.5b), the actor of a transitive verb in (4.5c), the undergoer of a transitive verb in (4.5d), and the dative argument of a three-argument verb in (4.5e). Thus the neutralization found in these Acehnese examples is not like the kind found in English and most other languages and does not support the postulation of grammatical relations like subject and direct object, because it is an unrestricted neutralization. Rather, the grammar of Acehnese operates with the concepts of actor, undergoer and core argument.

Acehnese is very significant for theories of predicate-argument relations, for two reasons. First, it exemplifies the rare type of language in which there is no evidence for the postulation of grammatical relations in addition to semantic predicate-argument relations; it is therefore evidence that grammatical relations are not universal in the first sense discussed in §4.0. Second, the generalizations regarding Acehnese syntax formulated by Durie would not be possible without macroroles. If they were stated in terms of thematic relations alone, each statement would include a disjunctive list of thematic relations, e.g. ‘possessor raising is possible only if the possessive NP functions as patient, theme, experiencer or locative in its clause.’ The macrorole undergoer subsumes these thematic relations and thereby makes possible an elegant statement of this

restriction.

4.2 Privileged syntactic arguments

Languages like Acehnese are very unusual; the vast majority of languages do provide evidence for the postulation of grammatical relations in addition to semantic roles. The traditional description of these phenomena is in terms of the grammatical relations of subject, direct object and indirect object, but the investigation of Philippine, ergative and active languages has shown that analyses based on the traditional approach and its modern derivatives are highly problematic.⁵ The central concept in RRG for handling these phenomena is PRIVILEGED SYNTACTIC ARGUMENT OF A GRAMMATICAL CONSTRUCTION [PSA]. It may be characterized as follows. In all languages there are syntactic constructions in which there are restrictions on the NPs and PPs (arguments and non-arguments) that can be involved in them; these restrictions define a privileged syntagmatic function with respect to that construction. In Acehnese these restrictions can be formulated in terms of either the specific semantic macroroles of actor and undergoer or the general syntactic notion of core argument. Hence the privileged syntagmatic function is semantically defined with respect to the constructions in (4.2)-(4.4) but syntactically defined with respect to (4.5). In languages like English, Icelandic and Dyrbal, on the other hand, there is a restricted neutralization of semantic roles with respect to the privileged syntagmatic function in most syntactic constructions. The restriction on arguments which can be involved in them is not characterizable in purely semantic-role terms, as in Acehnese; rather, it must be defined non-semantically, i.e. syntactically. The NP bearing the syntactically-defined privileged syntagmatic function is the privileged syntactic argument of the construction. In order for a privileged syntactic argument to exist, there must be a restricted neutralization of semantic roles associated with the privileged function in the construction; if there is no restricted neutralization, as in Acehnese, then there are no grounds for positing specific non-semantic relations like subject and direct object. 'Core argument', while a syntactic status, does not define a specific argument relation like subject or direct object. In the English verb agreement examples in (4.1), the first NP in the core bears the defining syntactic function (it triggers verb agreement) and there is a restricted neutralization associated with it; it is therefore the privileged syntactic argument of the construction.

In the construction in (4.6) there is a restricted neutralization with respect to the omitted argument in the infinitival core.

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|-------------------------------------------------------------------------------------|-------------------------------------|
| (4.6) a. Chris wants to sing in the park. | Actor of intransitive V |
| b. Chris wants to be stronger. | Undergoer of intransitive V |
| c. Chris wants to drink a beer. | Actor of transitive V |
| d. *Chris _i doesn't want the journalist to interview ____ _i . | *Undergoer of transitive V [active] |
| e. Chris doesn't want to be interviewed by the journalist. | Undergoer of transitive V [passive] |

In strictly syntactic terms, there is a missing argument in the linked core in (4.6); hence in (4.6) the privileged syntagmatic function defining the construction is that of the missing argument. In this construction there are restrictions on which argument can be omitted, as the (d) example shows. The missing argument in the linked core in (4.6a,c) is an actor, in (4.6b,e) an undergoer. In (4.6d), the missing argument has the same semantic role as in the grammatical (e) example; this is crucial evidence that the restriction cannot be stated in semantic role terms. The difference between (4.6d) and (e) concerns the syntactic treatment of the undergoer argument in the linked core. There is thus a restricted neutralization with respect to the omitted NP in (4.6), and it is the same one found in the

⁵See Van Valin (1981), Foley & Van Valin (1984, 1985), Durie (1987), Andrews (1985), Bhat (1991), Dryer (1997), among others, for detailed discussion.

privileged syntactic argument subsumes pivots and controllers.

In discussing grammatical relations, it is useful to characterize restricted neutralizations in the following way. The neutralization of the actor of an intransitive verb and the undergoer of an intransitive verb, as exemplified in (4.1a,b) and (4.6a,b), yields an ‘intransitive subject’ function which may be represented as ‘S’, following Dixon (1972). Acehnese, unlike English, lacks this S function. ‘A_T’ stands for the actor of a transitive verb, and ‘U_T’ stands for the undergoer of a transitive verb. Since a passive verb is a derived intransitive verb in most languages, the single core argument of a passive verb will be termed a ‘derived-S’ [d-S]. The restricted neutralization in (4.1) and (4.6) may be represented as ‘[S, A_T, d-S]’, meaning that the single argument of an intransitive verb (regardless of whether it is actor or undergoer), the actor of a transitive verb, and the single argument of a passive verb function alike in a construction.

Not all languages show this pattern of neutralization. In Kambera, an Austronesian language of eastern Indonesia (Klamer 1994), the undergoer of a transitive verb cannot function as a pivot in constructions like the one in (4.9).

- (4.9)a. Ku-mbuhang pa-ràma. Actor of intransitive V
 1sgNOM-want INF-work
 ‘I want to work.’
- b. Nda ku-mbuhang pa-hidu. Undergoer of intransitive V
 NEG1sgNOM-want INF-be.ill
 ‘I don’t want to be ill.’
- c. Ku-mbuhang pa-tinung-nya na lau haromu. Actor of transitive V
 1sgNOM-want INF-weave-3sgDAT ART sarong tomorrow
 ‘I want to weave the sarong tomorrow.’

These Kambera control constructions are like the English control constructions in (4.6); there is a missing argument in the linked core. In (4.9a), the omitted argument is the actor of an intransitive verb, while in (b) it is the undergoer of an intransitive verb. Hence Kambera neutralizes the contrast between actor and undergoer with intransitive verbs and, like English, has an S function. With transitive verbs, on the other hand, the situation is rather different. Unlike English, there are no forms like (4.6e) in which the undergoer of a transitive verb functions as a pivot in this construction; Kambera lacks a passive construction. Only the actor of a transitive verb can serve as a pivot in this construction. Hence the neutralization in the Kambera control construction is [S, A_T], not [S, A_T, d-S] as in English. Both of these are syntactically accusative patterns.

There is another possible neutralization which is found in a number of languages, an ergative one. It is exemplified by the following sentences from Kalkatungu, an Australian Aboriginal language (Blake 1979). These are participial constructions, in which an argument is missing from the participle, which agrees with the controller in case; the issue, as in (4.6) and (4.9), is, which argument can be omitted (serve as pivot) in the linked unit? The linked unit with the pivot is in brackets in both the Kalkatungu example and its English translation.

- (4.10)a. Tuatu pa-ji marapai-Ø icaji [ɪŋka-ŋ-ɪŋka-cin-Ø]. Actor of intr. V
 snake.ERG that-ERG woman-ABS bite go-LINK-go-PART-ABS
 ‘The snake bit the woman_i [as ____i was walking along].’
- b. [Jərikajan-ati-pin-tu] caa ŋa-tu laji Ø. Undergoer of intr. V
 hungry-VBLZ-PART-ERG here 1sg-ERG kill 3sgABS
 ‘[____i Being hungry] I_i killed it.’

- c. Kuntu caa luŋa-na Ø [ŋa-tu la-ŋin-ka-Ø]. Undergoer of trans. V
 NEG here cry-PAST 3sgABS 1sg-ERG hit-PART-SUFF-ABS
 ‘He_i didn’t cry [when I hit ____].’
- d. *Ŋa-tu ŋaŋa macumpa-Ø [aŋi-ŋin-Ø kaŋir-Ø]. *Actor of trans. V [active]
 1sg-ERG saw kangaroo-ABS eat-PART-ABS grass-ABS
 ‘I saw the kangaroo_i [_____i eating grass].’

In (4.10a) the missing argument in the participle is the actor of an intransitive verb, while in (b) is the undergoer of an intransitive predicate; these first two sentences show that Kalkatungu neutralizes actor and undergoer with intransitive verbs and hence has an S function. In (4.10c) the omitted argument in the participle is the undergoer of a transitive verb. The actor of an active voice transitive verb cannot be omitted, as the ungrammaticality of (4.10d) shows. This is analogous to (4.6d), and the solution is analogous as well: English has a voice construction which allows the undergoer to serve as the privileged syntactic argument, and Kalkatungu has one as well, which is termed an antipassive. The Kalkatungu antipassive construction is exemplified in (4.11); in the active voice, the actor is in the ergative case and the undergoer in the absolutive, while in the antipassive form the actor is in the absolutive case, functioning as a d-S, and the undergoer appears in the dative case.

- (4.11)a. Ŋa-tu la-mi tuar-Ø.
 1sg-ERG hit-FUT snake-ABS
 ‘I’m going to hit the snake.’
- b. Ŋai la-ji-mi tuar-ku.
 1sgABS hit-ANTI-FUT snake-DAT
 ‘I’m going to hit the snake.’

When the verb in (4.10d) is antipassivized, the actor functions as the single argument of a derived intransitive verb and may be omitted in the construction, as shown in (4.12).

