

5

Grammatical Relations

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5.1 Introduction

This chapter discusses one of the major advances of Role and Reference Grammar (RRG) relative to other theories of grammar: the view of grammatical relations as construction-based, and so not only language-specific but construction-specific, rather than being global categories of the whole language and found in every language. We also discuss the RRG conception of the function of grammatical relations in referent tracking, which was one of the major insights that led to the development (and naming¹) of RRG. These two insights have influenced the development of ideas outside RRG.

5.2 Background

Before the mid 1970s, a common assumption among linguists was that there is a global category in all languages called 'subject' as well as other grammatical relations that we can talk about, and most theories assumed some conception of grammatical relations, though there was much disagreement about and no universal notion of 'subject', the grammatical relation discussed the most (Platt 1971; Van Valin 1977, 1981; Foley and Van Valin 1977, 1984; Keenan 1976; Gary and Keenan 1977; Comrie 1981). The word 'subject' derives from a Latin translation (*subiectum*) of Greek *hypokeímenon* 'the underlying thing', a concept that began with Aristotle's theory of truth, where Aristotle defined 'subject' as the entity that can have a predication about it, that is, what the proposition is about, the topic about which a predication is made. Aristotle did not have a separate term for grammatical subject. This led to centuries of debate about the nature of subject (see Seuren 1998, pp. 120–133, for an overview). Attempts were made to distinguish grammatical subject from psychological subject (e.g. von der Gabelentz 1869: 378), the latter essentially topic, and what was called 'theme' in the Prague School

terminology. A third term, 'logical subject' (often now seen as agent), was sometimes used, but different scholars associated it either with grammatical subject or with psychological subject (particularly in logic). Bloomfield (1914: 61) used the term 'subject' to refer to topics and also to heads of phrases.

Starting with Van Valin (1977, 1981) and Foley and Van Valin (1977, 1984), there were challenges to the notion of 'subject' and other grammatical relations ('direct object', 'indirect object') as global categories within a single language, and as valid categories cross-linguistically (see also Dryer 1997). Currently there are three major positions on this question: (1) grammatical relations are global within a language and universal cross-linguistically, and just need to be identified in different languages (the rationalist/generativist/Chomskyan tradition); (2) grammatical relations exist, but are not necessarily global and not universal, and so need to be defined in each language in terms of the constructions that manifest them, if there are any (most empiricist/typological/explanatory approaches); and (3) there are no grammatical relations, only part-whole relations within constructions (Radical Construction Grammar; Croft 2001, 2013). Marantz (1982, 1984) has argued that grammatical relations should not be seen as primitives or tied to semantic roles. For example, 'subject', as a grammatical category, is not simply a particular semantic role, such as agent (see also Jespersen 1909–1949, vol. III, 11.1). 'Subject' is also not simply topic; it must have grammatical properties beyond just being what the clause is about. Empiricist linguists would generally agree with this position.

5.3 The RRG View of Grammatical Relations

The RRG view of grammatical relations is of the second type mentioned above, though it does not accept the traditional typology of grammatical relations as 'subject', 'direct object' and 'indirect object'. Grammatical relations are seen as construction-specific conventionalized patterns where the construction limits the possible interpretations of the role of a particular participant in the action described in the clause (see Van Valin and LaPolla 1997: 242–316; Van Valin 2005; LaPolla 2006). It is the identification of the semantic and/or pragmatic **role** of the referent in an event or state of affairs that is relevant to the concept of grammatical relations. There are other types of conventionalized constraints on **referent** identification in some languages, such as the gender or noun class markers in many languages, and the sortal classifiers of Thai and Chinese, but while they do participate in referent tracking (see Van Valin 1987 for a typology of referent tracking systems), as these are not relational and do not constrain the interpretation of the **role** of the referent in the event, they are not considered relevant to grammatical relations.

Grammatical relations may be conventionalized associations of the position of a referring expression in the clause with some semantic role or macrorole, such as in English, where an immediate preverbal reference to some referent in a clause with an active transitive verb will constrain the interpretation to one in which that referent is seen as the Actor² of the action denoted by the verb, and an immediate postverbal reference to some referent in the same clause will constrain the interpretation to one in which that referent is seen as the Undergoer of the action (e.g. given the expression *Bob hit Bill*, the conventions of English usage constrain the interpretation to one in which Bob must be understood as the one doing the hitting and Bill must be understood as the one being hit). This is construction-specific and language-specific, that is, not all constructions in English work that way and not all languages have the same constraints on interpretation.

Grammatical relations may be conventionalized associations of marking on nouns or pronouns with particular semantic roles, such as in English, where Nominative case marking of a pronoun in an active transitive clause constrains the interpretation to one in which the referent of the pronoun is seen as the Actor of the action denoted by the verb, and Accusative case marking of a pronoun constrains the interpretation to one in which the referent of the pronoun is seen as the patient or recipient of the action, such as in *He_{Nominative} took me_{Accusative} to the station*. In the case of Modern English, the case marking is largely redundant, in that grammatical relations are also marked by word order, and in fact case marking has largely come to be determined by word order, but this was not the case in older varieties of English, which did not use word order consistently to mark grammatical relations, and in many other languages, such as Dyrbal (see below). In these languages the case marking is very important not only for tracking the roles of referents in discourse, but also for tracking the different constituent parts of phrases, as they do not necessarily appear together in the clause.

Grammatical relations may also be conventionalized assumptions that referring expressions in two clauses both refer to the same referent, such as in English, where there is a conventionalized assumption of coreference in conjoined clauses such that a referring expression representing a particular role in one of the clauses and a particular role implied in the other clause must be understood as coreferential (e.g. in *Jim picked up the newspaper and threw it*, there is a forced assumption that the referent of *Jim* is the same referent as the implied Actor of the second clause, the one that threw the newspaper).³ Many other possible ways of constraining this particular functional domain exist as well. See Section 5.3.3 for more discussion.

