CONTENT QUESTIONS IN AMERICAN SIGN LANGUAGE:

AN RRG ANALYSIS

by

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Dedication

To my husband, My Little Man

Thank you for sharing your life, your laughter,

your language, and your love with me.

I thank God daily for creating you and introducing us;

and I thank you for loving and supporting me.

Acknowledgements

Whereas most people who study another spoken language do so for
academic reasons, I've discovered that most people who learn ASL do so for
personal reasons—usually after meeting a deaf person or seeing the language in
action. I suspect this situation will change as ASL becomes part of high school
and university curricula. However, ask any hearing person how they became
interested in sign language, and you are guaranteed to hear an interesting,
heartwarming story.

My introduction to ASL came through Dr. Joyce Wilder, my psychology
professor at Western Kentucky University in the late 1980s. Joyce is a CODA
(child of deaf adults), and her experiences as a hearing child in a deaf home were
both fascinating and moving; as an adult, she became an interpreter and an
advocate for the deaf. If not for her continual prodding over the years to take an
ASL class and get involved in the Deaf community, I would not have even
considered this undertaking. Thank you, Joyce, for your encouragement, your
faith, and your friendship.

My consultant—and my husband, LD. Thank you for your patience and
encouragement throughout this dissertation process, particularly with my
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and for your insistence that I take care of myself. When I was tired, stressed, or
discouraged, you always found a way to make me smile. I learn something new
from you every day—about language, about life, about love. These are the
important things.

process. We did it! In these past months, especially, LtC Campbell has proven that my loyalty is well-placed. You are the best supervisor ever! Thank you for making it possible for me to find the time and energy to complete this duty. I'm not sure I would've finished without your support.

Finally, my parents and my brother. Thank you for your never-ending support, both emotional and financial, as I've pursued my goals. You really seem to believe I can do anything. Thank you for teaching me the value of discipline, integrity, humor, and balance. I am so blessed to call you Family.

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Abstract

The goal of this dissertation is to determine whether, from a grammatical perspective, ASL syntax, particularly in regard to question formation, is like that of natural spoken languages. The theoretical framework I will employ is Van Valin & LaPolla's (1997) Role and Reference Grammar (RRG). The theory is typologically friendly; with its flexibility, RRG seems ideal for the medium and multi-dimensionality of signed languages. RRG emphasizes the interaction of syntax, semantics, and pragmatics, so a study of ASL from this perspective will provide a broader description of the major syntactic properties of the language, including information structure and content questions. An RRG analysis of verb classes in ASL illuminates an obscure feature of the language, one which makes it typologically unique: indexing verbs are head-marking, while plain verbs are neither head- nor dependent-marking. With fixed focus, ASL relies on a combination of word order movement and syntactic focus constructions to achieve a range of focus possibilities; among these constructions are topicalization, pseudoclefts, and doubling. One of the most interesting of ASL question constructions is *wh*-doubles. By analyzing *wh*-double constructions in an RRG framework, it becomes clear that the in situ wh-element is always necessary and the other *wh*-element, regardless of its position in the utterance, is the double. Of particular interest in signed languages are covert questions, those that do not include an overt question word but rely solely on the nonmanual marking to indicate the scope of the *wh*-question. I propose a different way of analyzing nonmanual marking, with a focus on questions in signed languages: Polar questions are marked with a different particle (in this case, facial

expression) than content questions and are not, therefore, typologically unusual. Finally, I compare the arguments for considering nonmanual marking as a form of intonation with those for considering it a type of question particle. Despite their different modality and medium, signed languages are not typologically different from spoken languages.

INTRODUCTION

Because educators and researchers have only recently[1] deemed American

Sign Language (ASL), the visual-gestural language of the deaf, worthy of study as

a developed and evolving means of communication, any grammatical or linguistic

analysis of ASL must include a description of the structure of the language.

Although people have seriously studied ASL since the early 1970s, many aspects

of the language are as yet unexplored. To date, much of the research that has

been conducted on ASL has focused on its syntax, the most notable being Liddell

(1980b) and Neidle (2000). The goal of this dissertation is to determine whether,

from a grammatical perspective, ASL syntax, particularly in regard to question

formation, is like that of natural spoken languages. This project will rely on data

from these and other published sources but is more comprehensive in its scope

than previous studies.

As a result, those linguists who have previously studied only spoken

languages will better understand how ASL is similar to and different from those

spoken languages in ways that go beyond its sentence structure to include the

various predicate types and their interaction with verb classes and noun

classifiers, the influence of operators and facial expressions on the interpretation

of an utterance, the means of marking focus structure, and the constraints on

question formation in ASL. Throughout this dissertation, wherever possible,

comparisons are made to spoken languages to further establish ASL as

typologically valid despite its different modality. Chapter 1 includes a review of

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[1] William Stokoe published what was considered a "bombshell" book, *Sign Language Structure*, in 1960 (Sacks 1989), then co-authored *A Dictionary of American Sign Language* in 1965. However, Klima and Bellugi's *Signs of Language* (1979) is generally credited with gaining ASL recognition as an authentic language (Jacobs 1989).

Zeshan's (2004) typological survey of questions in signed languages. Each strategy—for example, the use and positioning of interrogative particles—is compared to the similar strategy for spoken languages. Although they exhibit interesting variations, none of the signed languages is typologically unique in comparison to spoken languages.

For linguists who focus primarily on signed languages, this dissertation recasts existing data in a new framework, one that provides deeper insights about the interaction of discourse-pragmatic factors with syntactic structure. Of particular interest are the types of focus structure exhibited in ASL and the ways in which they are realized in both declaratives and questions. This analysis also offers some new perspectives on nonmanual marking in ASL, particularly with regard to content questions. As the bibliography attests, a number of Sign linguists have, over the past 30 years, elicited a great deal of data, despite the difficulty in finding native signers of ASL. This dissertation is perhaps the first compilation and synthesis of that data. A handful of works, however, have become standard resources for most Sign linguists, and examples from these sources are cited often in various contexts. Klima & Bellugi's *The Signs of Language* (1979) is largely credited with gaining ASL recognition as an authentic language, although Fischer & Gough's now-classic "Verbs in American Sign Language" (1978) highlighted the complexity of ASL predicate structure. The most well-known resource perhaps is "the green book," Baker-Shenk & Cokely's *American Sign Language: A Teacher's Resource on Grammar and Culture* (1980). Other early standards include Liddell (1980b), a study of ASL syntax, and Padden (1988), an investigation of ASL syntax and morphology. Other

contributors to specific fields related to the chapters of this dissertation will be

mentioned below.

Although most linguists display individual preferences when transcribing

ASL utterances, there are some generally-accepted conventions, to include the

following—

Symbol	Example	Explanation
CAPS	KNOW	The gloss of an English word in capital letters represents an ASL sign.
HYPHENATED GLOSS	FROM-NOW-ON	When more than one word is needed to gloss an ASL sign, hyphens are used.
HYPHENATED LETTERS	L-E-E	When an English word is fingerspelled, the letters are separated by hyphens.
#	#WHAT, #JOB, #KO	This symbol indicates a fingerspelled loan sign.
+	AGAIN+++	This symbol indicates that the sign is repeated; the number of plus signs indicates the number of repetitions.
rt *lf* *cntr*	*rt*-ASK-TO-*lf*	These symbols stand for *right*, *left*, and *center*, respectively, and they indicate a marked location in space where a sign begins and/or ends.
_____q	_____q S-U-E buy dress?	The *q* indicates a polar question, and the line above the gloss indicates its scope.
_____whq	_____whq WHAT S-U-E- BUY?	The *whq* indicates a content question, and the line above the gloss indicates its scope.
_____t	_____t DOGS, MOM HATES	The *t* indicates a topicalized element, and the line above the gloss signals the extent of the topicalized constituent.
_____n	_____n J-O-H-N TIRED	The *n* indicates a negated element, and the line above the gloss indicates its scope.