- (4.12) Ŋa-tu ŋaŋa macumpa-Ø [aŋi-li-ŋin-Ø kaŋir-ku]. Actor of transitive V
 1sg-ERG saw kangaroo-ABS eat-ANTI-PART-ABS grass-DAT [antipassive]
 ‘I saw the kangaroo_i [_____i eating grass].’

Hence in the Kalkatungu participial construction the neutralization pattern is [S, U_T, d-S]. Note that there is no restricted neutralization with respect to the controller in these constructions: the controller is the U_T in (4.10a, d’), the A_T in (b), and the S in (c).

These neutralization patterns may be summarized as in Table 4.1.⁶

	<u>Intransitive Vs</u>	<u>Transitive Vs</u>	<u>Grammatical Relations</u>	<u>PSA(s)</u>
Acehnese	NO	NO	NO	[A], [U]
English	YES	YES	YES	[S, A _T , d-S]
Kambera	YES	NO	YES	[S, A _T]
Kalkatungu	YES	YES	YES	[S, U _T , d-S]

Table 4.1: Patterns of restricted neutralizations of semantic roles

⁶There is one more possible neutralization pattern, [S, U_T]. It is exceedingly rare; see Van Valin & LaPolla (1997), §6.5, for an explanation for its limited distribution.

It might appear that ‘privileged syntactic argument’ is just another term for syntactic subject, but this is not the case. First, privileged syntactic arguments are construction-specific, while grammatical relations like subject are not. It makes no sense to talk about ‘the privileged syntactic argument in English syntax’ in the same way one might talk about ‘the subject in English syntax’, since subject is assumed to be a general relation playing a role in the grammar as a whole; it would, however, be reasonable to discuss ‘privileged syntactic arguments in English syntax’. Conversely, it is nonsensical to talk about ‘the subject of the raising construction in English’, while ‘the privileged syntactic argument of the raising construction in English’ is perfectly natural. Second, the mistaken equation of syntactic subject with privileged syntactic argument is the result of the fact that in languages like English the privileged syntactic argument of almost all of the major constructions appears to be the same.⁷ There are, however, many languages in which this kind of syntactic consistency is lacking in the most striking way, e.g. Jakaltek (Van Valin 1981) or Sama (Walton 1986); in Jakaltek, for example, there are *five* different privileged syntactic arguments for the seven major grammatical constructions surveyed in Van Valin (1981). For these languages the assumption that there is a single notion of subject operative in the grammatical system is extremely problematic. Issues like ‘which argument is the syntactic subject in a language like Jakaltek?’ simply cannot arise in this framework.

While Jakaltek and Sama point up the difficulties with the assumption that syntactic relations in a language can be described in terms of a single set of generally applicable notions, it is nevertheless the case that most languages are more like English than Jakaltek in having the same privileged syntactic argument for most, if not all, of their major syntactic constructions. Subject, then, is a generalized privileged syntactic argument in languages in which most or all of the major constructions have the same restricted neutralization. It is because of this consistency that languages can be characterized as syntactically accusative or ergative. That is, a language is syntactically accusative if the privileged syntactic argument for the majority of constructions in the grammar treats the actor in clauses with transitive verbs the same as the single argument in clauses with intransitive verbs, i.e. [S, A_T] or [S, A_T, d-S]; this is the case in English, for example. Since transitive verbs have both an actor and an undergoer, this entails the existence of an accessibility hierarchy to privileged syntactic argument, with actor being the unmarked or default choice and undergoer the marked choice. This markedness is signalled in English and many other syntactically accusative languages by means of the passive construction in which the undergoer of a transitive verb is the privileged syntactic argument. In a syntactically ergative language such as Kalkatungu or Sama (Walton 1986), the markedness hierarchy for accessibility to privileged syntactic argument is reversed: undergoer is the unmarked choice and actor the marked choice. In these languages an antipassive construction exists which permits the actor to function as privileged syntactic argument, e.g. the Kalkatungu antipassive in (4.11). This is summarized in Table 4.2.

Syntactic system:	Default choice for PSA	Choice for PSA requiring special construction
Accusative	Actor	Undergoer [Passive]
Ergative	Undergoer	Actor [Antipassive]

Table 4.2: PSA defaults in accusative and ergative systems

The markedness of privileged syntactic argument choice is captured in RRG in terms of the privileged syntactic argument selection hierarchy, given in (4.13) and the accessibility to privileged

⁷Two constructions which do not have the traditional subject as the privileged syntactic argument is *tough*-movement, e.g. *This book is easy to read*, and purpose clauses, e.g. *Kim brought the book for the teacher to read*.

syntactic argument principles in (4.14).

(4.13) Privileged Syntactic Argument Selection Hierarchy:

arg of DO > 1st arg of **do'** > 1st arg of **pred'** (x, y) > 2nd arg of **pred'** (x, y) > arg of **pred'** (x)

(4.14) Accessibility to Privileged Syntactic Argument Principles

- a. Accusative constructions: Highest ranking direct core argument in terms of (4.13)
- b. Ergative constructions: Lowest ranking direct core argument in terms of (4.13)
- c. Restrictions on PSA in terms of macrorole status:
 1. Languages in which only macrorole arguments can be PSA: German, Italian, Dyirbal, Jakaltek, Sama, ...
 2. Languages in which non-macrorole direct core arguments can be PSA: Icelandic, Georgian, Japanese, Korean, Kinyarwanda, ...

(The contrast in (4.14c) will be discussed in §§4.4, 4.5.) Even though the hierarchy in (4.13) is similar to the Actor-Undergoer Hierarchy, in that it refers to the same argument positions in LSs, it differs in that it is unilateral, taking agent (argument of DO) as the highest ranking and patient (argument of **pred'** (x)) as the lowest ranking. If a verb takes both an actor and undergoer (i.e. is M-transitive), the actor will be the highest ranking in terms of (4.13) and the undergoer the lowest ranking, because the highest ranking argument on the Actor-Undergoer Hierarchy, the actor, will also be the highest ranking argument on (4.13), and likewise the argument selected as undergoer will be lower ranking. With an M-intransitive verb, on the other hand, the single macrorole is the highest ranking (for the purposes of (4.14a)) or the lowest ranking (for the purposes of (4.14b)). Hence the single macrorole will be privileged syntactic argument, regardless of which macrorole it is. Note that it makes no sense to talk about an accessibility to privileged syntactic argument hierarchy for Acehnese, because the restrictions refer to actor only, undergoer only, or any core argument.

4.3 Types of Privileged Syntactic Arguments

The data from Acehnese, English, Kambera and Kalkatungu have illustrated several types of pivots and controllers. In the Acehnese control construction in (4.3), the controller in the matrix core is the actor, and the pivot in the linked core is also the actor, while in the possessor raising construction in (4.4), the raised argument (pivot) is the undergoer. Since these pivots and controllers are either actors or undergoers, they will be termed SEMANTIC PIVOTS and CONTROLLERS. They are not syntactic in the sense that they do not involve any kind of neutralization, unlike the other pivots and controllers discussed in §4.2; they do, however, play an important role in the syntax. Pivots and controllers that involve one of the restricted neutralizations in Table 4.1 are SYNTACTIC PIVOTS and CONTROLLERS. Thus the pivots in the English and Kambera control constructions and in the Kalkatungu participial construction are all syntactic pivots. The controller of verb agreement in English in (4.1) is an example of a syntactic controller, as is the controller in the the coordinate constructions in (4.7); both exhibit the [S, A_T, d-S] pattern typical of English syntax. English does have semantic controllers like Acehnese in some constructions. Consider the control constructions with *persuade* in (4.15).

(4.15)a. Chris persuaded Pat_i [____i to visit Leslie].

CONTROLLER PIVOT

- b. Pat_i was persuaded by Chris [____i to visit Leslie].
 CONTROLLER PIVOT

In this control construction, the pivot is the same as in (4.6), but the controller is always the undergoer with *persuade*: *Pat* is the undergoer of *persuade* and is the controller in both sentences, regardless of whether it is syntactically the ‘subject’ or ‘direct object’ (see §7.3.1). Contrast this with the construction in (4.7), in which the controller is the ‘subject’ regardless of whether it is an actor, as in (4.7a), an undergoer, as in (4.7a’), or an intransitive actor as in (4.7b). Hence (4.15) is an example of a semantic controller in English. This contrast may be summarized as in Figure 4.1.

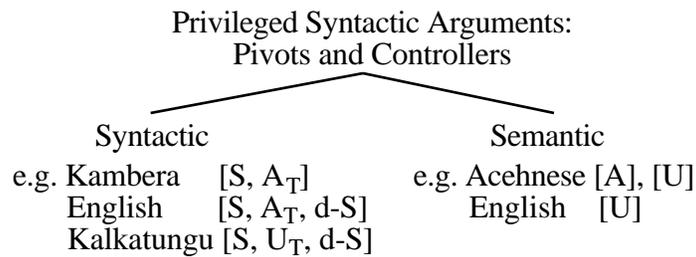


Figure 4.1: Types of privileged syntactic arguments (preliminary)

There is an important difference between the privileged syntactic arguments in English and Kalkatungu, on the one hand, and those in Kambera, on the other. In the Kambera construction the speaker has no choice as to which argument will serve as privileged syntactic argument: if the verb is intransitive, then the single argument will function as privileged syntactic argument, and if the verb is transitive, only the actor can be the privileged syntactic argument. Hence the selection of the privileged syntactic argument is invariable. In English and Kalkatungu, on the other hand, either argument of a transitive verb can function as privileged syntactic argument: there is a default choice, actor for English and undergoer for Kalkatungu, but the existence of a voice opposition in these languages makes it possible for an undergoer in English or an actor in Kalkatungu to serve as privileged syntactic argument. Hence the selection of the privileged syntactic argument is not fixed, as in Kambera, but rather is variable. It is necessary, then, to distinguish variable from invariable privileged syntactic arguments, as in Figure 4.2.