Each of these conventionalized forms or constructions has the function of limiting the possible interpretation(s) of the role of a referent referred to or implied in an utterance, to aid in the interpretation of the identity and role of the referent. Although traditionally these different constructions have

been seen as part of one grammatical category (e.g. 'subject'), they are not one category, but instead are individual ways of constraining the interpretation of who is doing what to whom, and languages differ in terms of whether or not they constrain this functional domain at all, and if they do constrain it, they differ in terms of which particular roles are identified, and the particular mechanisms used to constrain the interpretation.

5.3.1 Privileged Syntactic Argument: Controller and Pivot

As the phenomenon we are talking about is construction-specific, and there are many different types of restricted neutralizations, the term 'subject' is not appropriate, and instead we use the term 'privileged syntactic argument' (PSA) for an argument that is the controller or pivot of a restricted neutralization of semantic roles for grammatical purposes, generally referent tracking (i.e. keeping track of who is doing what in discourse). No other grammatical relations are recognized in this approach; the characteristics that have traditionally been associated with 'direct object', such as taking accusative case, being able to appear as the privileged syntactic argument in a passive clause or being the target of applicative constructions, are seen as properties of the macrorole Undergoer, while those associated with 'indirect object' are seen as properties of the non-macrorole direct core argument (see the discussion of (5) below).

The terms 'controller' and 'pivot' (first used in Heath 1975) refer to different types of PSA, as in the examples in (1), the English conjoined clause coreference construction, where the immediately preverbal (core-initial) referring expression in the first clause is the controller, while the implied argument of the second clause is the pivot of the construction (marked by '(PIVOT)', where the implied argument would be if it appeared in an independent clause), regardless of whether either clause is an active or passive construction.

- (1)
- a. Bob_{CONTROLLER} handed Jim the money and (PIVOT) left. [A,S]
 - b. Jim_{CONTROLLER} was handed the money by Bob and (PIVOT) left. [S,S]
 - c. The money_{CONTROLLER} was handed to Jim but (PIVOT) not seen again after that. [S,S]
 - d. Jim_{CONTROLLER} took the money and (PIVOT) was seen later buying a new car. [A,S]
 - e. Jim_{CONTROLLER} took the money and (PIVOT) thanked Bob for it. [A,A]
 - f. Jim_{CONTROLLER} smiled and (PIVOT) took the money. [S,A]

In this construction, there is obligatory coreference between the controller, whether it is the Actor (A) of an active transitive clause or single direct argument of an intransitive clause (S)⁴ or the Undergoer of a passive clause (S), and the pivot, again whether it is A or S. The construction then aids in the inference of who is doing what. The restricted neutralization we find in this particular construction is [A,S], but as shown in the examples, the correspondence can be [A,A] or [S,S] as well, as what is important is that

the arguments participating in the coreference are grammatically either A or S; the Undergoer of an active transitive clause does not participate in this coreference. The Undergoer argument cannot simply be left to implication when using this structure, and so a different construction must be used to allow the Undergoer to participate in the coreference of the conjoined clause coreference construction. The construction used is the English passive construction, as in (1b, c ,d), as it is an intransitive clause in which the Undergoer is the PSA. Using the passive construction in this conjoined clause coreference construction allows the Undergoer argument (regardless of what specific semantic role it has) to participate in the coreference construction by casting it as an S.

The English passive construction allows limited variable access to the syntactic controller and syntactic pivot positions. Without that construction the Undergoer would not be able to appear as the PSA. Some languages manifest constructions with a particular restricted neutralization but do not have constructions that allow variable access to the PSA (i.e. they do not have alternative voice constructions such as passive; e.g. Enga (Papua New Guinea), Warlpiri (Australia), Lakhota (North America); see Van Valin and LaPolla 1997, pp. 274–285 for details). These constructions are said to have an invariable syntactic controller and invariable syntactic pivot. Some languages have one or a few constructions (e.g. the English passive construction or the Dyirbal antipassive construction – see the next section) that allow limited variable access to the PSA. These constructions are said to have a variable syntactic controller and a variable syntactic pivot. And some languages, such as Tagalog (see Section 5.3.2), have many constructions allowing a range of semantic roles access to the PSA. These constructions have a semantic controller with no neutralization. As we will see, in Tagalog there is no neutralization we can call S, nor even neutralization of a single grammatical category of Actor or Undergoer in terms of the marking on the predicate, as different types of actor and undergoer (e.g. with different degrees of intention, agentivity, transitivity, affectedness) are marked differently on the predicate depending on the nature of the action and the Topic of the clause.⁵ In other constructions (e.g. the Reflexive Construction) there is a generalized Actor, and it is an invariable semantic controller. For ease of discussion we will generalize across the different types of actor, patient and location in Tagalog by glossing the various relevant forms as ‘Actor-Topic’, ‘Patient-Topic’ or ‘Location-Topic’, respectively.

5.3.2 Alignment

The particular PSAs in the conjoined clause coreference construction discussed here are found in English, but many other languages, even closely related ones, do not manifest PSAs in conjoined clause coreference constructions, and so the determination of the relevant argument of the second

clause would be left to inference unconstrained by the grammar, and undergoers in active clauses could be left to inference as easily as A and S. It is also the case that some languages manifest constructions for conjoined clause coreference with particular PSAs, but the restricted neutralization is [S,U] rather than [S,A].⁶ Dyirbal, a Pama-Nyungan language spoken in north-eastern Australia (Dixon 1972, 1980), is a well-known example of a language that has grammaticalized an [S,U] restricted neutralization for conjoined clause coreference. That is, the arguments participating in the coreference must be U and/or S, but A does not participate in the coreference unless it is cast as an S in the Dyirbal antipassive construction. Consider the examples in (2) (adapted from Dixon 1980: 462).