Other notations will be explained where necessary throughout the text. Where stylistic differences arise among the sources, I have standardized them to reflect the most common, most easily understood notations.

Chapter 1 reflects the first typological survey and comparison of questions in spoken and signed languages. Data for spoken languages is from Dryer (In press a; In press d; In press e; In press f); data for signed languages is from Zeshan (2004). Polar questions in spoken language are most commonly signaled through interrogative particles, but verbal morphology, word order, intonation, or some combination of these means is also possible. For signed languages, the most common way of signaling polar questions is through nonmanual marking, the realization of which is consistent across languages. However, question particles are also common in polar questions, but their use is never obligatory for all questions, and they always co-occur with nonmanual marking. In this regard, signed languages differ from most of the spoken languages covered here, in which the particle is required in all utterances belonging to a particular grammatical question type.

As for content questions, question word paradigms in both spoken and signed languages vary along a number of interesting dimensions: the size and structure of the question word inventory, the syntactic position of the question words, and the noninterrogative uses of question words. In most signed languages, the nonmanual marking used for polar questions is distinct from that used for content questions; furthermore, nonmanual markers for content questions are much more varied crosslinguistically than those for polar questions in regard to their form, obligatoriness, and scope.

The theoretical framework I will employ is Role and Reference Grammar (RRG), for two reasons. First, the theory is typologically friendly. Because the theory attempts to uncover aspects of clause structure that are relevant to all human languages, it must be equally applicable to free-word-order, flat-syntax languages (like Dyirbal and Malayalam), to head-marking languages (like Lakhota and Tzotzil), and to fixed-order, configurational, dependent-marking languages (like English and Icelandic). ASL, in fact, is typologically unique in regard to argument marking, as verb classes lead to structural differences. With its flexibility, RRG seems an ideal framework for the medium and multi-dimensionality of signed languages. ASL is the first signed language to be analyzed from this perspective, so this investigation will also test the validity and applicability of this theory. That the theory can not only be applied to signed languages but also reveal significant facets of those languages further justifies RRG analyses of spoken languages. Second, because RRG emphasizes the interaction of syntax, semantics, and pragmatics, a study of ASL from this perspective will provide a broader description of the major syntactic properties of the language, including information structure and content questions.

A descriptive methodology, then, in which generally-accepted elicitations are subjected to a linguistically more comprehensive analysis, is appropriate for this undertaking. Although much of the data is gathered from existing sources, the presentation, synthesis, and reinterpretation in this framework, combined with unique examples and grammaticality judgments from my consultant, highlights not only the similarities between signed and spoken languages but also the ways in which at least some aspects of signed languages, such as predicate

structure and nonmanual marking, are more complex because of their multi-dimensional and non-linear nature.

Chapter 2, then, provides an introduction to Role and Reference Grammar, largely summarized from Van Valin & LaPolla (1997). In this overview, I focus on the universal and non-universal aspects of the syntactic representation and ignore facets of the theory not directly relevant to my analysis of ASL. The **nucleus** (predicate), the **core** (nucleus plus semantic arguments of the verb) and the **periphery** (adjuncts, or modifiers of the core) are universal and basic to the clause structure of any language. Because these units are semantically, not syntactically, motivated, however, they may occur in any allowable order in a language; consequently, such a theory is easily adaptable to a non-linear, gestural language like ASL. In addition, **operators** (such as negation and tense) modify parts of the clause at every level. The formal representations of clause structure is the **Layered Structure of the Clause (LSC)**, which has two distinct projections, one for predicates and their objects and another for operators, joined through the nucleus. Fundamental to the representation of a clause is the representation of the predicating element in the nucleus. Because one must first determine how the verb is represented in the lexicon, and then determine the semantic representation of the core of the clause, I will elaborate the *Aktionsart* tests for determining verb classes, and then discuss semantic roles, which further clarify the relation between the predicate and its arguments.

The second section of Chapter 2 discusses Lambrecht's taxonomy of focus types and introduces a third projection of the LSC, the focus projection, which is

also connected through the nucleus and which divides the elements of the constituent projection into the potential and actual focus domains. To illustrate the syntactic structure of a language, then, RRG employs a sometimes three-dimensional representation of constituent structure, operator structure, and/or focus structure. (To clearly depict the multi-dimensionality of ASL in these representations, I have slightly modified the standard notational conventions, at least for these figures, by relocating the nonmanual markings from above to below the transcriptions of the signs themselves.) The final section of Chapter 2 presents an examination of behavioral and coding properties of grammatical relations to determine whether the constructions of a language are organized in terms of subject-object, actor-undergoer, or topic-comment dichotomies. Most languages do have grammatical relations, but they are not universal, nor are they realized the same way in every language that employs them. Understanding these basics of RRG—the universal units of clause structure, the elements of the Layered Structure of the Clause, the means for determining focus types, and the grammatical relations exhibited by a language—is crucial to understanding the analysis of American Sign Language that follows.

Chapter 3 introduces ASL predicates and predicate structure, beginning with an elaboration of ASL verb classes: **plain verbs**, which do not inflect for person or number; **agreement verbs**, which inflect for person and number of subject and object; and **spatial verbs**, which inflect for location (Fischer and Gough 1978; Meir 2001; Padden 1988). The morphological processes associated with both agreement and spatial verbs are complex. Unlike English, which often relies on syntactic structure, ASL has the means and often the requirement to

systematically integrate both grammatical roles and semantic features of arguments of the verb; consequently, elements that are considered arguments in ASL may not even be present in English. In fact, this investigation of predicate structure and grammatical relations in ASL examines the distinctions between English as a dependent-marking language and ASL as a (partially) head-marking language. An RRG analysis of verb classes in ASL, particularly the representations of the LSC, illuminates an obscure feature of the language, one which makes it typologically unique: indexing verbs are head-marking, while plain verbs are neither head- nor dependent-marking. This analysis also highlights a less-known difference between the languages, the impact of which requires further investigation: while the direct-indirect object dichotomy is important in English, primary and secondary objects are more relevant in ASL. Chapter 3 also includes an investigation of the units and relationships in complex sentences constructions in ASL, highlighting the interaction between predicates and operators. Understanding the abstract linkage relationships in ASL provides greater insight into the language—and its similarities to English and other spoken languages.

Topicalized sentences, the most prevalent type of focus construction in ASL, have been widely studied, but only Wilbur (1994a; 1994b; 1996a) has systematically investigated other means of signaling focus in the language. No one has yet, however, applied Lambrecht's paradigms to the language to determine the morphosyntactic marking of focus structure. With the help of my consultant, I applied in Chapter 4 the same tests to ASL that Lambrecht had applied to English, Italian, French, and Japanese. These paradigms show that,

as in English, the unmarked focus position in ASL appears to be the final position in the core. Unlike English, which has strict word order and free focus placement, ASL does not allow focus to move around within a sentence. Instead, ASL has a fixed position—the final position of the main clause—for focal elements. In sentence-focus constructions, the actual focus domain includes all items not marked as topic; in contrast, the actual focus domain of predicate-focus and narrow-focus constructions comprises the final element(s), which may include indices marking relevant arguments. With fixed focus, ASL relies on a combination of word order movement and syntactic focus constructions to achieve the same range of focus possibilities as a language like English; among these focus constructions are topicalization, pseudoclefts, and doubling. These tests also revealed the markedness possibilities in ASL: Affixes on agreement verbs and pronoun clitics on plain verbs are the least marked topic referents, while indefinite NPs are the least marked focal referents.