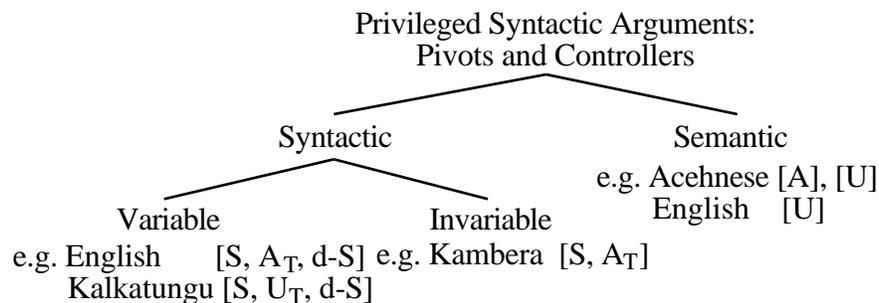


Figure 4.2: Types of privileged syntactic arguments (revised)

The existence of the ‘d-S’ possibility differentiates variable from invariable syntactic pivots and controllers.

Given the existence of the variable syntactic controllers and pivots, RRG asks, *what factors*

influence the selection of the argument to be pivot when there is a choice? That is, with a transitive verb, there are in principle two candidates for privileged syntactic argument, the actor and the undergoer,⁸ and given that a choice must be made as to which one will be privileged syntactic argument, what factors, syntactic, semantic and/or pragmatic, govern or at the very least affect this choice? It is essential to recognize that this issue is only relevant to clauses with transitive verbs; there is no question of choice with an intransitive verb, since the single argument may function as privileged syntactic argument.

In English, as in many languages, one of the factors influencing privileged syntactic argument selection is discourse pragmatics. It was shown in section 3.2 that in predicate focus constructions, the unmarked focus type, the privileged syntactic argument in English is highly topical, and this suggests that pragmatic factors like topicality could influence the choice of which argument will be privileged syntactic argument in a clause with a transitive verb. Evidence that this is the case comes from chains of clauses which share a common topical participant; Dixon (1972) labelled these constructions ‘topic chains’. Examples from English are given in (4.16).

- (4.16)a. Mary_i walked into the department store, ____i looked at a couple of dresses, ____i bought one, ____i went up to the coffeeshop, ____i ordered a cup of coffee and ____i rested her weary feet.
- b. Milt_i strolled into the casino ____i wearing a fake beard, wig and glasses, but ____i was immediately recognized by the security people and ____i was unceremoniously escorted back out to the street.

Mary is the primary topical participant in (4.16a) and *Milt* is in (4.16b); they function as privileged syntactic argument in each clause. *Mary* is an actor in each of the clauses in (4.16a), and accordingly active voice is used in all clauses. In (4.16b), on the other hand, *Milt* is an actor only in the first two clauses and the undergoer in the last two; passive constructions are used to allow it to function as privileged syntactic argument. It appears, then, that in topic chains like these, the choice of which argument will function as privileged syntactic argument is affected by discourse pragmatic considerations, in particular by a desire to keep the primary topical participant in the unmarked topic position in the clause. All of these clauses are predicate focus constructions, and this is crucial, for it is difficult to have zero anaphora in a clause following a non-predicate focus construction, as the following examples from Lambrecht (1986, 2000) show.

- (4.17)a. There’s John_i and he_i’s reading a book.
 b. *There’s John_i and ____i is reading a book.
 c. John_i is sitting there and ____i is reading a book.
- (4.18)a. John_i walked into the room and ____i spoke to Pat immediately.
 b. *Into the room walked John_i and ____i spoke to Pat immediately.
 b’. Into the room walked John_i and he_i spoke to Pat immediately.
- (4.19)Q: Who married Rosa?
 A:a. JOHN_i did but he_i didn’t really love her.
 b. ??JOHN_i did but ____i didn’t really love her.

⁸This is something of an idealization, as in many languages direct core arguments which are not undergoers may function as privileged syntactic argument; cf. §§4.4, 4.5, Van Valin (1991a), Van Valin & LaPolla (1997) for a detailed examination of this situation in Icelandic. This idealization does not affect the larger point at hand.

(4.20)Q: Did John marry Rosa?

A: He_i did, but he_i/____i didn't really love her.

(4.17a) is a presentational construction in which *John* is focal, and it is not possible to have it as the antecedent for zero anaphora, as (4.17b) shows. The locative inversion construction in (4.18) is likewise a kind of presentational construction in which the NP *John* is focal, and here too it cannot be the controller of the pivot in the following clause. In (4.19a), *John* is a narrow focus (the answer to a WH-question) and likewise cannot be an antecedent for zero anaphora, as (4.19b) shows. Contrast these examples with (4.17c) and (4.20), in which *John* is clearly established as topical and not focal and can therefore be the antecedent for zero anaphora. Thus in topic chains involving zero anaphora, the selection of the argument to be privileged syntactic argument is strongly influenced by discourse pragmatic factors: it must be the primary topical participant.

The following text excerpt illustrates the formation of topic chains in Tepehua, a Totonacan language of Mexico (Watters 1986).

(4.21) 'čun, wa k-ŋahun makčat-n,' wa nahun ni hačipi, 'Ka-tawł-čiy-ča,'
yes, FOC 1SUBJ-be.IMPF cook-INF FOC say.IMPF the girl IRR-sit.down-here-already

wa jun-kan ni šanati₁, muda-ni-ka-č ___₁ ni piš-t-ancı, Peš wa tawla-č-ča
FOC tell-PASS the woman set-DAT-PASS-PRFV the 3sg-chair then FOC sit-PRFV-already

Yu hačipi₂ ŋahun makčat-n la: kPusi čpadukPu, makat-y ___₂ šoqta yu lačan
the girl be.IMPF make-INF very nice tortilla make-IMPF everthing the take.IMPF

laka: kušta muda-ta-ča ___₂ muda-ta ___₂ mole,ŋahni. Peš tawat Paqtay-č-ča ___₂
to cornfld put.in-PERF-already put.in-PERF mole, turkey and then begin-PRFV-already

lakta-ni-kan, hun-kan-ča ___₂ čiwinti yu haantu laqsawat.
gossip-DAT-PASS, tell-PASS-already words that not true

'Yes, I'm cooking,' says the girl. 'Sit down,' the woman is told, was set a chair and then sat down. The girl was cooking real nice tortillas, [she] makes everything that [she] takes to the cornfield, put in [a basket]; [she] put in mole and turkey, and then [she] began to be gossiped to, is told words that are not true.'

The first sequence of linked clauses has *ni šanati* 'the woman' as its primary topical participant. It is the privileged syntactic argument of two passive clauses, *junkan* 'be told' and *muda-ni-kan* 'be set [something]', and an intransitive verb, *tawla-* 'sit'. The verb morphology indicates that the participant is the undergoer of 'tell' and 'set', and the actor of 'sit'. In the remainder of the passage, *ni hačipi* 'the girl', is the primary topical participant and is the privileged syntactic argument of all of the remaining clauses. It is the actor in all but the last two clauses, as signalled by the active voice of the verbs, and then in the last two clauses the verbs are passive, indicating a change in semantic function from actor to undergoer.

In both English and Tepehua, then, one of the major factors motivating the selection of the argument to function as privileged syntactic argument is discourse pragmatics, in particular whether the argument in question is the primary topical participant in the context.⁹ This situation is found

⁹See Branigan & Prat-Sala (2000) and Heydel & Murray (2000) for cross-linguistic psycholinguistic evidence of a discourse motivation for passives in certain contexts.

in many languages, e.g. Sama (Walton 1986), Tagalog (Foley & Van Valin 1984), Malagasy (Keenan 1976), Dyirbal (Dixon 1972, Van Valin 1981), Jakalteek (Datz 1980), Tzutujil (Butler & Peck 1980), Lango (Noonan & Bavin-Woock 1978). It must be emphasized that pragmatics plays a role in assigning an argument to privileged syntactic argument of the relevant construction only with transitive verbs; with intransitive verbs there is no choice, and therefore pragmatics has no role to play. That is, discourse-pragmatics can affect privileged syntactic argument selection only in constructions with variable pivots and controllers. Thus, it is necessary to distinguish pragmatically influenced variable privileged syntactic arguments from those that are not pragmatically influenced; an example of the latter would be the variable syntactic pivot in (4.6), where the selection of the argument in the linked core is driven by the requirement that the pivot be identical to the controller argument in the matrix core, regardless of the context. The final version of the typology of privileged syntactic arguments is given in Figure 4.3.