- (2) a. balan guda buŋa-n baŋgul yara-ŋgu bura-n
 3sgf.ABS dog.ABS descend-PST 3sgm.ERG man-ERG see-PST
 The dog_{CONTROLLER} went downhill and the man saw (PIVOT).
- b. bayi yara buŋa-n buraŋanyu baŋgun guda-gu
 3sgm.ABS man.ABS descend-PST see:PST:ANTIP 3sgm.ABS dog-DAT
 The man_{CONTROLLER} went downhill and (PIVOT) saw the dog.
- c. balan guda baŋgul yara-ŋgu bura-n buŋa-n.
 3sgf.ABS dog.ABS 3sgm.ERG man-ERG see-PST descend-PST
 The man saw the dog_{CONTROLLER} and (PIVOT) went downhill.

These examples parallel the English examples in (1), but the interpretation of the implied argument in the second clause of (2a) is obligatorily coreferential with the Undergoer in the first clause, that is, it must be that the dog is the controller and pivot (i.e. is the one that went downhill). In order to have coreference that involves an A argument, the Dyirbal antipassive construction must be used. This construction is an intransitive construction with the verb marked with the antipassive marker *ŋa*, and has the Actor as the single direct argument in the absolutive case and the Undergoer in the dative case. Because Dyirbal has this antipassive construction, there is variable access to the controller and pivot positions, and so the controller is a variable syntactic controller and the PSA is a variable syntactic PSA, though they manifest a different restricted neutralization from the corresponding English construction. These grammaticalized constraints on interpretation we have been looking at force a particular interpretation of an utterance in both English and Dyirbal, but as the restricted neutralizations are different, the interpretations are different. For example, if *The man saw the dog and went downhill* is said in English, the interpretation has to be that the MAN went downhill; but if the corresponding structure is used in Dyirbal, as in (2c), the meaning has to be that the DOG went downhill. We see here that the construction must be taken as a whole, as it is the total construction that influences the interpretation, and is not simply the sum of the individual words.

Where there is a choice of argument for PSA, the RRG theory of PSA selection posits a default choice, depending on the Privileged Syntactic

Argument Hierarchy (3) and the privileged syntactic argument selection principles (4): actor for PSA in so-called nominative-accusative alignment, and Undergoer in ergative-absolutive alignment.

- (3) 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) Privileged syntactic argument selection principles
 - a. Syntactically accusative constructions: highest-ranking macrorole is default choice.
 - b. Syntactically ergative constructions: lowest-ranking macrorole is default choice.

Yet it isn't the case that all languages necessarily have such a default choice. As Foley and Van Valin argued (1984, §4.3) Tagalog has many different constructions for having different semantic roles as PSA, yet none is a default choice. In all these languages where we have seen a choice of PSA, the choice of pivot is determined by pragmatic factors, such as the identifiability or topicality of the referent involved (the default is used when there is no difference in terms of the pragmatic factors), and so we refer to these as pragmatic PSAs, as opposed to those based strictly on semantic factors, which we call semantic PSAs.

While the conjoined cross-clause coreference construction in English manifests an [S,A] restricted neutralization, it is not the case that all constructions in English manifest a restricted neutralization, and it is not the case that all of the constructions that do manifest a PSA in English manifest the same restricted neutralization. For example, in the following example of the English purposive construction the controller and pivot of the construction are the Undergoers of the two clauses, not the Actor or S of the clauses:

- (5) He left this form_{CONTROLLER} for you to sign (PIVOT).

As in the construction in (1), the controller determines the reference of the implied argument in the second clause, but in this case the referent referred to appears as the traditional direct object (the Undergoer in RRG) of the first clause, and is understood as the traditional direct object (the Undergoer in RRG) of the second clause as well. This shows that the concept of PSA is not the same as the traditional concept of 'subject'.

Aside from the possibility of different restricted neutralizations, there is also the possibility of unrestricted neutralization. Some languages, such as Riau Indonesian (Gil 1994) and Mandarin Chinese (LaPolla 1993), have not conventionalized any constraints on referent role identification of the type associated with grammatical relations in any constructions in the language (though they may have conventionalized other types of constraints on interpretation). This means that in all the constructions we have looked

at interpretation is based entirely on inference from context and is not constrained by the structure. In other languages, only some constructions will have unrestricted neutralization. It is entirely language-specific and construction-specific. In English, for example, the relative clause construction manifests neutralization, but no restriction, that is, any argument of the modifying clause can appear as the head of this construction, as shown in (6):

- (6)
- a. the girl who_[A] sang the song
 - b. the girl who_[U] the police saved
 - c. the girl who_[S] just came in
 - d. the girl to whom_[non-macrorole core argument] the award was given
 - e. the car in which_[peripheral argument: location] the man was held up
 - f. the car out of which_[peripheral argument: source] the radio was stolen

In Tagalog, a Malayo-Polynesian language spoken in the Philippines, on the other hand, there is a restricted neutralization for the Tagalog relative clause construction: the head of the construction must be the grammatical Topic of the modifying clause, and so it is a syntactic pivot for that construction. To explain this we will first give some background on the structure of the Tagalog main clause.