Chapter 5 focuses on questions in ASL, particularly content questions. Most significant research in this area has been conducted by Lillo-Martin (1990), Lillo-Martin & Fischer (1992), and Petronio & Lillo-Martin (1997). In root clauses, the *wh*-word may occur initially, finally, or in situ. Subject and object *wh*-words are indicated by their position in the sentence, so it is not surprising that sentence final-*wh* subjects and sentence-initial *wh*-objects are controversial. My consultant found both types only marginally acceptable at best, but grammaticality judgments often depend on different discourse contexts and strategies. Among the most interesting of ASL question constructions are *wh*-doubles, also used as a focusing mechanism. Other analyses of *wh*-doubles argue

that the second (or final) occurrence of the *wh*-word is always the "double" of the earlier occurrence. However, by analyzing *wh*-double constructions in an RRG framework, it becomes clear that the in situ *wh*-element is always necessary and the other *wh*-element, regardless of its position in the utterance, is the double. In addition, controversial sentence-initial *wh*-objects become more acceptable when the *wh*-word is doubled. Although more research is needed, I speculate that the additional *wh*-element clarifies the presupposition in terms of Dik's (1997) focus types: In simplest terms, the *wh*-double serves to eliminate the signer's information gap.

Facial expressions are grammatical in ASL, and both polar and content questions require specific nonmanual marking to accompany the manual signs. Of particular interest in signed languages, and also discussed in Chapter 4, are covert questions, those that do not include an overt question word but rely solely on the nonmanual marking to indicate the scope of the *wh*-question (Fischer 2003b; Lillo-Martin and Fischer 1992). In general, a covert question can be used in the same context as an overt question.

An analysis of complex sentences from an RRG perspective reveals important distinctions between indirect questions and questions in embedded clauses based on the juncture (nuclear, core, and clausal) types posited in the theory. Identifying the juncture type of an utterance also helps to explain frontability differences between the two types of structures. More investigation into verb types and classes is necessary, but elicitations from my consultant indicate that, in general, *wh*-elements in linked/embedded clauses must remain in situ. Given the spatial and visual nature of ASL, sentences are simply easier to

articulate and process when the *wh*-word remains 'embedded.' Throughout this chapter, a variety of examples highlights the difference in ASL between normal complement structures and complex structures like adverbial clauses, question complements, and relative clauses.

My research shows that subjacency effects are not as straightforward as Lillo-Martin, for example, indicates. In fact, long-distance *wh*-movement seems contingent upon a number of factors, the most important being the class of the verb in the embedded clause. Although a complete analysis of this problem is beyond the scope of this dissertation, one fact is clear: *wh*-displacement is a marked structure. The default and preferred position of the *wh*-word, in both simple and complex sentences, is in situ. Despite the difference in modality, ASL consistently conforms to the typological patterns established for spoken languages. The visual-gestural nature of the language allows for some unusual surface forms, such as doubled *wh*-elements, but question formation and its corresponding focus structure are comparable to those of spoken languages.

Just over twenty years ago, the distinction between grammatical nonmanual facial marking and affective facial expressions was established (Baker and Padden 1978; Coulter 1978; Liddell 1978); only in the past ten to fifteen years has nonmanual marking in signed languages been compared to intonation in spoken languages (Reilly et al. 1990; Sandler 1999a; Sandler 1999b; Wilbur 1996a; Wilbur 1999a; Wilbur 2000a). In brief, nonmanual marking is regarded as a general mechanism that functions throughout signed languages to mark scope, classify structures, and convey nuances. In Chapter 6, however, I propose a different way of analyzing nonmanual marking, with a focus on questions in

signed languages. I begin by identifying fives types of spoken languages, with examples, in regard to the use question particles, as identified by Dryer (personal communication); then, I apply these types to signed languages. ASL is a subtype of the fourth category, in which polar questions are marked with a different particle (in this case, facial expression) than content questions and are not, therefore, typologically unusual. Finally, I compare the arguments for considering nonmanual marking as a form of intonation with those for considering it a type of question particle.

Admittedly, more research needs to be done since the similarities between spoken and signed languages apply regardless of the approach to nonmanual marking. By examining nonmanual marking of questions from a different perspective, however, we ensure that our analysis of signed languages is not merely an artifact of research on spoken languages and prove, once again, that despite their different modality and medium, signed languages are not typologically different from spoken languages.

CHAPTER 1: TYPOLOGY OF QUESTIONS IN SPOKEN AND SIGNED LANGUAGES

Although linguists have been researching signed languages since the 1960s, typological studies of signed languages are still relatively few in scope and number compared to those of spoken languages. Typological investigation of signed languages has two primary goals: First, to determine the range of variation across the languages; and second, to compare the results with those for spoken languages. Most such work has been conducted on mostly Western signed languages, primarily American Sign Language. In the first extensive crosslinguistic study of interrogative constructions in signed languages, Zeshan (2004) examined manual and nonmanual ways of marking basic question types in 35 signed languages.[2]

Most languages have two types of questions: Polar (or yes-no) questions and content (or *wh-*) questions. In both spoken and signed languages, polar questions may be signaled by intonation, morphology, particles, or word order— or some combination. Content questions contain an interrogative word such as 'who' or 'what,' and require a more specific response. All languages, whether spoken or signed, have a set of question words, although the inventory varies across languages (Dryer In press f). After an overview of sign language families, based on Zeshan's (2004) study, this chapter will focus on the primary means of signaling polar and content questions in signed languages while highlighting similarities to spoken languages.

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[2] Unless otherwise noted, the information for signed languages in this section is summarized from Zeshan (2004). Where possible, citations are provided for data taken from Zeshan.

1.1 Signed-Language Families

As with spoken languages, relationships between signed-languages can be either genetic or contact-induced; however, methods for establishing such relationships have yet to be established and, in fact, may be impossible to establish for many reasons (Zeshan 2004). No process comparable to regular sound change has yet been identified in signed languages, and no historical reconstruction of earlier forms has been attempted. Instead, most evidence is anecdotal, gleaned from established deaf communities. Unfortunately, no internal linguistic criteria exist for determining historical connections, establishing genetic connections, or identifying dialects of signed languages.

Languages of the British Sign Language family reflect the most clear-cut situation, in which a group of users of a signed language migrate to a region where no preexisting signed language exists. This family includes not only British Sign Language but also Australian and New Zealand Sign language, which could be considered dialects rather than separate languages. American Sign Language, in contrast, is a result of a creolization process that occurs when users move to a region where at least one indigenous signed language already exists. ASL has been largely influenced by an old form of French Sign Language (Woodward 1978, in Zeshan 2004), which was introduced with the establishment of the first school for the deaf in America.

Other languages have been impacted by a number of factors: Israeli Sign Language, for example, was strongly influenced by German Sign Language, but European and Middle Eastern countries have also exerted some influence. The development of education for the deaf has a significant impact on the history of

signed languages. For example, the relationships among the signed languages of Sweden and Finland, Denmark and Iceland, and France and Russia are a result of education for the deaf. In addition, colonial relations also influence the relations between signed languages: The Japanese Sign Language family includes signed languages in South Korea and Taiwan but not mainland China. Also, signed languages across Africa are linked to those of Europe and North America (Schmaling 2001, in Zeshan 2004), most likely due to the resources these countries have provided for the establishment of schools for the deaf. Finally, Indo-Pakistani Sign Language appears to be a truly indigenous signed language, influenced only by a strong tradition of gestural communication on the Indian subcontinent.