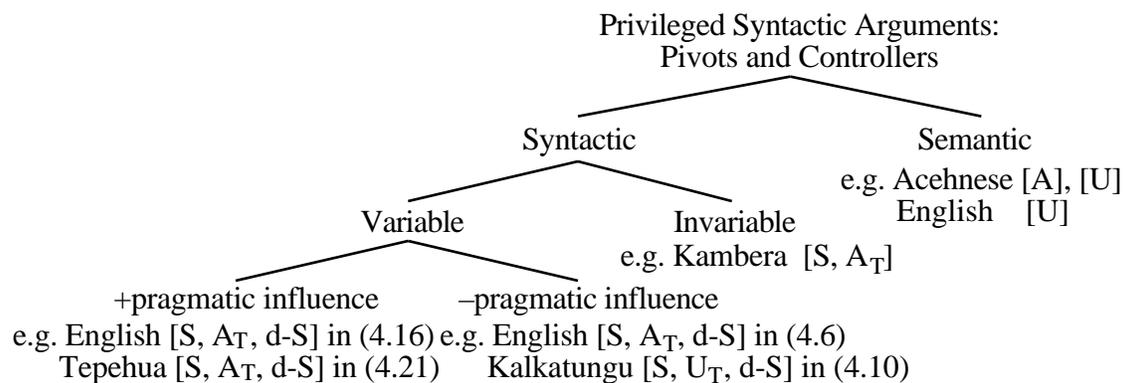


Figure 4.3: Types of privileged syntactic arguments (final)

It should be noted that pragmatically influenced variable privileged syntactic arguments include both controllers and pivots. That is, in topic chains, for example, both the controllers and pivots are pragmatically influenced; indeed, the pivot of the second clause is the controller of the pivot in the subsequent clause, and so on, and it was argued that the motivation for the choice of privileged syntactic argument in each clause is to keep the primary topical participant as privileged syntactic argument in each clause. Hence the topic chains in English in (4.16) and in Tepehua in (4.21) illustrate both pragmatically influenced variable controllers and pivots.

The situation regarding privileged syntactic argument selection in languages with variable privileged syntactic arguments is not, however, the norm universally. In many languages, there is no choice with respect to which argument will be privileged syntactic argument with a transitive verb: it is always the actor. Discourse pragmatic considerations have no influence on privileged syntactic argument choice. Van Valin & LaPolla (1997), §6.5, argued that this grammatical relations pattern is in fact the most common pattern cross-linguistically. It is illustrated in (4.22), a switch-reference construction from Amele, a Papuan language (Roberts 1988).

- (4.22) Ho busale-ce-b dana age qo-ig-a.
 pig run.out-DS-3sg man 3pl hit-3pl-TPAST
 'The pig ran out and the men killed it.'

In order to form the Amele equivalent of the topic chains in English and Tepehua, the switch-reference construction must be employed to string together clauses joined by switch-reference morphology on the non-final verbs. In this construction markers on dependent medial verbs signal

identity or non-identity of particular arguments in the adjacent linked clauses, and these arguments are the privileged syntactic arguments in the construction. Switch-reference systems almost always have a privileged syntactic argument composed of the actor of transitive verbs and the single argument of intransitives, i.e. [S, A_T].¹⁰ Assume, for the sake of the discussion, that the pig is the primary topical participant in the discourse. In the first clause in (4.22), *ho* ‘the pig’ is the actor of an intransitive verb, and in the second it is the undergoer of a transitive verb. In sharp contrast to English and Tepehua, in Amele there is no way for *ho* ‘the pig’ to function as privileged syntactic argument of the final clause in (4.22); only *dana age* ‘the men’, the actor of *qo-* ‘hit, kill’, can be privileged syntactic argument. There is no Amele construction analogous to the English topic chain *the pig ran out and was killed by the men*, in which an undergoer serves as privileged syntactic argument. Thus discourse considerations do not affect the choice of which argument will be privileged syntactic argument with a transitive verb in Amele; only the actor can be the privileged syntactic argument with a transitive verb.

Even though the actor will always be the privileged syntactic argument with a transitive verb, there is nevertheless a restricted neutralization of semantic roles for syntactic purposes here, because the construction does not distinguish between actor and undergoer with *intransitive* verbs. This is what crucially differentiates languages like Amele from languages like Acehnese in which there is no restricted neutralization with intransitive verbs. Other languages which have a system in which discourse pragmatic factors have no effect on the selection of the argument to be privileged syntactic argument with a transitive verb include Lakhota (Siouan), Choctaw (Muskogean), Cree (Algonquian, North America), Zapotec (Oto-Manguan, Mexico), Enga, Kewa, Yimas, Fore (Papua-New Guinea), Mparntwe Arrernte, Warlpiri (Australia), Chechen, Ingush (Caucasus, Russia), Thai, and Vietnamese.

It must be emphasized that within a single language, different constructions may have different privileged syntactic argument selection criteria. That is, in some constructions pragmatic considerations play a role in pivot selection, e.g. determining the privileged syntactic argument for topic chains as in (4.16) and (4.21) (where both the controller and the omitted arguments are clause-internal), while in others, e.g. the control construction in (4.6), they are irrelevant and other considerations determine the argument to be privileged syntactic argument. English, for example, has both semantic controllers, as in (4.15) and variable syntactic controllers, as in (4.7) and (4.16).

Thus there are two very different situations regarding selection of the argument to function as privileged syntactic argument in syntactic constructions in the world’s languages. In some constructions in some languages, discourse pragmatic considerations influence this selection, while in the majority of languages there are no constructions in which they play a role. In markedness terms, it could be described as [\pm pragmatic influence], with [+pragmatic influence] the marked case and [$-$ pragmatic influence] the unmarked case. Since focus (information) structure is a feature of the grammar of all languages, what this contrast represents is the variable grammaticalization of discourse pragmatic relations in clause-internal morphosyntax, in particular in clause-internal relational structure. As mentioned earlier, whether a privileged syntactic argument is [\pm pragmatic influence] can only be determined by looking at clauses with transitive verbs, since there is no choice with respect to which argument will be pivot with an intransitive verb. It is crucial to realize that the issue with respect to whether a privileged syntactic argument is [\pm pragmatic influence] is not whether *the NP functioning as privileged syntactic argument* is pragmatically salient or not. Rather, the issue is whether these pragmatic considerations are a factor in the clause-internal syntactic process of selecting the argument to function as privileged syntactic argument, and here Tepehua and Amele differ dramatically: in Tepehua they may affect the selection of the privileged syntactic argument, while in Amele they cannot.

¹⁰Barai, another Papuan language, and Eastern Pomo, a Hokan language of California, are exceptions to this generalization (for different reasons). See Olson (1978, 1981) and McLendon (1978) for detailed discussion.

4.4 Other Syntactic Functions

It was stated in section 4.0 that RRG does not posit any clause-internal syntactic relations beyond privileged syntactic argument, and therefore there are no relations akin to the traditional notions of direct or indirect object in RRG. ‘Direct object’ is by far the more important of the two relations, and the motivation for postulating such a relation in other theories has come primarily from two sets of phenomena: (1) voice constructions in which an underlying direct object appears as surface subject, and (2) constructions in which new direct objects are added to a clause (‘applicative constructions’). In this section it will be shown that the notions of undergoer and core argument account for these phenomena, thereby rendering ‘direct object’ superfluous.

In syntactic theories employing multiple derivationally-related syntactic levels of representation, the notion of direct object plays a crucial role in the statement of voice oppositions. In RRG, by contrast, passive is formulated in terms of the hierarchy of privileged syntactic argument selection in (4.14a): passive always involves a marked privileged syntactic argument choice, with the undergoer appearing as privileged syntactic argument in the default situation; cf. Table 4.2. No notion of syntactic direct object is involved. There are usually (but not always) two facets of a passive construction, the occurrence of a marked privileged syntactic argument choice, and the omission of the actor or its appearance as an oblique element in the periphery. The former is referred to as PSA MODULATION, the latter as ARGUMENT MODULATION, in Van Valin & LaPolla (1997). Antipassive constructions canonically involve these same two phenomena: a marked privileged syntactic argument selection and the omission or non-canonical coding of the undergoer.¹¹ The universal formulation of the basic voice oppositions is presented in (4.23).

- (4.23) General characterization of basic voice constructions
- a. PSA modulation voice: permits an argument other than the default argument in terms of (4.13) to function as the privileged syntactic argument.
 - b. Argument modulation voice: gives non-canonical realization to a macrorole argument.

An important motivation for factoring voice constructions into these two parts is that they occur independently of each other in some languages. Impersonal passives with intransitive verbs of the kind found in German, Latin, Turkish and many other languages involve only (4.23b), since the resulting constructions have no privileged syntactic argument. There are also languages in which this kind of impersonal passivization applies with transitive verbs, suppressing the actor but leaving the undergoer as a non-privileged syntactic argument in the accusative case, e.g. Ute (Uto-Aztec; Givón 1981). Here again passive involves only (4.23b) and not (4.23a). On the other hand, in

¹¹There is an important asymmetry between the argument modulation features of passives and antipassives. It is relatively unusual for passivization not to involve the actor being treated as a peripheral adjunct or omitted altogether, but it appears to be equally unusual for the undergoer in an antipassive to be treated as a peripheral adjunct. There are many examples of antipassives in which the undergoer seems to be completely unaffected, e.g. Sama (Walton 1986) and the focus antipassive in Jakalteq (Craig 1977). In these languages the antipassive has only the PSA modulation component. In other cases, such as the Kalkatungu antipassive in (4.11b), the undergoer of the active voice seems to retain its core status but be stripped of its macrorole status, appearing in the dative case. The explanation for this contrast lies in the different syntactic potential of actor vs. undergoer. Actor arguments are powerful syntactically and typically possess many controller and pivot properties, while undergoers typically do not. Hence leaving an undergoer as a direct core argument, regardless of whether it is a macrorole or not, is unlikely to lead to confusions regarding the agreement controller, reflexive antecedent or pivot in certain constructions. On the contrary, having the actor remain a direct core argument leads to potential ambiguity with respect to reflexive control, control of missing arguments in complex constructions, etc. Treating an actor as a peripheral adjunct indicates clearly that it has lost the controller and pivot properties which accrue to the undergoer in the passive construction.