Tagalog is a consistently focus-initial language and so in general the predicate appears in initial position and the Topic appears (when it is not a pronoun and not in focus) at the end of the clause, and the information structure is Comment-Topic rather than Topic-Comment. The predicate in most cases marks aspect, realis/irrealis, and the semantic role of the Topic of the clause, and so the Topic is the controller of the semantic role marking (it is a semantic and not syntactic controller because the marking differs with each semantic role, i.e. there is semantic restriction but no neutralization relative to each type of marking). Topic here is actually a grammatical status, as it is an argument singled out for special morphological treatment, as well as a pragmatic status, as it is what the clause is about. Generally, almost any referent associated with the situation in some way, whether core or peripheral argument semantically or even a very indirectly affected referent, can be the Topic of the clause, though usually (but not always) it is one that is identifiable to the hearer, and in many cases the predicate takes a form to reflect the semantic role of that referent, and the marking of the other references in the clause is usually also different.⁷ These different constructions are not passive or antipassive, but simply different ways of profiling the event (Foley and Van Valin 1984, §4.3), similar to the choice of the A Construction vs. the O Construction in Jawarawa (Dixon 2000, 2004), depending on what is considered to be what the clause or discourse is about, but with more choices for Topic in Tagalog.

The representation of the Topic argument (if it appears in the clause and is not a pronoun) generally takes either a marker of specificity (*ang* or *si* with proper names of single referents) or a topic form of demonstrative pronoun

(most commonly *'yung*) to mark it as the Topic. The set of pronouns, which appear as second-position clitics, also distinguishes Topical from non-Topical referents, with the latter appearing as possessive forms or dative forms. In (7) there is a short natural conversation to exemplify this feature (from my own fieldwork; see also Schachter (2008: 337–338) for sets of constructed parallel examples with the same arguments but with different choices of topic, and Schachter and Otnes (1972, Ch. 5) for many of the major constructions used for marking different semantic roles).⁸

- (7) 1. Jirehel: Madali lang kasi'ng gumawa ng salsa eh.
 ma-dali lang kasi ang g<um>awa ng salsa eh
 STAT-easy just because SPEC <AT>make POSS sauce EMPHATIC
 'Making sauce is easy.'
2. Wendy: Oo, madali lang.
 oo ma-dali lang
 yes STAT-easy just
 'Yes, it's easy.'
3. Gawin mo lang ketchup,
 gawa-in mo lang ketsap
 do-PT:IRR 2sg.POSS just ketchup
 You just make it with ketchup,
4. tapos lagyan mo ng tomatoes,
 tapos lagay-an mo NG tomatoes
 finish put-LT 2sg.POSS POSS tomatoes
 then you add tomatoes,
5. lagyan mo ng salt and pepper to taste, tapos na.
 lagay-an mo ng salt and pepper to taste tapos na
 put-LT 2sg.POSS POSS salt and pepper to taste finish cs
 add salt and pepper to taste; then, it's done.'

In (7), the first speaker, Jirehel, refers to the making of sauce using a form (*gumawa*) where the infix *-um-* marks it as Actor-Topic (it happens that in this utterance the speaker has made the relevant clause the Topic of a higher clause, but the phenomenon is the same), then the second speaker, Wendy, uses the same root in line 3 of the example, but in the irrealis Patient-Topic construction, to profile the event from the point of view with the sauce as the Topic. She then follows this in lines 4 and 5 with two tokens of the root *lagay* 'put' in the Location-Topic construction, to keep the sauce as the Topic, but with the sauce now having the semantic role of the location where the tomatoes and salt and pepper are to be added. Notice how there is no overt reference to the Topic in any of Wendy's utterances (e.g. *'yung salsa* 'the sauce' could have been added to the end of each of Wendy's utterances in lines 3–5, but it wasn't), yet we can tell what is being talked about (what is the pragmatic and grammatical Topic) because of the marking on the predicate.

We now can return to the issue of grammatical relations, that is, restricted neutralizations. The choice of different roles as Tagalog Topic

affects the particular form of the construction and the behaviour of the Topic in this and other constructions, such as the Tagalog relative clause construction, where the head of the construction generally must be the Topic of the modifying predicate (i.e. the form of the predicate must be the same as if it were a main clause with that referent as Topic). For example, if we were to recast the clauses in (7) as relative clause constructions (and with realis predicates), we would get the forms in (8):

- (8) a. *lalaking gumawa ng salsa* 'man who made salsa'
 lalake =ng g<um>awa ng salsa
 man LNK <AT.REALIS>make POSS sauce
- b. *salsang ginawa ng ketsap* 'salsa made with ketchup'
 salsa =ng g<in>awa ng ketsap
 sauce LNK <PT.REALIS> POSS ketchup
- c. *salsang nilagyan ng tomatoes* 'salsa in which tomatoes were put'
 salsa =ng in-lagay-an ng tomatoes
 sauce LNK REALIS-put-LT POSS tomatoes

In Tagalog, then, for this construction there is a clear restricted neutralization: the head of the construction must be the grammatical Topic of the predicate that modifies it, unlike in English, where there is neutralization but no restriction on what argument can be the head of an English relative clause construction.

We saw that in Tagalog the controller of the semantic role marking on the predicate (the Topic) is a semantic controller. English agreement, on the other hand, manifests a syntactic controller. That is, the agreement is not with a particular semantic role like in Tagalog, but manifests a restricted neutralization, where the agreement is with the Actor or S of the clause, regardless of its semantic or pragmatic role. We can see this from the examples in (9).