Zeshan notes that although much more research is needed to determine the exact nature of the relationships between signed languages, those in her study are not all genetically related to each other, and they do represent several distinct groupings.

1.2 Methodological Issues

By examining the major typological literature on spoken languages, Zeshan developed a set of parameters for interrogatives to be investigated across signed languages. Next, she compiled questionnaires to be completed by co-researchers around the world, as well as examples and definitions to ensure that all were working within a common framework and terminology. Because signed languages involve movement in three-dimensional space, and include not only hand motions but also facial expressions, head positions, and body postures,

representing signed languages on paper presents a challenge—one that has not yet been overcome, despite the existence of fairly consistent conventions within the signed-language research community. Because it is impossible to know how a signed utterance looks based on its transcription, Zeshan requested verbal descriptions and graphic representation from her co-researchers.

Polar and content questions represent the primary division in the parameters of Zeshan's study. Cross-linguistically, polar questions in spoken languages are marked through intonation, morphology, or syntax, or by some combination of these, all of which were investigated for signed languages. Within content questions, a major parameter to be studied was question words, including their inventory, positions, and combinations, as well as their interaction with indefinites and relative pronouns. Although question particles occur most often with polar questions, they do occur with content questions, too, so another parameter of study was their distribution, status, and position. Finally, Zeshan examined the pragmatics of questions, including how signers introduce and answer questions, how particular types of questions are used, and whether questions can function as polite commands. In addition to Zeshan's own fieldwork and research, data for her study also included related published research, signed-language dictionaries, and the questionnaires. The table below shows the languages used in the study as well as their respective country or region:

Sign Language	Country/Region
American Sign Language (ASL)	U.S., Canada (except Québec)
Auslan	Australia
British Sign Language (BSL)	Great Britain
Chilean Sign Language	Chile
Dansk Tegnsprog	Denmark
Deutsche Gebärdensprache (DGS)	Germany
Finnish Sign Language	Finland
Greek Sign Language	Greece
Hong Kong Sign Language	China (Hong Kong)
Islenskt Táknmál (Icelandic Sign Language)	Iceland
Indo-Pakistani Sign Language (IPSL)	India/Pakistan
International Sign	N/A
Irish Sign Language	Ireland
Israeli Sign Language	Israel
Kenyan Sign Language	Kenya
Langue des Signes Française (LSF)	France
Langue des Signes Québécoise (LSQ)	Canada (Québec)
Lengua de Señas Argentina	Argentina
Lengua de Señas Española	Spain (except Catalonia)
Lingua Gestual Portuguesa	Portugal
Lingua Italiana dei Segni (LIS)	Italy
Língua de Sinais Brasileira	Brazil
Nederlandse Gebarentaal	Netherlands
New Zealand Sign Language (NZSL)	New Zealand
Nihon Shuwa (Japanese Sign Language)	Japan
Norsk Tegnspråk	Norway
Russian Sign Language	Russia (central)
South Korean Sign Language	South Korea
Svenska Teckenspråket	Sweden
Taiwanese Sign Language	Taiwan
Tanzania Sign Language (Lugha ya Alama Tanzania)	Tanzania
Thai Sign Language	Thailand
Türk İşaret Dili	Turkey
Ugandan Sign Language	Uganda
Vlaamse Gebarentaal	Belgium (Flemish part)
TABLE 1.1. Sign Languages in Zeshan's Typological Study	

1.3 Polar Questions

1.3.1 <u>Nonmanual Marking of Polar Questions</u>. In some spoken languages,

such as colloquial Italian (Maiden and Robustelli 2000), only intonation

differentiates declarative from interrogative utterances (Dryer In press d). The

nature of the intonational difference varies among languages, although many

employ rising intonation at the end of the question. Dryer notes that most

languages that use another strategy—question particles or word order, for

instance—for forming polar questions also incorporate a distinct intonation;

however, there are a number of languages that rely on intonation alone to signal a

polar question (In press d).

Chapter 5 explores the claim that nonmanual marking is the signed

correlate to intonation; however, the similarities are obvious when intonation

and nonmanual marking are considered as markers of polar questions. All signed

languages use similar nonmanual marking for polar questions. The nonmanual

marking usually involves some combination of the following features: raising the

eyebrows, widening the eyes, making eye contact, tilting the head forward, and

leaning the body forward. As explained in Chapter 4, ASL polar questions, as in

(b) below, have distinct nonmanual marking to distinguish them from the

corresponding declarative sentences, as in (a), which are marked with a head nod

(*hn*):

(1)   American Sign Language

　　a.   _____hn
　　　　J-O-H-N BECOME ANGRY

　　　　'John became angry.'

　　b.   Q_____
　　　　J-O-H-N BECOME ANGRY?

　　　　'Did John become angry?'

This nonmanual marking provides the only indication that the utterance is a yes-no question, and includes raising the eyebrows and widening the eyes; optionally, the hands will be raised higher at the end of the question, the head or body will be tilted forward, and the chin will be tucked.

In Indo-Pakistani Sign Language (IPSL), the nonmanual marking for polar questions includes tilting the head forward, opening the eyes, making eye contact, and possibly leaning the body forward. As illustrated below, a declarative utterance in IPSL requires topicalization but no marking on the predicate (2a), while the corresponding interrogative utterance is marked by nonmanual features that co-occur with the predicate (2b) (Zeshan 2004):

(2)

     a.   <u>   t</u>
         BOOK INDEX INTERESTING.

         'As for the book, it is interesting.'

     b.   <u>Q   </u>
         BOOK INDEX INTERESTING INDEX?

         'Is the book interesting?'

As explained Chapter 3, a nonmanual marker has scope over all the manual signs with which it occurs; in polar questions, the scope of the nonmanual marking is usually either the whole clause minus any topicalized elements. In some languages, such as Icelandic Sign Language (3), topics are indicated by specific nonmanual markers; in other languages, such as IPSL (4), the absence of nonmanual marking characterizes most kinds of topics (Zeshan 2004):

(3)   Islenskt Táknmál (Iceland)

<u>   t Q   </u>
WOMAN INDEX*left* SIT*left*, SISTER INDEX$_2$?

'That woman sitting over there, is she your sister?'

(4)   Indo-Pakistani Sign Language

<u>   Q   </u>
INDEX$_2$ WOMAN SIBLING MARRY COMPLETIVE?

'Your sister, has she got married?'

Different subtypes of questions may have different scope marking. For example, tag questions in British Sign Language (5) require interrogative facial expression co-occur with only the tag (Sutton-Spence and Woll 1999, in Zeshan 2004):

(5)   British Sign Language

<u>   Q   </u>
LAST YEAR GO FRANCE TRUE?

'You went to France last year, didn't you?'

In Hong Kong Sign Language, if a question has a question particle, then nonmanual marking co-occurs with only the particle (Zeshan 2004). Question particles in signed languages will be discussed below.

The examples above show that the characteristics of nonmanual marking are similar across signed languages, but their **scope** may vary. Furthermore, a number of factors can affect the general pattern of nonmanual marking in a language. For example, Norwegian Sign Language (Vogt-Svendsen 1990a, in Zeshan 2004) and Sign Language of the Netherlands (Coerts 1992, in Zeshan 2004) display an absence of eye contact with the addressee in reported questions

(i.e., 'He asked me where the car was parked'). In addition, the **status** of

nonmanual marking varies across languages, too. The status of a grammatical

facial expression concerns not only how obligatory it is but also how it interacts

with manual signs. While crosslinguistic differences in status and scope are

significant in some areas of the grammar, such as negatives, the differences

related to polar questions in signed languages are less significant (Zeshan 2004).