Lango (Nilo-Saharan; Noonan & Bavin-Woock 1978, Noonan 1992) the undergoer may occur as privileged syntactic argument with the actor remaining a direct core argument; this Lango construction involves privileged syntactic argument modulation only, and there is no special morphology on the verb signalling the construction, unlike the impersonal passives mentioned above. Roberts (1995) argues that passive morphology on the verb is associated with argument modulation only, and the contrast between, e.g., Ute and Lango, supports her claim.

It was mentioned in (4.14c) that there are many languages in which only undergoers may appear as privileged syntactic argument in a passive construction; German, Italian and Indonesian are three examples. Icelandic presents a very interesting situation in which privileged syntactic argument status in passives is not restricted to the undergoer argument of a transitive verb. The verb in (4.24) is a regular case-marking transitive verb; in (4.24a) the nominative argument is the privileged syntactic argument and is an actor, and the accusative argument is an undergoer, while in (4.24b) the undergoer is privileged syntactic argument in a passive construction.

- (4.24)a. Lögregl-a-n tók Sigg-u fast-a.
 police-FsgNOM-DEF take.PAST Sigga-FsgACC fast-FsgACC
 ‘The police arrested Sigga.’
- b. Sigg-a va-r tek-in föst
 Sigga-FsgNOM be.PAST-3sg take.PSTP-FsgNOM fast.FsgNOM
 af lögregl-un-ni.
 by police-DEF-FsgDAT
 ‘Sigga was arrested by the police.’

Many apparently transitive verbs in Icelandic have ‘direct objects’ which are in the dative or genitive case, not the accusative, and as argued in Van Valin (1991a), the undergoer of a transitive verb in Icelandic always receives accusative case in active voice (simple) sentences. From this it follows that none of the postverbal dative NPs in (4.25) are undergoers; hence these verbs are M-intransitive, despite having multiple arguments.¹²

- (4.25)a. Ég skila-ð-i henni pening-un-um.
 1sgNOM return-PAST-1sg 3FsgDAT money-DEF-DAT
 ‘I returned her the money.’
- b. Ég hjálpa-ð-i honum.
 1sgNOM help-PAST-1sg 3MsgDAT
 ‘I helped him.’

Nevertheless, such a dative NP may function as a true privileged syntactic argument in a passive construction; in this way Icelandic differs from German, in which ‘dative subjects’ in passives do not take on the behavioral properties of nominative ‘subjects’.¹³

- (4.26)a. Henni va-r skil-a-ð pening-un-um.
 3FsgDAT be.PAST-IMPER return-PSTP money-DEF-DAT
 ‘She was returned the money.’

¹² See Van Valin & LaPolla (1997:352-61) for detailed arguments in support of the conclusion that dative objects in Icelandic and German are non-macrorole core arguments.

¹³ All Icelandic examples are from Zaenen, Maling & Thráinsson (1985), Thráinsson (1979), and Andrews (1982); see these references for detailed discussion and exemplification of the privileged syntactic argument properties of the non-nominative ‘subjects’.

- a'. *Pening-un-um va-r skil-að henni.
 money-DEF-DAT be.PAST-IMPER return-PSTP 3FsgDAT
 'The money was returned to her.'
- b. Honum va-r hjálp-að (af mér).
 3MsgDAT be.PAST-IMPER help-PSTP (by 1sgDAT)
 'He was helped (by me).'

Evidence that they are true privileged syntactic arguments comes from matrix-coding (raising) constructions. The relevant examples are given in (4.27).

- (4.27)a. Lögregl-a-n virðist hafa tek-ið Sigg-u fast-a.
 police-FsgNOM-DEF seem.IMPER have.INF take-PSTP Sigga-FsgACC fast-FsgACC
 'The police seem to have arrested Sigga.'
- b. Sigg-a virðist hafa verið tek-in föst
 Sigga-FsgNOM seem.IMPER have.INF be-PSTP take.PSTP-FsgNOM fast.FsgNOM
 af lögregl-un-ni.
 by police-DEF-FsgDAT
 'Sigga seems to have been arrested by the police.'
- c. Honum virðist hafa verið hjálp-að (af mér).
 3MsgDAT seem.IMPER have.INF be-PSTP help-PSTP (by 1sgDAT)
 'He seems to have been helped (by me).'

In (4.27a,b) the privileged syntactic argument of the linked core appears as the privileged syntactic argument of the matrix core, and the verb in the linked core is the regular case-marking verb illustrated in (4.24). The important example is (4.27c), in which the dative NP (which is the d-S of the passive construction) occurs as the privileged syntactic argument of the matrix core, just like the nominative NPs in (4.27a,b). This is evidence that the dative NP *honum* 'him' in (4.26c) functions as a true privileged syntactic argument with respect to constructions like this one.

Since these verbs do not have undergoers, the correct statement of the linking in the passive construction in Icelandic cannot be 'U = PSA'; rather, it must be '~A = PSA'. The characterization of the non-actor argument is an important question, as the ungrammaticality of (4.26a') shows; with a verb like *skila* 'return, give back' which takes two non-actor arguments, only one of them can be privileged syntactic argument in a passive. This verb has roughly the same LS as English *give*, i.e. [**do**' (x, Ø)] CAUSE [BECOME **have**' (y, z)], and accordingly in (4.25a) *ég* 'I' is the *x* argument, *henni* 'her' is the *y* argument, and *peningunum* 'the money' is the *z* argument. In terms of the privileged syntactic argument selection Hierarchy in (4.13), *henni* outranks *peningunum*, and therefore when there are two non-macrorole arguments, the highest ranking direct core argument will be privileged syntactic argument. That *direct core argument* and not just core argument is the crucial notion can be seen in (4.28), in which *skila* appears with three core arguments but only two direct core arguments.

- (4.28)a. Ég skila-ð-i pening-un-um til hennar.
 1sgNOM return-PAST-1sg money-DEF-DAT to 3FsgGEN
 'I returned the money to her.'
- b. Pening-un-um hefur verið skil-að til hennar.
 money-DEF-DAT have.IMPER be-PSTP return-PSTP to 3FsgGEN
 'The money was returned to her.'

- b'.*Hennar hefur ver-ið skil-að pening-un-um (til).
 3FsgGEN have.IMPER be-PSTP return-PSTP money-DEF-DAT to
 'She was returned the money.'

In (4.28a) the recipient (*y*) argument is not a direct core argument; it is marked by the preposition *til* 'to' and receives genitive case from it. In (4.28a), *peningunum* 'the money', the *z* argument, is the highest ranking non-actor *direct* core argument, while *til hennar* 'to her' is the highest ranking core argument, direct or oblique, but only *peningunum* can be privileged syntactic argument in a passive, as in (4.28b). Hence only direct core arguments can be privileged syntactic argument in a passive construction.

Icelandic thus differs from German in permitting non-macrorole arguments to function as privileged syntactic argument. This contrast is stated in (4.14c), and it represents an important difference across languages. Thus for languages like German the privileged syntactic argument selection hierarchy is effectively Actor > Undergoer, while for languages like Icelandic it is the hierarchy in (4.13) referring to direct core arguments, which includes macroroles.

The other phenomenon in which 'direct object' appears to play a crucial role is constructions in which new objects are derived, i.e. dative shift and applicative constructions. They are traditionally described as involving the promotion of a non-object to direct object status. In RRG terms they involve a marked undergoer assignment in terms of the Actor-Undergoer Hierarchy in Figure 2.4. This is illustrated in the English examples of dative shift in (a,a'), the transfer alternation in (b,b'), and the locative alternation in (c,c') in (4.29); the general LS for these sentences is [**do'** (x, Ø)] CAUSE [BECOME **pred'** (y, z)].

- (4.29)a. Bill sent the notice [z] to his lawyer [y].
 a'. Bill sent his lawyer [y] the notice [z].
 a''. [**do'** (Bill, Ø)] CAUSE [BECOME **have'** (lawyer, notice)]
 b. Sally presented the flowers [z] to Kim [y].
 b'. Sally presented Kim [y] with the flowers [z].
 b''. [**do'** (Sally, Ø)] CAUSE [BECOME **have'** (Kim, flowers)]
 c. Max loaded the olives [z] into his minivan [y].
 c'. Max loaded his minivan [y] with the olives [z].
 c''. [**do'** (Max, Ø)] CAUSE [BECOME **be-in'** (minivan, olives)]

In terms of the Actor-Undergoer Hierarchy, the *z* argument outranks the *y* argument for undergoerhood, and therefore (4.29a,b,c) represent the unmarked choices for undergoer. In (4.29a',b',c'), on the other hand, the *y* argument has been selected as undergoer, thereby yielding a marked assignment to undergoer. Both the *y* and *z* arguments are core arguments, as they are both represented in the LS of the verb. Evidence that the relevant notion is undergoer and not direct object comes from Dyirbal, a syntactically ergative language which exhibits the transfer alternation.

- (4.30) *wugal* 'give': [**do'** (dyugumbil-, Ø)] CAUSE [BECOME **have'** (yaʃa-, miraʃ-)]¹⁴
 a. Balam miraʃ-Ø bangun dyugumbi-ʃu wuga-n bagul yaʃa-gu.
 NM.ABS beans-ABS NM.ERG woman-ERG give-TNS NM.DAT man-DAT

¹⁴In logical structures of sentences from languages with morphological case on nouns, the stem of the head noun is represented in the logical structure argument position. Pronouns are represented differently depending on their morphological properties. In languages like Warlpiri, for example, pronouns seem to have an invariable stem and take the same case suffixes as nouns; hence they will be represented by the stem in logical structure, as in (4.47a'). In languages like English and Icelandic, on the other hand, in which pronouns are irregular morphologically, they will be represented in terms of their relevant features, e.g. person, number and gender.