- (9) a. I am helping Bill with his homework [agreement with A]
 b. Bill is being held up by the activities [agreement with Undergoer as passive S]
 c. Bill is smiling [agreement with S Actor]
 d. Bill is falling into a trap [agreement with S Undergoer]
 e. There are many people in the park [agreement with non-topical S]
 f. There are people grilling meat there [agreement with non-topical A]

Acehnese (Durie 1985, 1987), an Austronesian language spoken in Indonesia, manifests a system of pronominal agreement on the verb with Actor-marking prefixes and Undergoer-marking suffixes on the verb. The marking is restricted to Actor and Undergoer, respectively, and there is no neutralization of Actor and Undergoer, even with intransitive constructions. See, for example, the following (from Durie 1987: 366, 369):

- (10) a. (Gopnyan) *geu-mat lôn* b. (Lôn) *lôn-mat-geuh*
 (3sg) 3-hold 1sg (1sg) 1sg -hold-3
 '(S)he holds me.' 'I hold him/her.'

- | | |
|---|---|
| c. Geu-jak (gopnyan) 3-go (3SG) ‘(S)he goes.’ | d. Lôn rhët(-lôn). 1sG fall(-1sG) ‘I fall.’ |
|---|---|

From these examples we can see that the prefixes are used for the Actors of transitive constructions (10a, b) and the single arguments of intransitive constructions where the action is voluntary and so the argument is an Actor (so-called S_A), as in (10c), and the suffixes are used for the Undergoers of transitive constructions and the single argument of intransitive constructions where the action is involuntary (an Undergoer, so-called S_P or S_O), as in (10d).⁹

5.3.3 Referent Tracking

The different choices of grammatical Topic we saw in Tagalog have the same function in discourse as the variable syntactic pivots in English and Dyirbal in terms of allowing for topic chains where an (often unmentioned) referent can remain the topic across clauses even if its semantic role changes, and the structure helps constrain the inference of the identity and role of the relevant referent, as in (7). This type of referent-tracking mechanism is known as a ‘switch function’ (Foley and Van Valin 1984: 321–374; Van Valin 1987; Van Valin and LaPolla 1997, §6.4), as the structure identifies the difference in function of the referent while maintaining it as topic. There are differences among languages, though, not only in the type of restricted neutralization, such as in English vs. Dyirbal, but also in terms of what referents can be an unmarked topic of the clause: if we contrast English/Dyirbal, Tagalog and Chinese, we can see that English and Dyirbal severely limit what can be topic in the unmarked clause structure ([S,A] or [S,U] respectively); Tagalog allows just about anything relevant to be topic, but marks it morphosyntactically, thereby constraining the inference of the referent and its role; Chinese does not manifest any restricted neutralizations (LaPolla 1993) and so there is no grammatical restriction on what can be topic in the unmarked clause structure, though there is no marking of it as topic other than initial word order, and no marking of its role or identity, and so identification of the referent and its role is not aided by the structure (see, for example, the discussion of (12) below). This forms a separate though related typological cline, from most restricted to least restricted in terms of access to topic, aside from the typological cline related to the degree to which the structure constrains the interpretation of the role and identity of the referent being tracked.

Yet another type of restricted neutralization with variable PSAs, known as the ‘switch-reference’ pattern, is found in Barai, a language of Papua New Guinea (Olsen 1978, 1981; Van Valin 2009, §4), and in Choctaw, a Muskogean language of North America (Heath 1975, 1977), among others. In this type of system, when clauses are coordinated, the PSAs of the individual clauses (defined differently in each construction and in each language) can be

coreferential or not, and there is marking on the predicate to show this (i.e. whether the PSA is the same as in the following clause or different from the following clause), as in the following Choctaw examples (adapted from Heath 1977: 212):

- | | | | | |
|------|----|---|--|--|
| (11) | a. | (0 _i)-0-pi:sa-ča:, (3A)-3P-see-SAME | 0 _i -iya-h 3A-go-PRESENT | 'He _i sees him _j and he _i goes' |
| | b. | 0-0 _i -pi:sa-na:, 3A-3P-see-DIFFERENT | 0 _i -iya-h 3A-go-PRESENT | 'He _i sees him _j and he _{j/k} goes' |

As can be seen from these examples, even without overt arguments, the affix on the predicate marking whether the PSA in the following clause is the same or different from that of the marked clause constrains the interpretation of who is doing what. The pivots in this sort of system are generally invariable syntactic pivots.

We have seen above that there are different kinds of constructions languages can have for constraining the inference of who is doing what, if they have any at all. They may have some constructions that have invariable semantic pivots (i.e. restriction with no neutralization), such as the verbal marking in Tagalog and Acehnese, or invariable syntactic pivots, such as reference across conjoined clauses in Warlpiri and Enga, or variable syntactic pivots, such as reference across clauses in Dyirbal and English, and the relative clause construction in Tagalog. The restricted neutralization found in a construction could treat [S,A] the same in opposition to [U], or it may treat [S,U] the same in opposition to [A]. As this is a construction-specific phenomenon, the same language may have different constructions with different PSAs, as we saw with Tagalog (see also Van Valin 1981 on Jakalteek and Van Valin and LaPolla 1997: 282ff. on Tzutujil), and constructions with different PSAs can sometimes be combined into a single complex structure, such as when a Tagalog reflexive construction (invariable semantic pivot) and any type of Tagalog clause structure (variable syntactic pivot) are combined to form a complex structure. And of course a language may not have any constructions that manifest PSAs, such as Mandarin Chinese and Riau Indonesian.