1.3.2   Question Particles

Zeshan's research indicates that between a fourth and a third of all signed

languages have at least one question particle, a sign intended to indicate that an

utterance is a question (2004). The use of question particles to mark polar

questions is common across sign languages, but question particles are never

obligatory for all questions. In this regard, signed languages differ from most of

the spoken languages discussed earlier, in which the particle is required in all

utterances belonging to a particular grammatical question type. In fact, in all of

the signed languages that employ them, question particles are either entirely

optional or they are mandatory in only a subset of polar questions. Furthermore,

question particles commonly occur in signed languages only in pragmatically

constrained contexts. When question particles are used, they always co-occur

with nonmanual marking. Question particles are generally void of any lexical

meaning they may have once had, although they may retain any associated

pragmatic values. Fischer (personal communication) suggests that the facial

expression may be one part of a two-part sign with manual and nonmanual

components; as examples, she cites a number of signs that obligatorily occur with

particular nonmanual marking: SUCCEED (pah), WRONG (oo), DECIDE (hn),

THAT (rc), and CARELESS (th). *Pah*, *oo*, and *th* are mouth morphemes, shapes of the mouth that, in combination with other nonmanual marking, convey a particular meaning or range of meanings.

In spoken languages, according to Dryer, the most common strategy for forming polar questions is to add a question particle to the corresponding declarative sentence. When the particle occurs at either the beginning or the end of the sentence, these positions correlate with the order of major constituents (In press a); that is, particles tend to occur in final position in OV languages, such as Dolakha Newari (6), a Tibeto-Burman language of Nepal, while they tend to occur in initial position in verb-initial languages, such Lealao Chinantec (7), an Oto-Manguean language of Oaxaca, Mexico:

(6)   Dolakha Newari (Genetti 1994, in Dryer In press a)

Dolakhā khā tuŋ   lā-eu   rā

Dolakha talk EMPH speak-3SG.FUT Q

'Will she speak the Dolakha language?'

(7)   Lealao Chinatec (Rupp 1989, in Dryer In press a)

siï^H ma^M-zá^L ka$ʔ^M$ti^{LM} ku:^{H} kia:^{LH}a^H

Q   PAST-run.out.3 completely money poss.1PL

'Has our money completely run out?'

According to Dryer (In press e), another common position for question particles is the second position, immediately following the first word or constituent, as in Yurok (8), an Algic language of California:

(8)　Yurok (Robins 1958, in Dryer In press e)

kic　hes　neskʷ ec-ok'ʷ ku　wɹʔyɹs

PAST Q　come-3SG　　DEF　girl

'Has the girl come back yet?'

Dryer's research indicates that in some languages, question particles occur in two of the positions—beginning, end, second—and neither position is dominant. In other languages, the question particle can occur at either the beginning or the end of the sentence. In still other languages, two different particles occur in two different positions (Dryer In press e). In Kihunde (9), a Niger-Congo language of the Democratic Republic of Congo, one particle occurs initially and the other occurs finally:

(9)　Kihunde (Kahombo 1992, in Dryer In press e)

a. mbéni ámukátsí mu-lómbe

Q　　woman　NC-lazy

'Is the woman lazy?'

b. ámukátsí mu-lómbe hé

woman　NC-lazy　Q

'Is the woman lazy?'

In many spoken languages, the position of the question particle is variable in that the position of the question particle depends on which element is the focus of the sentence. In Turkish, for example, the question particle immediately follows the focused word; in (10a) the focus of the question is the verb 'take', and in (10b) the focus is the object 'books' (Dryer In press a):

(10) Turkish

    a. Sen kitap-lar- ı   al-dı-n   mı?

       2SG book-PLUR-ACC take-PAST-2SG Q

       'Did you TAKE the books?'

    b. Sen kitap-lar- ı   m ı al-dı −n?

       2SG book-PLUR-ACC Q   take-PAST-2SG

       'Did you take THE BOOKS?'

In the signed languages that employ question particles, they are used only in polar questions. Most languages have only one question particle. The preferred position for a question particle in signed languages crosslinguistically is clause final, although a particle may be clause initial or it may appear in both positions. In example (11) from Lengua de Señas Española (Spain), the question particle is transcribed as SI/NO. In the example from Finnish Sign Language (12), the question particle is transcribed as PALM-UP (Zeshan 2004):

(11) Lengua de Señas Española (Spain)

    Q_____ _____ _

                                       ____hn

    INDEX₂ IN SCHOOL DEAF SI/NO

    'Do you go to a deaf school?'

(12) Finnish Sign Language

    __ _____lowered brows

                   ___head tilt

    PAPER WHERE PALM-UP

    'Where can I find some paper?' /
    'Where is the paper?'

To this point, the term 'question particle' has referred to particles in polar questions that are neutral with respect to the answer; however, as Dryer's research indicates, many spoken languages use particles or other words to signal a leading question, one for which the speaker has an expectation of the answer (In press e). Usually, these particles occur at the end of the sentence, regardless of the order of subject and verb in the language. Hixkaryana (13), a Carib language of Brazil, uses the particle *hampe* to signal doubt; when used with interrogative intonation, this particle suggests that the speaker expects a negative answer:

(13)	Hixkaryana (Derbyshire 1979, in Dryer In press e)

ɪhme menahno	hampe

egg	2:3.eat.PAST DOUBT

'Did you really eat the egg?'

In Hixkaryana, the only difference between a neutral question and its corresponding declarative sentence is intonation. In Lealao Chinantec (14), illustrated above in (7) and repeated below, the neutral polar question particle *síⁱᴴ* occurs at the beginning of the sentence, as in (a). However, when a positive response is expected, the same particle occurs at the end of the sentence accompanied by the negative word (b):

(14)   Lealao Chinantec (Rupp 1989, in Dryer In press a)

a.   siï^H ma^M-zá^L   ka?^Mti^LM   ku:^H   kia:^LHa^H

Q   PAST-run.out.3 completely money poss.1PL

'Has our money completely run out?'

b.   na^M-ba^H   ŋiú^H   siï^H ?á:^H

STAT-hit.3 house Q   not

'The house was hit, was it not?'

A similar phenomenon may occur in signed languages. The signed languages of both Hong Kong and Taiwan each have more than one question particle, as illustrated in (15) and (16) below (Zeshan 2004). Although the languages are geographically close to one another, they belong to different language families. Hong Kong Sign Language is most likely related to other signed language varieties in mainland China, but its genetic affiliation is unknown. Taiwanese Sign Language belongs to the Japanese Sign Language family. Question particles abound in signed languages of Southeast and East Asia: One of the question particles used in Hong Kong Sign Language is also used in Thai Sign Language. However, in the signed languages of other parts of the world, including East Africa, Europe, and North America, evidence for question particles is mixed and inconclusive.

Hong Kong Sign Language mirrors the spoken language of that country in that it has two clause-final question particles used for polar questions only: an existential (a) and a non-existential particle (b) (Zeshan 2004). The existential particle is a compound of the positive existential HAVE and the negative

existential NOT-HAVE. For both particles, nonmanual marking occurs on the particle only, although the non-existential particle can occur with one of three different mouthings ('right-not-right,' 'good-not-good,' or 'can-cannot').