- ‘The woman gave beans to the man.’
 b. Bayi yaŋa-Ø wuga-n banŋum dyugumbi-ŋi banŋum miran-dyu.
 NM.ABS man-ABS give-TNS NM.ERG woman-ERG NM.INST beans-INST
 ‘The woman gave the man beans.’

The sentence in (4.30a) corresponds to the English pattern in (4.29a,b,c), in which the *z* argument is the undergoer (in the absolutive case) and the *y* argument is a non-macrorole direct core argument in the dative case. In (4.30b), on the other hand, the *y* argument is the undergoer and the *z* argument is an oblique core argument in the instrumental case, analogous to (4.29b',c') in which the non-macrorole core argument is marked by *with*. Since Dyirbal is syntactically ergative, the undergoer is the privileged syntactic argument in these sentences, and consequently this alternation does not involve deriving a new ‘direct object’ but rather a new ‘subject’, if analyzed in grammatical relations terms. In RRG terms, however, the alternations in English in (4.29) and Dyirbal in (4.30) both involve a marked undergoer assignment, which captures the similar nature of the alternations directly.¹⁵

The second type of marked undergoer construction involves the occurrence of a non-argument of the verb as undergoer, the most frequent one being a beneficiary. This is exemplified in (4.31) for English and in (4.32) for Sama (Walton 1986).

- (4.31)a. Sandy baked a pie for Robin.
 b. Sandy baked Robin a pie.
- (4.32)a. Ø-b'lli ku taumpa' ma si Andi.
 UP-buy 1sgERG shoes for PM Andy
 ‘I bought the shoes for Andy.’
 b. Ø-b'lli-an ku si Andi taumpa'.
 UP-buy-BEN 1sgERG PM Andy shoes
 ‘I bought Andy some shoes.’

The LS for English *bake* or Sama *b'lli* ‘buy’ does not contain a beneficiary argument, and in the (a) sentences this argument appears as an oblique phrase. In the (b) sentences, however, it appears as undergoer, and in Sama this requires the addition of the *-an* suffix to the verb. Since Sama is syntactically ergative, the derived undergoer is also the privileged syntactic argument (see Walton 1986 for detailed discussion). This supports the point made above that undergoer, and not direct object, is the relevant notion for the description of these alternations. The occurrence of a beneficiary as undergoer is very common, and in some languages, e.g. many Bantu languages, there is no way to express a beneficiary except as undergoer in the ‘applied verb’ (applicative) construction. Examples from **Chicheŋa** (Baker 1988) and Kinyarwanda (Kimenyi 1980) are given in (4.33) and (4.34).¹⁶ (In the glosses, the numbers refer to noun classes.)

- (4.33)a. Mavuto a-na-umb-a mtsuko. **Chicheŋa**
 Mavuto 1-PAST-mold-MOOD waterpot
 ‘Mavuto molded the waterpot.’

¹⁵ See Van Valin (2002b) for detailed discussion of the RRG approach to the analysis of three-place predicates.

¹⁶ The facts of Bantu applicative constructions are very complex, and a complete treatment of them is beyond the scope of this discussion. That the ‘applied object’ is undergoer is shown by its taking on all (Kinyarwanda) or most (**Chicheŋa**) of the properties of undergoers of underived transitive verbs. See Roberts (1995) for discussion of applicatives from an RRG perspective.

- b. Mavuto a-na-umb-ir-a mfumu mtsuko.
Mavuto 1-PAST-mold-APPL-MOOD chief waterpot
'Mavuto molded the waterpot for the chief.'

- (4.34)a. Umukoôbwa a-ra-som-a igitabo. Kinyarwanda
girl 1-PRES-read-MOOD book
'The girl is reading a book.'
- b. Umukoôbwa a-ra-som-er-a umuhuûngu igitabo.
girl 1-PRES-read-APPL-MOOD boy book
'The girl is reading the boy a book.'

One of the intriguing features of applicative constructions with beneficiaries is that in some Bantu languages the derived benefactive undergoer as well as the other direct core arguments of the verb can function as privileged syntactic argument in a passive construction. This is illustrated in (4.35) from Kinyarwanda.

- (4.35)a. Umugóre a-rá-hé-er-a umugabo ímbwa ibíryo.
woman 1-PRES-give-APPL-MOOD man dog food
'The woman is giving food to the dog for the man.'
- b. Ibíryo bi-rá-hé-er-w-a umugabo ímbwa n'ûmugóre.
food 8-PRES-give-APPL-PASS-MOOD man dog by woman
'The food is being given to the dog for the man by the woman.'
- c. Ímbwa i-rá-hé-er-w-a umugabo ibíryo n'ûmugóre.
dog 4-PRES-give-APPL-PASS-MOOD man food by woman
'The dog is being given food for the man by the woman.'
- d. Umugabo a-rá-hé-er-w-a ímbwa ibíryo n'ûmugóre.
man 1-PRES-give-APPL-PASS-MOOD dog food by woman
'The man benefits from the woman giving food to the dog.'
[Lit: 'The man is being given food to the dog by the woman.']

These examples show that '~A' is considerably more than just 'U' in the statement of passive in Kinyarwanda; as in Icelandic, direct core arguments other than the undergoer are possible as privileged syntactic argument in a passive construction.

Bantu languages also present a kind of derived 'object' construction in which a non-argument becomes a direct core argument but not undergoer. The examples in (4.36) are again from Kinyarwanda; in (4.36b) a non-argument locative and a possessor are coded as direct core arguments.

- (4.36)a. Úmwána y-a-andits-e izíná rye mu igitabo cy'ûmugabo.
child 1-PAST-write-MOOD name of.him in book of man
'The child wrote his name in the man's book.'
- b. Úmwána y-a-andik-i-yé-mo umugabo igitabo izíná rye.
child 1-PAST-write-APPL-MOOD-LOC man book name of.him
'The child wrote in the man's book his name.'

There are three direct core arguments after the verb in (4.36b), but, unlike (4.35a), only *umugabo* 'man', the undergoer (the applied 'object'), has the syntactic properties of the undergoer of a non-derived transitive verb, e.g. the ability to function as privileged syntactic argument in a passive

construction. *Igitabo* ‘book’ is coded as a peripheral oblique in (4.36a) but as a direct core argument in (4.36b); it is not, however, the undergoer.

Applicative constructions (and their cousins, the dative shift, transfer and locative alternations) pose a variety of interesting problems for linguistic theory, but they do not motivate the postulation of a direct object grammatical relation. The notions of undergoer and direct core argument provide the basis for the description and ultimately for the explanation of these phenomena.

A further problem for traditional notions of grammatical relations are what Dryer (1986) called ‘primary object languages’; in these languages the only pattern that occurs with three-argument verbs corresponds to (4.29a’), not (4.29a). Lakhota provides a simple example of this.

- (4.37)a. *Mathó ki hená šyka eyá wičhá-kte-pi.*
 bear the those dog some 3plU-kill-3plA
 ‘Those bears killed some dogs.’
- b. *Wjyga ki mathó wə hokšila ki hená wičhá-Ø-kipázo/*Ø-Ø-kipázo.*
 woman the bear a boy the those 3plU-3sgA-show/3sgU-3sgA-show
 ‘The woman showed those boys a bear.’
- c. *kipázo* ‘show’ [*do*’(wjyga, Ø) CAUSE [BECOME see’ (hokšila [y], mathó [z])]

In (4.37a) with a transitive verb, the plural animate undergoer is coded by the prefix *wičhá-* on the verb. With a three-argument verb like *kipázo* ‘show’, which of the non-actor arguments is coded as the undergoer? As (4.37b) clearly attests, it is not the lowest ranking argument in the LS that functions as undergoer, as would be the case in a construction like (4.29a), but rather the higher ranking *y* argument. Moreover, there is no construction in Lakhota with a three-argument verb in which the *z* argument would be the undergoer. Because this pattern is distinct from the traditional ‘direct object’-‘indirect object’ pattern of (4.29a), Dryer labels it the ‘primary object’-‘secondary object’ pattern, with *hokšila ki hená* ‘those boys’ as the primary object and *mathó wə* ‘a bear’ as the secondary object in (4.37b). In the English example in (4.29a’), *the lawyer* would be the primary object and *the notice* the secondary object.

In RRG terms, primary object languages allow only the marked selection for undergoer, in terms of the Actor-Undergoer hierarchy. How can this be explained? There would appear to be two approaches within RRG. The first, put forth in Van Valin & LaPolla (1997), §7.4.1, maintains that undergoer selection based on the Actor-Undergoer hierarchy is affected by a general principle to the effect that if there is an animate argument as a potential undergoer, then it must be undergoer. In the usual instance involving transfer verbs, in which the recipient is normally animate and the theme inanimate, this correctly predicts that the animate recipient would be selected as undergoer, as in e.g. (4.29a’). However, examples like (4.37b) present a problem for this analysis. While it is certainly the case that the undergoer in (4.37b) is animate, the non-undergoer theme is also animate, and therefore this principle does not really explain examples like this one, even though they do not contradict it. The alternative analysis claims that undergoer selection is based on the principle ‘select the second highest ranking argument in the LS as undergoer’. With a simple transitive verb, undergoer selection will work exactly the same way as in direct-indirect object languages, but when the verb has three arguments, this will always select the *y* argument as undergoer, never the *z* argument.

The superiority of this second analysis can be seen clearly in the analysis of causative constructions in primary object languages. Yaqui (Uto-Aztecan) is a primary object language (Felix 2000), and the following examples from Guerrero (2002) illustrate three-place verbs and causatives.