5.4 How Grammatical Relations Develop

Lexico-grammatical structure becomes 'grammaticalized' or 'lexicalized' (becomes what we think of as grammar or words) through repeated use of particular patterns to constrain the hearer's interpretation of the speaker's intention in a particular way until it becomes conventionalized on the societal level and habitualized on the individual level (LaPolla 2015). Ontogenetically we start with no structure, including no grammatical relations, and in each society different types of constructions will emerge out of the interactions of the speakers, and so each language is

unique in terms of what sorts of structures have conventionalized in the language. There are some languages, such as Riau Indonesian (Gil 1994) and Mandarin Chinese (LaPolla 1993), which have not conventionalized constraints on referent identification of the type associated with grammatical relations (though they may have conventionalized other types of constraints on interpretation). What this means is that there are no conventionalized associations which relate position in word order, the marking on the nouns or verb, and so on with particular semantic roles, and so the structures of the language do not force particular interpretations of the role of referents mentioned in discourse. The addressee can still infer a context of interpretation in which the utterance will make sense, but this inferential process is relatively unconstrained compared to a language that has constructions that force a particular interpretation within this functional domain, and so the addressee will have to rely more on the assumptions of real-world semantics (what makes sense given common knowledge about the world) to make sense of the utterance. This does not mean that the inference won't be influenced by conversational implicatures. There may be common conversational implicatures that can influence the interpretation. For example, as there is a rather strong frequency correlation between topic and actor in Chinese (and many other languages), there is a conversational implicature that an animate topic (the referent referred to by the utterance-initial referring expression) is the actor of the clause. It is simply a conversational implicature because it can be cancelled by the semantics of the referents or the requirements of the context of interpretation, such as in (12):

- (12) Xuéshēng yǐjīng fā-le chéngjī
 student(s) already distribute-PFV grade
 'The students were already given their grades.'

This expression could potentially be understood as either 'The students were already given their grades' or 'The students already gave out grades (to someone else)', but it was understood in the context in which it was uttered as 'The students were already given their grades' because students normally receive grades, not give them out, and it made more sense in the context. What happens in one type of conventionalization of grammatical relations is that a conversational implicature of 'actor as topic' appears so often in discourse that it becomes a conventional implicature, and then becomes so strongly conventionalized that speakers cannot accept any other interpretation.¹⁰ Note that all conventionalization (grammaticalization) is of constructions, not individual words, and not globally in the language (Bybee 2003; Himmelmann 2004; Gisborne and Patten 2011), so the RRG assumption that grammatical relations are construction-specific is much more in line with what we know about grammaticalization and with the facts of languages, and so is more empirically sound than a view that posits abstract global grammatical relations in all languages.

The difference between conversational implicature, conventional implicature, and obligatory marking forcing a particular interpretation is the degree to which speakers are free to use or not use the particular form to constrain the hearer's inferential process, and also the degree to which the form forces a particular interpretation. Old English did not constrain the identification of the role of a referent with word order, though it did constrain the interpretation of referent role using a complex system of case. Even so, the frequency with which reference to actors preceded the verb in topic position led to a conversational implicature that gradually strengthened as the case-marking system weakened, until we ended up with the current system of Modern English, where word order alone constrains the interpretation of the role of the main referents, and what was originally the primary means of constraining the interpretation of the role of the referent (the case marking) is now non-existent or, in the case of pronouns, is now secondary, often assigned by word order.

Conventionalized constraints on the interpretation of coreference across clauses also develop in a similar way. Initially there is no syntactic constraint on cross-clause coreference, and so the interpretation of which referring expressions (including zero) co-refer is completely dependent on inference from real-world semantics. For instance, in the following example from Rawang, a Tibeto-Burman language of northern Myanmar, any of the three coreference patterns given in the three translations would be possible, and which would be correct would depend on the addressee's inference of which is most likely to be the interpretation intended by the speaker given the addressee's assumptions about hitting and crying and what is known about the people involved.¹¹

- (13) əp^hũŋi̯ ədú:səŋ ədip búà nù ŋũa:ʔmì
 əp^hũŋ-i̯ ədú-səŋ ədip bú-à nù ŋũ-ap-ì
 Apung-AGT Adeu-LOC hit PFV-TR.PST PS cry-TMDYS-INTR.PST
 (i) 'Apung hit Adeu and (Apung) cried' or
 (ii) 'Apung hit Adeu and (Adeu) cried', or
 (iii) 'Apung hit Adeu and (someone else) cried'

Utterances of this type are somewhat rare, though; more often only one possible actor is mentioned, as in an utterance like *John finished eating and left*, and so the conversational implicature that the actor is the same in both clauses (and it is only an implicature at first) can become strengthened to the point that it becomes conventionalized as the only possible interpretation, as in English, where a clause such as *John put the rock next to the chameleon and turned brown* has to mean that John turned brown, even if it makes no sense, unlike in a language where this coreference pattern has not conventionalized (e.g. Chinese) and so it would more likely be interpreted as meaning the chameleon turned brown.

Agreement or cross-referencing on the verb develops as an unstressed pronoun is reinforced by a stressed pronoun or full noun phrase often

enough for the unstressed pronoun to become cliticized to the verb. We clearly see this process in Angami Naga, a Tibeto-Burman language of North-east India (Giridhar 1980: 32, 59): the verbal prefixes (1sg *ā-*, 2sg *ñ-*, 3sg *puô-*) are transparently derived from the free pronouns (1sg *ā*, 2sg *nô*, 3sg *puô*), and can be used together with the free pronouns, as in (14a), or with a noun phrase, as in (14b) (see LaPolla 1992a, 1994 for other examples from Tibeto-Burman languages).

- (14) a. *nô ñ-dôvī* b. *nhicûnyô puô-dôvī*
 2SG 2SG-clever boy 3SG-clever
 ‘You are clever.’ ‘(The) boy is clever.’

Relational marking on noun phrases often arises as marking of location, such as a locational noun, is used to constrain the inference of the relationship of some referent to the state of affairs being predicated to a locational sense, such as source, and then gets extended to the marking of other sorts of participants (e.g. agents) through predictable pathways (see the following section for more discussion, and also LaPolla 2004). This can further conventionalize into fully paradigmatic case marking.