(15)   Hong Kong Sign Language (Zeshan 2004)

a.
_____Q_____
NOW TAKE-PHOTO QUESTION-PARTICLE
                              "good-not-good"

'Shall we take photos now?'

b.
_____Q _____ __
INDEX2 SICK HAVE + NOT-HAVE

'Are you sick?'

c.
_____Q_____ _
GLADYS COME-BACK HAVE+NOT-HAVE

'Gladys has come back, hasn't she?'

d.
_____Q_____ __
GLADYS COME-BACK COME-BACK

'Has Gladys come back?'

Example (c) above is a confirmation question, which questions the entire proposition and may imply an expectation as to the answer; example (c) anticipates that Gladys should indeed have returned, while example (d) is neutral. With confirmation questions, question particles are obligatory.

Taiwanese Sign Language employs several types and layers of question particles, one of which involves a rapidly alternating repetition of positive and negative forms of certain predicates, influenced by spoken Chinese A-not-A construction and similar to that of the Hong Kong Sign Language nonexistential

question particle[3]. The A-not-A construction is also used in Chinese Sign Language, which may also have influenced its use in Taiwanese Sign Language (Fischer, personal communication). In Taiwanese Sign Language, there are two layers of grammaticalization in regard to these forms. The most common is a fused sign formed with the palm orientation of the sign for HAVE and the rapid repeated movement of the sign for NOT-HAVE; other positive-negative combinations are used, too, but less commonly, and it is not yet clear whether these are single question particles or part of a more general interrogative strategy.

(16)   Taiwanese Sign Language (Zeshan 2004)

    a. $\overline{\text{Q}}$
       INDEX$_3$ GO HAVE-NOT-HAVE

       'Is he going?'

    b. $\overline{\text{Q}}$
       INDEX$_2$ FATHER, MONEY HAVE-NOT-HAVE

       'As for your father, has he got money?'

Notice that the scope of the nonmanual marking is different in Taiwanese Sign Language than in Hong Kong Sign Language. Also, there is apparently no difference between the active predicate (a) and the stative/existential reading (b).

More research is needed, but South Korean Sign Language and Nihon Shuwa (Japan) also have evidence of question particles (Zeshan 2004). Spoken languages seem to impact the development of question particles in signed languages of this region. If a country has an artificial system such as Signed

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[3] Research by Jane Tsay, James Tai, and their colleagues indicates TSL has recently been influenced by CSL and HKSL, although there is still a large substrate of NS (personal communication to Susan Ficher).

English in America or Signed Mandarin in China, then the effect of spoken

language will be more evident. These hybrid systems use the vocabulary of the

signed language but the structure of the spoken language, often inventing signs

for various grammatical markers. In Japan, for example, a question particle KA

was invented for the Signed Japanese system, but is now also appearing in the

primary signed language as well; within the deaf community, this sign is rejected

as a matter of political correctness since it is not native to the language, but its

use is becoming more frequent.

1.3.3 Syntactic Mechanisms

Another way of signaling polar questions is by using a different word order

than that of the corresponding declarative sentence (Dryer In press d). In spoken

languages, this strategy is relatively uncommon except among European

languages, like German, in which the inflected verb occurs at the beginning of the

sentence. Example (17) below shows a declarative sentence and its

corresponding interrogative sentence (Dryer In press d):

(17)   German

    a. Der Lehrer   trink-t   das Wasser

       the teacher drink-3SG the water

       'The teacher is drinking the water.'

    b. Trink-t   der Lehrer das Wasser?

       drink-3SG the teacher the water

       'Is the teacher drinking the water?'

English (18) employs a variant of this method; however, in English, only auxiliary

verbs can occur initially (Dryer In press d):

(18)

    a. You are planning to go to the beach.

    b. Are you planning to go to the beach?

Among signed languages, changes in word order to signal polar questions are never obligatory. In some signed languages, such as Thai Sign Language (19) and Langue des Signes Française (French) (20), pronouns can be either shifted to the end of the sentence or repeated clause finally in polar questions. Although pronouns can occur clause finally in declarative sentences, this is not a preferred word order but one that conveys emphasis (Zeshan 2004).

(19)   Thai Sign Language

    a. <u>Q   </u>
       SMOKE INDEX$_2$

       'Do you smoke?'

    b. <u>Q   </u>
       INDEX$_2$ DEAF INDEX$_2$

       'Are you deaf?'

(20)   Langue des Signes Française (French)

    a. <u>Q   </u>
       TONIGHT FREE INDEX$_2$

       'Are you free tonight?'

    b. <u>Q   </u>
       INDEX$_2$ STAY HOME INDEX$_2$

       'Are you staying home?'

Hong Kong Sign Language is the only signed language with doubling of constituents other than pronouns. When the predicate is being questioned, the

main verb may optionally be doubled, as in spoken Cantonese, as illustrated in

(21) (Zeshan 2004):

(21)   Hong Kong Sign Language

      a. $\underline{\text{Q}^{4}}$
         INDEX$_2$ PLAY PLAY

         'Are you playing/going to play?'

      b. $\underline{\text{Q}}$
         INDEX$_2$ GO GO PLAY

         'Will you go to play?'

In both spoken and signed languages, then, polar questions may be signaled in a number of ways, including intonation/non-manual marking, interrogative particles, and word order. These examples highlight the similarities between the two modalities, similarities which will be only more pronounced with more research.

1.4   Content Questions

As in the English examples below (22), content questions contain an interrogative word or phrase and elicit a more specific answer than 'yes' or 'no.' All languages, whether spoken or signed, have an inventory of interrogative words that are characteristic of content questions; typically, these interrogative words belong to different categories, whether interrogative pronouns, interrogative adverbs, or interrogative adjectives (Dryer In press f).

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[4] In Hong Kong Sign Language, the facial expression can be the same for both polar and content questions.

(22)

        a. **Who** did you see?

        b. **Where** did you go?

        c. **Which** book do you want to buy?

        d. **When** are you going to leave?

In many languages, the interrogative words are identical in form to indefinite words, like English *someone* (Dryer In press f).

1.4.1 Inventory of Question Words in Signed Languages

Question word paradigms in signed languages vary along a number of interesting dimensions: the size and structure of the question word inventory, the lexical and grammatical distinctions among the members of the inventory, the syntactic position of question words, and the noninterrogative uses of question words (Zeshan 2004). Both the size of the inventory and the distinctions among its members can differ dramatically from one signed language to another.

Many signed languages have a large inventory of question words, although the semantics of these words may vary from language to language. Most signed languages have words for 'what,' 'who,' 'where,' and 'when.' Less common—and often subsumed by a general interrogative—are signs for 'which,' 'why,' and 'how.' To express 'how many,' some signed languages employ a noninterrogative sign meaning 'number,' 'many,' or 'count.' Hong Kong Sign Language, Israeli Sign Language, and Língua de Sinais Brasileira have a medium-sized inventory as a result of their use of the general interrogative in addition to specific question words.

Indo-Pakistani Sign Language, for example, uses only one question word that subsumes the entire range of interrogative meanings; to express specific question words, this sign must be combined with noninterrogative signs (Zeshan 2004). The most basic meaning of a general interrogative in any signed language is 'what,' although all other interrogative meanings are incorporated as well. Across signed languages, then, three types of situations arise in regard to the general interrogative: (a) the general interrogative subsumes the entire question-word paradigm; (b) the general interrogative covers part of the question-word paradigm; (c) the general interrogative exists in addition to an extensive question-word paradigm. General interrogatives are attested in a number of unrelated signed languages: South Korean Sign Language, Nihon Shuwa (Japan), Hong Kong Sign Language, Indo-Pakistani Sign Language, Israeli Sign Language, Kenyan Sign Language, Língua de Sinais Brasileira (Brazil) (Quadros 1999, in Zeshan 2004), Lengua de Señas Argentina, Lingua Italiana dei Segni (Italy) (Radutzky 1992, in Zeshan 2004), Deutsche Gebärdensprache (Germany) (Sauer et al. 1997, in Zeshan 2004); Nederlandse Gebarentaal (Netherlands), and New Zealand Sign Language.