- (4.38) a. Joan-Ø Peo-ta ʔuka vaci-ta miika-k.
 Juan-NOM Pedro-ACC DET.ACC corn-ACC give-PERF
 ‘Juan gave Pedro the corn.’
 b. Peo-Ø ʔuka vaci-ta miik-wa-k.
 Pedro-NOM DET.ACC corn-ACC give-PASS-PERF
 ‘Pedro was given the corn.’
 b'. *Uʔu vaci-Ø Peo-ta miik-wa-k.
 DET.NOM corn-NOM Pedro give-PASS-PERF
 ‘The corn was given Pedro.’

In (4.38a) both non-privileged syntactic argument NPs are in the accusative case; which one is the undergoer and which one is the non-macrorole direct core argument? The answer is given by passive; in Yaqui only the undergoer can be privileged syntactic argument in a passive, and the actor is obligatorily omitted. Of the two logically possible passive versions of (4.38a), only (4.38b) with the recipient as privileged syntactic argument is grammatical. Hence the recipient *Peo* ‘Pedro’ is the undergoer in (4.38a). The facts in (4.38) could be accounted for by either of the analyses given above. A causative construction involving *miika-* ‘give’ presents an interesting problem, since there will be at least two non-privileged syntactic argument animate NPs; which one is the undergoer of the derived causative verb *miik-tua* ‘cause to give’? Again, passive provides the crucial evidence.

- (4.39) a. Uʔu maejto usi-ta mansana-ta yoem-ta miik-tua-k.
 DET.NOM teacher child-ACC apple-ACC man-ACC give-CAUS-PERF
 ‘The teacher made the child give the man the apple.’
 b. Uʔu usi-Ø mansana-ta yoem-ta miik-tua-wa-k.
 DET.NOM child-NOM apple-ACC man-ACC give-CAUS-PASS-PERF
 ‘The child was made to give the man the apple.’
 b'. *Yoem-Ø usi-ta mansana-ta miik-tua-wa-k.
 man-NOM child-ACC apple-ACC give-CAUS-PASS-PERF
 b''. *Mansana-Ø usi-ta yoem-ta miik-tua-wa-k.
 apple-NOM child-ACC man-ACC give-CAUS-PASS-PERF
 c. [do' (maejto, Ø)] CAUSE [[do' (usi, Ø)] CAUSE [BECOME have' (yoem, mansana)]]

The only grammatical version of (4.39a) is (4.39b) with the causee *usi* ‘child’ as privileged syntactic argument, and this shows that the undergoer in (4.39a) is *usi-ta* ‘the child-ACC’. With respect to the LS of (4.39a) in (4.39c), the animate-as-undergoer principle does not uniquely pick out *usi* ‘child’ as the undergoer, although it is compatible with it. However, the ‘second highest argument in LS’ principle for selecting the undergoer does correctly identify *usi* ‘child’ as the unique undergoer choice, and therefore it appears to be the correct characterization of undergoer selection in primary object languages.

This analysis has important implications for the Actor-Undergoer Hierarchy: the principle governing the selection of the undergoer argument is different in primary object languages from direct object languages, and consequently the markedness relations expressed in Figure 2.4 are not true universally. Accordingly the hierarchy must be stated as in Figure 4.4. (‘DO’ stands for ‘direct object’, ‘PO’ for ‘primary object’.)

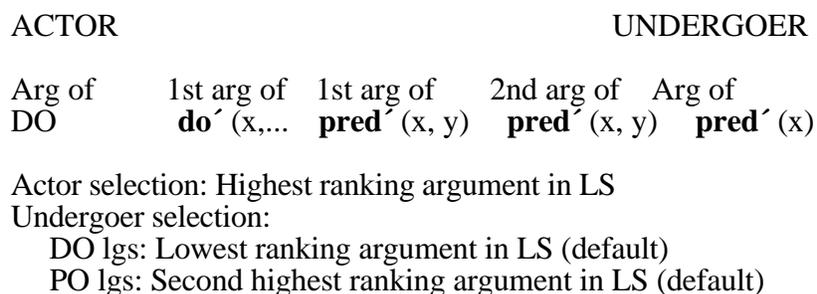


Figure 4.4: Actor-Undergoer Hierarchy (revised)

The actor selection principle is the same as before. When the verb has only two arguments, then the two undergoer selection principles are equivalent and always pick out the same argument as undergoer. However, when the verb has three arguments, then the difference between the two principles comes into play, yielding the different patterns with ditransitive verbs in the two types of languages. Both language types permit exceptional undergoer selection in some instances, hence the 'default' designation applied to them.

It should be noted that this contrast in undergoer selection principles is independent of the privileged syntactic argument selection principles of the language, as is to be expected. Both types are found in syntactically accusative and syntactically ergative languages. English and Yaqui are both syntactically accusative, while Dyrirbal (a DO language) and Belhare (a PO language; Bickel 2002) are syntactically ergative.

4.5 Case Marking and Agreement

In syntactic theories in which grammatical relations play a role, case marking and agreement are invariably tied to them, either directly or indirectly. Since notions like subject and direct object have no place in RRG, it is obvious that neither case marking nor agreement can be based on them. Rather, case marking rules make crucial reference to macroroles and direct core argument status. The inherent lexical content of NPs (Silverstein 1976, 1981, 1993), which is sometimes misleadingly termed 'animacy', also plays an important role in the formulation of case marking rules in many languages. Agreement rules make primary reference to macroroles, although here again inherent lexical content may play a role, e.g. in some languages verbs only agree with animate arguments (Lakhota is such a language). The case-marking rules cover regular (non-idiosyncratic¹⁷) case marking and are given in (4.40) and (4.41); they apply to direct core arguments only.

- (4.40) Case assignment rules for accusative constructions:
- a. Assign nominative case to the highest ranking macrorole argument (in terms of (4.13)).
 - b. Assign accusative case to the other macrorole argument.
 - c. Assign dative case to non-macrorole arguments (default).
- (4.41) Case assignment rules for ergative constructions:
- a. Assign absolutive case to the lowest ranking macrorole argument (in terms of (4.13)).
 - b. Assign ergative case to the other macrorole argument.
 - c. Assign dative case to non-macrorole arguments (default).

¹⁷For RRG analyses of idiosyncratic or 'quirky' case in Icelandic, Latin, Croatian and Hindi, see Van Valin (1991a), Michaelis (1993), Dahm-Draksic (1998) and Narasimhan (1998).

The idea that dative is the default case for non-macrorole core arguments comes from Silverstein (1981).

The application of the rules in (4.40) can be seen in the following Russian examples.

- (4.42) a. Učitel'nic-a pro-čita-l-a knig-u.
 teacher-FsgNOM PRFV-read-PAST-Fsg book-FsgACC
 'The teacher read the book.'
 a'. **do'** (učitel'nic-, [read' (učitel'nic-, knig-)]) & INGR **consumed'** (knig-)
 b. Učitel'nic-a da-l-a knig-u ženščin-e.
 teacher-FsgNOM give-PAST-Fsg book-FsgACC woman-FsgDAT
 'The teacher gave a book to the woman.'
 b'. [**do'** (učitel'nic-, Ø)] CAUSE [BECOME **have'** (ženščin-, knig-)]
 c. Učitel'nic-a govori-l-a.
 teacher-FsgNOM speak-PAST-Fsg
 'The teacher spoke.'
 c'. [**do'** (učitel'nic-, [speak' (učitel'nic-)])]
 d. Ženščin-a umer-l-a.
 woman-FsgNOM die-PAST-Fsg
 'The woman died.'
 d'. BECOME **dead'** (ženščin-)

The first example contains the M-transitive verb *pročitat'* 'read [completely]'; the actor *učitel'nic-* 'teacher' is the highest ranking macrorole and therefore receives nominative case, while the undergoer *knig-* 'book' is the other macrorole and therefore receives accusative case. The same two NPs also occur in (4.42b) with a three-place, M-transitive verb, *dat'* 'give'. They likewise function as actor and undergoer, respectively, and receive the same cases as in (4.42a). The third core argument, *ženščin-* 'woman', is a non-macrorole core argument and therefore receives dative case. The last two examples contain M-intransitive verbs, one of which takes an actor (*govorit'* 'speak' in (4.42c)) and the other an undergoer (*umeret'* 'die' in (d)). Since the single macrorole, regardless of type, is the highest ranking by virtue of being the only one, it receives nominative case.

The dative rule in (4.40c) not only applies to ditransitive verbs like *dat'* 'give' in Russian, *geben* 'give' in German, and *gefa* 'give' in Icelandic but also to multiple argument verbs which are M-intransitive. The Icelandic verbs *skila* 'give back, return' and *hjálpa* 'help' in (4.25) are good examples of multiple argument, M-intransitive verbs. Their single macrorole is an actor, which receives nominative case, but their remaining arguments are non-macrorole core arguments, which receive dative case. Traditionally such verbs are analyzed as governing irregular case marking on some their arguments, but in terms of the RRG analysis their only irregularity is in terms of transitivity: the macrorole assignment principles in (2.35a) predict that they should be M-transitive, but they are in fact M-intransitive. This would be indicated in their lexical entry, as discussed in §2.2.2. But given the fact that they are M-intransitive, the case marking of their direct core arguments is completely regular in terms of (4.40).

The application of the ergative case assignment rules in (4.41) is illustrated in the Warlpiri examples in (4.43) from Hale (1973); these rules are the basic ones for an ergative system, and they do not deal with the complexities that arise in split-ergative systems (see Van Valin & LaPolla 1997, §7.3.1.2).