5.5 Why Syntactic Relations Develop

We have seen that syntactic relations develop from a form that is repeated over and over again in discourse to the point that it becomes conventionalized as an obligatory part of the language, and thereby forces a particular interpretation where otherwise there would be two or more possible interpretations. But why would speakers repeat a form so often that this would happen?

The answer lies in the culture of the speakers of the language, their way of thinking, their value system. For a form to be used often enough for it to become conventionalized, it must constrain the interpretation process of the addressee in a way that is important to the speaker, so important that the speaker is willing to put extra effort into constraining the addressee’s inferential process in that particular way to make it more likely the addressee will ‘get it right’. That is, the speaker wants to make sure the addressee will infer that part of the communicative intention correctly, more so, possibly, than other parts of the intention, and often uses a particular form that they have used successfully before (and/or other people have used successfully before) to constrain the interpretation in the same way, over and over again. (We are creatures of habit and imitation, and although we sometimes innovate, we more often go along with our usual habits and also will imitate others.)

In the case of syntactic relations, what must be important to the speakers is that the addressee correctly infer the roles of the major participants. The clearest example of this is the development of relation morphology on the

noun phrase of the type agentive, patient, and/or anti-agentive.¹² Marking of participant role is, at least initially, marking of semantic role. In many of the languages I've looked at (the Tibeto-Burman languages; LaPolla 1995, 2004), there is a clear development of agentive marking through the extension of ablative or instrumental marking to constrain the inference of which participant is the agent. This begins only in contexts where there could be confusion, such as when there are two human referents mentioned in an utterance, and it is optional at that stage. The first speaker to do this would have had the desire to constrain the interpretation of the semantic roles, and in order to do so used a form already in the language (e.g. ablative marking; it is easier to use material already in the language than to create totally new material). Over time, this marking can become obligatory and can also be extended to other sorts of agent-like referents. The motivation for patient or anti-agentive marking is the same, but in the case of these markers, the speakers chose to constrain the interpretation of the role of a non-agent rather than an agent. In some of the older systems this type of marking has developed beyond simple semantic marking, as speakers have used material already in the language (the semantic marking) to constrain the interpretation in new ways.

In some cases the pattern that gets conventionalized might not specifically involve extra effort on the part of the speaker but simply reflects the discourse habits of the speakers (which again will reflect the culture of the speakers). For example, in a culture where actors are very often made the topic of conversation, and topics are mentioned in clause-initial position (also a choice that influences the construction of the context of interpretation – see LaPolla 2019), we might see this result over time in the conventionalization of a word order constraint such as that in English. We can see this tendency developing in some Tibeto-Burman languages, such as Qiang (LaPolla with Huang 2003), but it has not yet fully conventionalized. For example, in a Qiang transitive clause construction with two unmarked noun phrases referring to human referents, usually the first one will be understood as referring to the Agent, but pragmatics still controls word order more than semantics, and so if some other referent is more topical than the Agent, the noun phrase referring to the Agent will not appear first. In this kind of situation the Qiang Agentive marking is often used to constrain the addressee's interpretation of the relative roles. Agent-first is then the default and unmarked situation, and could develop into an obligatory interpretation with more reinforcement through repeated occurrence.

The motivation for the development of constraints on a particular functional domain may not originally be part of the native culture but can come through language contact: when people are bilingual in another language that obligatorily constrains the interpretation of some functional domain, such as the marking of source of information (i.e. has obligatory evidential marking), and they use that language often enough for the habit of constraining the evidential sense to become established,

they may eventually feel the necessity to constrain the interpretation of source of information when using their own language. They can then borrow the forms of the language that already has it, or use native material for that purpose, and it may then develop into an obligatory category in their own language. This is still repeated action based on the desire to constrain the interpretation in a particular way leading to conventionalization, but in this case the motivation came into the culture of the speakers through the influence (habits) of another culture (see LaPolla 2009). Relevant to grammatical relations, the development of person marking on the verb in some Tibeto-Burman languages seems to be related to language contact (see LaPolla 2001).

Although all conventionalization has its origin in repeated actions that have a cultural motivation, it is not always possible to find a direct link between some motivation and the linguistic form post facto, especially if the conventionalization happened in the far-distant past (though see the papers in Enfield 2002 and De Busser and LaPolla 2015) and if there has been considerable phonetic reduction of the forms used in the constructions. We continue to use forms that are no longer transparently motivated just because they are there, and are part of our habits of language use. We can see this in the layering of marking, for example the fossilization and maintenance of the *-r* plural in *children*, even though it is not seen as a plural marker by most modern English speakers.¹³ The motivations for many words used in English today are opaque to modern English speakers, such as why we say *dial* to make a phone call, but they use the forms anyway. In some cases, sound changes can make what was once transparently motivated opaque. For example, the modern word for 'crow' in Mandarin Chinese is *wū*, which is not transparent, but when we look at the way it would have been pronounced when it was first used (reconstructed as **ʔa*), we can see that at that time it was motivated as onomatopoeia. In terms of syntax, we may have less evidence for the motivation of a particular word-order pattern, but in some cases we can see the effect it has and possibly assume that that effect was the motivation. For example, the English pattern of marking mood with word order, that is, putting a different element in initial (Theme) position in different moods,¹⁴ may have developed because of a desire to clearly constrain the interpretation of mood.