With only one question word, many dialects of Indo-Pakistani Sign Language exemplify the first subcategory of general interrogatives (Zeshan 2004). The sign is derived from a common regional gesture. For specificity, this sign can be combined with a number of noninterrogative signs to form complex interrogative expressions: TIME + INTERROGATIVE 'when,' NUMBER + INTERROGATIVE 'how many,' and FACE + INTERROGATIVE 'who.'

Língua de Sinais Brasileira (Brazil) and Nihon Shuwa (Japan) are examples of the second subcategory, in which the general interrogative comprises only part of the question word paradigm, with other, more specific interrogatives being used for other meanings (Zeshan 2004). Língua de Sinais Brasileira (Brazil) uses specific signs for 'how,' 'why,' and 'how many,' and all other interrogative meanings are covered by the general interrogative. In Nihon Shuwa (Japan), the general interrogative means 'what,' 'where,' 'how,' and 'why,' although there are also specific signs for 'where,' 'how,' and 'why' (all of which have a covert counterpart). In addition, there are specific signs are used for 'who,' and 'how many,' and 'when' can also mean 'how many.'

As explained in Chapter 4, American Sign Language typifies the third category of general interrogatives: The gloss is "what," but the sign actually has a more general interrogative sense, one that implies an open-ended rather than forced-choice question, roughly corresponding to "which." Depending on the context, WHAT when used alone can be interpreted as 'what,' 'when,' 'where,' 'why,' etc., even though ASL has specific interrogatives for all of these meanings. Fischer (personal communication) argues that the general interrogative involves a different movement than WHAT, and she labels the sign WELL. Whatever their function in any signed language, general interrogatives may, in fact, fill an otherwise unfilled gap, even in a language with a large number of specific interrogative forms, like ASL (Fischer, personal communication).

The question-word paradigm in New Zealand Sign Language exhibits an interesting historical development (Zeshan 2004). Currently, two signs exist for 'what.' The older sign involves a palms-up gesture that expresses uncertainty, but

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in the past it functioned as a general interrogative. A new education policy, however, introduced an entire paradigm of specific interrogative signs; as a result, the old general interrogative has resumed its core meaning of 'what,' although may still be used for 'where,' 'how,' and 'why.'

Aside from the interrogatives discussed above, other sign languages have lexicalized interrogatives that are less common crosslinguistically: 'how about?' in Nihon Shuwa (Japan), 'what month and date?' in Hong Kong Sign Language, 'what's this?' and 'from whom or where?' in Israeli Sign Language, 'what's the matter?' and 'what to do?' in Langue des Signes Française (France) (Moody 1983), and 'how are you?' in Russian Sign Language (Zeshan 2004).

1.4.2 Form of Question Words

Remarkably, across signed languages, even in geographically and genetically unrelated languages, particular forms and formational aspects tend to recur (Zeshan 2004). Repeated movement, whether the whole hand moving in space (path movement) or parts of the hand moving (internal movement), is prevalent in interrogative signs, but not in their noninterrogative counterparts. The noninterrogative signs for 'number' and 'counting,' with 'how many' as an interrogative use, are exceptions; WHEN and OLD in British Sign Language and a variant of WHICH in Finnish Sign Language all involve figure wiggling. As explained in Chapter 4, finger wiggling is also common in American Sign Language interrogatives, such as WHO. Several signed languages also display repeated twisting of the wrist and contact between the thumb and one or more other fingers (Zeshan 2004). Repeated movement of the whole hand often involves repeated back and forth movement of one or both hands with a range of

meanings across signed languages, including general interrogatives and even specific question words. Less frequently, the repeated movement might be in circles, such as WHERE in Lengua de Señas Española (Spain) and WHICH in Tanzania Sign Language, or repeated alternating movements, such as WHICH in Nihon Shuwa (Japan) and HOW in Irish Sign Language.

1.4.3 Position of Question Words

Dryer notes that, cross-linguistically, there are two common positions for the interrogative phrase in spoken languages: at the beginning of the sentence or in whatever position is natural for the corresponding noninterrogative phrase (in situ). The position of the interrogative expression generally correlates with the order of object and verb in a language (In press f).

In situ. In some languages, the interrogative phrase most often occurs in in situ, as in Lango, a Nilotic language of Uganda:

(23)   Lango (Noonan 1992, in Dryer In press f)

òkélò ò-nɛ̀nò   ŋà

Okelo 3SG-see.PERF who

'Who did Okelo see?'

Lango is an SVO language; in the utterance in (23), *ŋà* 'who' functions as an object, so it occurs after the verb.

Sentence-Initial. As example (22) above shows, interrogative phrases in English obligatorily occur at the beginning of the sentence (Dryer In press f). If an interrogative phrase is used later in the sentence, this usually indicates either an echo-question, in which the speaker is expressing surprise or incredulity, as in

(24a) below, or that someone is emphatically asking for specific information, such as a teacher quizzing students, as in (24b):

(24)

    a. You're leaving **when**?!

    b. Reagan died in **what year**?

English allows interrogative phrases to occur in positions other than sentence-initially only under special circumstances. In multiple *wh*-questions, like 'Who went where why?', of course, interrogative words can occur in non-initial position, as they can in other languages that permit multiple questions.

      Although the position of the interrogative *phrase* in some languages is initial, the position of the interrogative *word* need not necessarily be so, since the interrogative phrase may be a longer constituent with the interrogative word occurring later in the phrase (Dryer In press f). If, for example, the interrogative word is the object of a preposition, and if interrogative phrases occur at the beginning of the sentence, then in most languages, the preposition will occur as the first word, followed by the interrogative pronoun. This is illustrated with Karo Batak, an Austronesian language of Sumatra, Indonesia:

(25)   Karo Batak (Woollams 1996, in Dryer In press f)

      ras isé   kam ku jénda?

      with who 2   to here

      'Who did you come here with?'

Languages like Karo Batak, in which particular interrogative modifiers of nouns follow the noun, show that the position of the interrogative phrase, and not just

that of the interrogative word, is important. In such languages, the noun—not the interrogative modifier—will be the first word in the sentence:

(26)   Karo Batak (Woollams 1996, in Dryer In press f)

arah apai a ku ku das

way which 1SG to top

'Which way do I take to go up?'

Still, the interrogative phrase is initial in these examples, because the interrogative phrase is the entire noun phrase containing the interrogative word.

Although there are some exceptions, most spoken languages fit easily into one of the two patterns presented above, with interrogative phrases occurring obligatorily either in situ or sentence initially. According to Dryer's research, only a handful of languages display a weak tendency to place interrogative words and phrases <u>sentence-finally</u>. In Tennet, a Nilo-Saharan language of Sudan, for example, the normal position for an interrogative subject in a transitive clause is after the object; this is contrary to the normal VSO order of the language (Randal 1998, in Dryer In press f).

The most common positions for question words in signed languages, crosslinguistically, are clause-initial, clause-final, or both (that is, doubled). Example (27) below, from Vlaamse Gebarentaal (Belgium), exhibits doubling (Zeshan 2004). Systematic exceptions to these regularities exist, however. For example, as explained for ASL in Chapter 4, topics always precede initial question words, in all signed languages, as illustrated in (28):

(27)   Vlaamse Gebarentaal (Belgium)

                     whq
WHY DOG BARK WHY

'Why is the dog barking?'