- (4.43) a. Ngaju-Ø ka-rna purla-mi.
1sg-ABS PRES-1sgI shout-NONPAST
'I am shouting.'
- a'. [**do'** (ngaju-, [**shout'** (ngaju-))]
- b. Ngaju-Ø ka-rna mari-jarri-mi.
1sg-ABS PRES-1sg grief-being-NONPAST
'I feel sorry', 'I grieve.'
- b'. **feel'** (ngaju-, [**grief'**])
- c. Ngaju-rlu ka-rna-Ø wawiri-Ø pura-mi.
1sg-ERG PRES-1sg-3sg kangaroo-ABS cook-NONPAST
'I am cooking the kangaroo.'
- c'. [**do'** (ngaju- Ø)] CAUSE [BECOME **cooked'** (wawiri-)]
- d. Ngaju-rlu ka-rna-ngku karli-Ø yi-nyi nyuntu-ku.
1sg-ERG PRES-1sg-2sg boomerang-ABS give-NONPAST 2sg-DAT
'I am giving you the boomerang.'
- d'. [**do'** (ngaju-, Ø)] CAUSE [BECOME **have'** (nyuntu-, karli-)]

The first two examples contain M-intransitive verbs, *purla-* 'shout' (activity) and *mari-jarri* 'feel sorry, grieve' (state); the first takes an actor argument, the second an undergoer. Each is the lowest ranking macrorole in the core and therefore receives absolutive case, following (4.41a). In (c) with a M-transitive verb *pura-* 'cook', *wawiri-* 'kangaroo' is the undergoer and the lowest ranking macrorole, while *ngaju-* 'I' is the actor and the other macrorole. Hence *wawiri-* appears in the absolutive case and *ngaju-* in the ergative case. The ditransitive verb *yi-* 'give' heads the core in (d); *ngaju-* is the actor and *karli-* 'boomerang' is the undergoer, following the Actor-Undergoer Hierarchy, and *nyuntu-* 'you' is left as a non-macrorole core argument. Accordingly, *ngaju-* receives ergative case, *karli-* absolutive case, and *nyuntu-* dative case.

The main point for this discussion is that the rules in (4.40) and (4.41) make no reference to grammatical relations of any kind at all; indeed, they do not even refer directly to the notion of privileged syntactic argument. This is quite important, because in Icelandic, as in many languages, the principles determining the privileged syntactic argument are independent of the case assignment principles. This can be seen most clearly in examples like the following.

- (4.44)a. þeim hef-ur þótt Ólaf-ur leiðinleg-ur.
3plDAT have-3sg think.PSTP Olaf-MsgNOM boring-MsgNOM
'They considered Olaf boring.'
- b. þeim virðist hafa þótt Ólaf-ur leiðinleg-ur.
3plDAT seem have-INF think.PSTP Olaf-MsgNOM boring-MsgNOM
'They seem to have considered Olaf boring.'
- b'. *Ólaf-ur virðist þeim hafa þótt leiðinleg-ur.
Olaf-MsgNOM seem 3plDAT have-INF think.PSTP boring-MsgNOM
*'Olaf seems to have been considered boring by them.'

The LS for (4.44) is **consider'** (3pl, [**be'** (Olaf, [**boring'**])]) [MR 1]; because this verb is M-intransitive, the single macrorole is undergoer, following the principles in (2.39b), and the other argument, '3pl', is a non-macrorole core argument. With respect to the privileged syntactic argument selection hierarchy in (4.13), '3pl' is the highest ranking argument and therefore would be the privileged syntactic argument, and this is confirmed by the grammaticality of (4.44b) and the ungrammaticality of (4.44b'). The case assignment rules, on the hand, refer to highest ranking

macrorole, and in this sentence that is *Ólaf*-, the undergoer, which appears in the nominative case. In sentences like (4.44), the privileged syntactic argument selection hierarchy and the nominative case rule pick out different NPs. In a language like German in which only macroroles can serve as privileged syntactic argument, the nominative NP will always be the privileged syntactic argument, unless it is a dummy *es* ‘it’, as in e.g. *Es regnet* ‘it is raining’.

In English, case marking rules like those in (4.40) apply only to pronouns, and the equivalent for lexical NPs is prepositional case marking. As noted in §2.4.2, the adpositions that mark oblique core arguments are not listed in the lexical entry of the verb but rather are predicted by general principles. This approach to preposition assignment was first presented in Foley & Van Valin (1984) and further developed in Jolly (1991, 1993) and Van Valin & LaPolla (1997). The basic rules governing the assignment of *to*, *from*, and *with* are given in (4.45).¹⁸

(4.45) Preposition assignment rules for English

- a. Assign *to* to non-MR *y* argument in LS segment: ...BECOME/INGR **pred'** (*y*, *z*)
- b. Assign *from* to non-MR *y* argument in LS segment: ...BECOME/INGR NOT **pred'** (*y*, *z*)
- c. Assign *with* to non-MR *a* argument if, given two arguments, *a* and *b*, in a logical structure, with both as possible candidates for a particular macrorole, *a* is not selected as that macrorole.

The application of these rules for *to* and *with* can be illustrated with the sentences in (4.29b,c), repeated below. They are all concerned with the undergoer end of the Actor-Undergoer hierarchy and the selection of the undergoer macrorole.

- (4.46) a. Sally presented the flowers [*z*] to Kim [*y*].
 a'. Sally presented Kim [*y*] with the flowers [*z*].
 a''. [**do'** (Sally, Ø)] CAUSE [BECOME **have'** (Kim, flowers)]
- b. Max loaded the olives [*z*] into his minivan [*y*].
 b'. Max loaded his minivan [*y*] with the olives [*z*].
 b''. [**do'** (Max, Ø)] CAUSE [BECOME **be-in'** (minivan, olives)]

In the LS in (4.46a'), *Kim* corresponds to the *y* argument and *the flowers* to the *z* argument in (4.45a). In (4.46a) *the flowers* is selected as undergoer, leaving *Kim* as a non-macrorole argument, and by (4.45a) it would be assigned *to*. The sentence with *load* in (4.46b) also meets the conditions for the assignment of *to* to the *y* argument, but because the predicate in the LS is a prepositional predicate, **be-in'**, *to* is in effect added to the prepositional predicate to yield *into*. In the (a') and (b') sentences in (4.46), however, the higher ranking argument on the Actor-Undergoer hierarchy, the *y* argument, is selected as undergoer instead of the lowest ranking argument, *z*. In this situation the *with* rule in (4.45c) applies, assigning *with* to the *z* argument, because it has not been selected as a macrorole.¹⁹ The primary difference between dative shift verbs like *give* and transfer verbs like *present* in English is that the *with* rule does not apply to the *z* argument of dative shift verbs.

This same rule applies at the other end of the Actor-Undergoer Hierarchy, as illustrated in

¹⁸These rules do not cover all uses of *from* or *with*. See Jolly (1991, 1993) for discussion of other uses of *from*. Van Valin & LaPolla (1997), §7.3.2.1, discuss a wide range of uses of *with*.

¹⁹This same principle governs instrumental case assignment in languages like Russian and Dyrbal (Nakamura 1997). For example, in (4.30b) from Dyrbal, there is a marked undergoer assignment; the argument (**ya**- ‘man’) chosen to be undergoer is not the lowest argument on the Actor-Undergoer Hierarchy, and this results in the non-macrorole argument being assigned the instrumental case. This is exactly analogous to the assignment of *with* in (4.46a') with *present* in English.

(2.33), repeated as (4.47).

(4.47)a. Leslie shattered the window with a rock.

b. [**do'** (Leslie, [**use'** (Leslie, rock)))] CAUSE [[**do'** (rock, Ø)] CAUSE [INGR **shattered'** (window)]]

In this LS *Leslie* and *a rock* are both effectors and therefore potential actors; indeed, if *Leslie* were omitted, *a rock* would be the actor, as in *A rock shattered the window*. However, in (4.47) *Leslie* is the effector of the superordinate CAUSE and therefore outranks *a rock* to be actor. In terms of (4.45c), *Leslie* is *b* and *a rock* is *a*, and since *a rock* is not selected as actor, it is marked by *with*. Thus the same basic principle governs the assignment of *with* in both (4.46) and (4.47).

The application of the *from* rule in (4.45b) can be seen in the examples in (4.48).

(4.48) a. The poolcleaner drained the water [z] from the pool [y].

b. The poolcleaner drained the pool [y] of its water [z].

c. [**do'** (poolcleaner, Ø)] CAUSE [BECOME NOT **be-in'** (pool, water)]

In (4.48a) the *z* argument, *the water*, is selected as undergoer, and the conditions for the *from* rule in (4.45b) are met, resulting in the *y* argument, *the pool*, being marked by *from*. In (4.48b), on the other hand, the higher ranking *y* argument is selected as undergoer, resulting in a marked undergoer selection and the application of the *with* rule in (4.45c). However, with removal verbs like *drain*, *with* is replaced by *of*.

Finite verb agreement, like case assignment, is treated in RRG in terms of macroroles and not directly in syntactic terms. The finite verb agreement rule for Russian, English, Icelandic and German is given in (4.49).

(4.49) Finite verb agreement in Russian, German and Icelandic:

The controller of finite verb agreement is the highest ranking macrorole argument (in terms of (4.13)).

This correctly picks out the agreement controller in the English sentences in (4.1), as well as (4.17a) and (4.18b^ˆ). It guarantees that the finite verb in German will agree with the privileged syntactic argument if there is one, since only macrorole arguments can function as privileged syntactic argument in the language. In an Icelandic sentence like (4.44a) the finite verb will agree with the nominative undergoer but not with the dative privileged syntactic argument. The nominative NP and the controller of finite verb agreement will coincide in Icelandic, even though the privileged syntactic argument for syntactic processes like matrix-coding and reflexive controller may be a different NP, as illustrated for matrix-coding in (4.44b,b^ˆ). Impersonal agreement of the kind found in (4.26b), for example, is a kind of default agreement which occurs when the rule in (4.49) cannot apply.