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Notes

- 1 The name ‘Role and Reference Grammar’ derives from the early focus on the semantic roles and pragmatic functions in discourse referent tracking of grammatical relations.
- 2 Following best practice in typology, for language-specific (descriptive) categories and constructions I will capitalize the initial letters of the name of the category or construction, but for comparative concepts I will not capitalize the first letter. So, for example ‘Actor’ refers to the language-specific grammatical category manifesting a particular neutralization of semantic roles in the language under discussion, while ‘actor’ refers to the comparative concept of the one who performs an action. As there are no universal or cross-linguistic grammatical categories, descriptive and comparative concepts need to be kept distinct.
- 3 Note that the identification of the referent of *it* as the same as that of *the newspaper* is not due to grammatical relations, but simply to inference; there is nothing in the grammar that obligatorily constrains the interpretation, the way the inference of the relationship between *Jim* and the thrower of the newspaper is constrained by the grammar.
- 4 English S is itself a neutralization of semantic macroroles for grammatical purposes that is not found in all languages (see below on Acehnese and Tagalog). Actor and Undergoer are also language-specific restricted neutralizations of semantic roles for grammatical purposes, hence are called macroroles, but are at a lower level than the restricted neutralizations of macroroles we are talking about here. In English and many other languages there is also variable access to Undergoer status when there is both a theme and a recipient or location in the clause, e.g. in the construction *I gave the book to Mary*, *the book* is the Undergoer, but in the construction *I gave Mary the book*, *Mary* is the Undergoer, and in *Load the truck with hay*, *the truck* is the Undergoer, while in the construction *Load the hay on the truck*, *the hay* is the Undergoer. The choice of one construction or the other usually depends on the relative topicality of the referents. See Van Valin and LaPolla 1997: 144ff.

- 5 For example, in a Tagalog single argument clause, semantically different arguments can be marked differently, e.g. given the root *dulas*, *madulas* can be used for ‘slip (unintentionally)’ and *dumulas* can be used for ‘slide (i.e. slip intentionally)’, and the marking of an intransitive actor can be different from that of a transitive actor, even with the same root, e.g. *labas* ‘outside’: *lumabas* ‘come/go out’ vs. *maglabas* ‘bring/take out’.
- 6 In the typology literature the [S,A] restricted neutralization is often referred to as ‘nominative-accusative alignment’, as in Latin the A and S take the nominative case in opposition to the U, which takes the accusative case, and the [S,U] restricted neutralization is often referred to as ‘ergative-absolutive alignment’, as in Dyirbal the U and S take the absolutive case in opposition to the A, which takes the ergative case. In some of the literature, languages are talked about as having one of these alignments, but a more empirical approach is to look at the individual constructions, as not all constructions in the language necessarily manifest the relevant alignment, and a single language can have different constructions manifesting different alignments (see Van Valin 1981 on Jakaltek and Van Valin and LaPolla 1997: 282ff. on Tzutujil).
- 7 An example of an indirectly affected referent as Topic would be *Huwag mong ubusan ng gasolina si Ricky* [NEGIMP 2sgNT=LNK finish-LT POSS gasoline SPEC PN] ‘Don’t use up all the gasoline on Ricky’ (using the Location Topic construction –cf. the use of the locative expression ‘on X’ in the English translation for the one affected).
- 8 Abbreviations used in the Tagalog examples: AT Actor-Topic infix or prefix; CS Change of State marker; IRR Irrealis; LNK clitic Linker; LOC Locative marker; LT Locative-Topic suffix; POSS Possessive linker; PT Patient-Topic suffix or infix or prefix; REDUP Reduplication of initial syllable for marking imperfective and planned actions; SPEC Specific referent; STAT Stative predicate.
- 9 In some languages there is another type of person marking on the predicate that is not based on semantic role or PSA, as the marking reflects the speaker, and possibly hearer and third-person argument based on a person hierarchy such as 1 < 2 < 3. The predicate may also have marking for when the actor is lower on the hierarchy than the undergoer. This type of system is called hierarchical marking. See LaPolla (2010) for one example.
- 10 Even as a conversational implicature the default interpretation can be very strong. For example, the implicature that actions occur in the order that they are talked about is quite strong in English, and so the average speaker would say that *they got married and had a baby* means something different from *they had a baby and got married*, but the implicature can be cancelled, e.g. by adding *but not in that order* after either of the two possible orders.

- 11 Abbreviations used in the Rawang example: AGT agentive marker; INTR. PAST intransitive past-tense marker; LOC locative marker; PFV perfective aspect marker; PS predicate sequence marker (marks non-final clause); TMDys time marker (marks a past action as having occurred within the past few days); TR.PAST transitive past-tense marker. In the Rawang example in (13) the tones are high \acute{a} , mid \bar{a} , low \grave{a} . All syllables that end in a stop consonant are in the high tone. Open syllables without a tone mark are unstressed. A colon marks non-basic long vowels. In the Angami examples in (14), the tones are mid-level \bar{a} and low falling \hat{a} .
- 12 Anti-agentive marking differs from patient marking in that it is not marking what role a particular referent has, but what role it does not have: it marks the mention of a human referent (at least human patients and datives, but sometimes possessors as well) as not being agents. See LaPolla (1992b, 2004).
- 13 George Bush famously said ‘Childrens do learn when standards are high and results are measured’ (Reuters, 26 Sep 2007), showing that even the *-en* plural does not constrain the sense of plurality enough for him. This is an example of layering (Hopper 1991: 22), and we can see that layering occurs when someone feels the existing marking is not constraining the inference of that particular semantic domain enough.
- 14 In unmarked cases, in declarative mood the subject is in initial position; in polarity interrogatives, the polarity-marked auxiliary occurs in initial position; in question-word questions, the question word appears in initial position; in imperatives the verb appears in initial position. So the addressee’s inference of the mood of the clause (which generally represents how the speaker is interacting with the addressee) is greatly constrained by the first constituent (the Theme), and this influences the interpretation of the rest of the utterance. Theme (as in Theme-Rheme) is important precisely because the inferences drawn after hearing the Theme influence the rest of the interpretation. (See Halliday 1994, Ch. 3; LaPolla 2019.)