(28)   American Sign Language

   t   whq
CAR, WHERE BUY

'The car, where (did you) buy it?

In addition, pronouns tend to precede initial question words or follow final

question words because of the unusual syntactic properties of indices in general

across signed languages: pronouns generally have free placement and are often

repeated within a clause, and are prone to cliticization (Zeshan 2000). Finally, in

languages that employ question particles in content questions, the particle rather

than the question word, occurs in initial or final position, as illustrated for

Finnish Sign Language below (Zeshan 2004):

(29)   Finnish Sign Language

               lowered brows
                  head tilt
PAPER WHERE PALM-UP

'Where can I find some paper? /
'Where is the paper?'

Distinguishing in situ placement of question words from clause-initial

and/or clause-final position can sometimes be difficult, but where it has been

clearly identified, it appears to be infrequent and subject to certain restrictions

that have yet to be investigated. In Hong Kong Sign Language, for example, only

'who' and 'what' can occur in situ, and then only under certain circumstances.

As examples (30) through (32) illustrate, American Sign Language, Nihon Shuwa (Japan) and Indo-Pakistani Sign Language allow split interrogative constructions:

(30)   American Sign Language (Lillo-Martin and Fischer 1992, in Zeshan 2004)

                                  _____whq
WH-MANY YOU HAVE CHILDREN?

'How many children do you have?'

(31)   Nihon Shuwa (Japan) (Fischer and Osugi 1998, in Zeshan 2004)

              ___whq
COLOR LIKE WHAT

'What color do you like?'

(32)   Indo-Pakistani Sign Language (Zeshan 2004)

                                              _____whq
CHILDREN COME NUMBER + INTERROGATIVE

'How many children came/are coming?'

Interestingly, constituent order in Langue des Signes Québécoise (LSQ) appears to be based on articulatory rather than syntactic grounds (Dubuisson et al. 1994, in Zeshan 2004). Word order is free with regard to question words, and, like most signed languages, the preferred positions for question words are clause initial, clause final, or doubled. However, the preferred order in any given utterance is one which results in either a consistent movement away from the body or in one direction throughout the clause. So, because WHO is signed on the body, it tends to occur clause-initially, while WHAT occurs clause-finally because it is signed away from the body. This tendency for consistent movement is overruled by the tendency to place focused material clause-initially.

1.4.4 Grammatical Distinctions in Question Words

Like ASL, many signed languages do not mark grammatical tense; instead, they employ lexical time signs like FUTURE at the point in the discourse when the time changes. A number of signed languages also have many question words or expressions that translate as 'when,' some of which also distinguish tenses: Greek Sign Language, South Korean Sign Language, and Lengua de Señas Española (Spain) have distinct signs for 'when in the future' and 'when in the past.' South Korean Sign Language uses a general interrogative for the general sense of 'when' but distinguishes future and past when referring to a specific time. In Thai Sign Language, a general temporal interrogative TIME + HOW MANY is used for 'when, at what time' while a future form LATER + HOW MANY is used for 'when in the future.'

As described in Chapter 2, ASL and many other signed languages also employ the imaginary time line that runs perpendicular to the signer's body. The area nearest the body represents the present, while the area behind represents the past and the area in front represents the future. Signs referring to present or near-present events are articulated close to the torso, while signs referring to more distant events, whether past or future, are articulated further away in the appropriate direction (Baker-Shenk and Cokely 1980). In Lengua de Señas Española (Spain), for example, signers use an open hand along the time line to indicate time reference; in this way, signers can indicate general past, recent past, distance past, general future, and distant future. By adding interrogative nonmanual marking, all of these signs can be used as interrogatives, resulting in several temporal variations of 'when.' Included in this paradigm are also

temporal interrogatives for 'from when on' that extends from the 'past' section of the time line to the 'present' section (Zeshan 2004).

By combining a general interrogative with more specific signs, signers can also make further distinctions among temporal interrogatives, as in Língua de Sinais Brasileira (Brazil) (Zeshan 2004):

(33)   Língua de Sinais Brasileira (Brazil)

a.   _____whq
      INTERROGATIVE DAY INDEX$_2$ COME

      'When (on which day) are you coming?'

b.   _____whq
      INTERROGATIVE TIME INDEX$_2$ COME

      'When (at what time) are you coming?'

c.   _____whq
      INTERROGATIVE HOURS INDEX$_2$ WAIT

      'How long (how many hours) did you wait?'

Person, number, and case marking of interrogatives is relatively rare in signed languages (Zeshan 2004). However, signs for WHICH are occasionally marked for dual number, as described for American Sign Language in Chapter 4. In Icelandic and Finnish Sign Language, however, WHICH is exclusively dual. Typically, the sign WHICH involves alternate movement of either two extended fingers or the two hands; in ASL, the thumbs of each fist are extended upright, then moved up and down alternately. In Nihon Shuwa, WHICH involves index fingers in alternating up-and-down movement (Fischer, personal communication). In Irish Sign Language, both WHICH and WHO inflect for person and number. In Islenskt Táknmál (Iceland), WHO is unmarked for

number but WHO-OF 'who of them, who of you all' refers only to a specific group of several people, as in (34) below (Zeshan 2004):

(34)   Islenskt Táknmál (Iceland)

<u>   whq</u>
OLDEST BROTHER WHO-OF

'Who is the oldest of your brothers?'
(i.e. 'Who out of the specific group of your brothers is the oldest?'

Tanzania Sign Language has lexicalized specificity distinctions for WHICH in the sense of 'what kind of' in a general sense and 'which one of a particular set' (Zeshan 2004).

As explained for agreement verbs in ASL in Chapter 2, signed languages do not usually mark case; instead, they map syntactic relations onto the beginning and ending points of the predicate, usually referred to as directionality. So, WHOSE is often indicated by combining the question word with a possessive pronoun; Irish Sign Language and Dansk Tegnsprog, Denmark use this strategy, while Deutsche Gebärdensprache (Germany) combines WHO with PERSON (accompanied by a silent articulation of the preposition *auf* 'on, upon') to form both accusatives and datives. Gender distinctions are not marked on interrogatives in any of the signed languages, although a few languages within the Japanese Sign Language family do mark gender in other domains of the grammar (Zeshan 2004).

None of the signed languages lexically distinguish interrogatives referring to mass nouns and those referring to count nouns.[5] South Korean Sign

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[5] Fischer (personal communication) notes that ASL has the covert WH-MANY for count nouns and the overt HOW MUCH for mass nouns.

Language, however, does use particles to indicate either count or non-count in combination with HOW to mark this distinction. The phrase 'how much money' may involve 'cost' or 'money' combined with a question word in several signed languages (Zeshan 2004).

1.4.5 Nonmanual Marking of Content Questions

In most signed languages, the nonmanual marking used for polar questions is distinct from that used for content questions. Furthermore, nonmanual markers for content questions are much more varied crosslinguistically than those for polar questions in regard to their form, obligatoriness, and scope. For example, the nonmanual marking for polar questions in Indo-Pakistani Sign Language requires wide-open eyes and a forward head position, while the marking for content questions requires a backward head position with a raised chin (Zeshan 2004).

In content questions, facial expressions are usually associated more closely with interrogative signs than with any other constituent of the utterance (Zeshan 2004). In Ugandan Sign Language, for example, nonmanuals for content questions typically have scope over only the interrogative word in an overt question but over the entire clause in a covert question.

1.5 Covert Content Questions

The majority of signed languages in Zeshan's study employ covert content questions, and they can be marked in one of two ways: through facial expressions, as shown for ASL in Chapter 4 or by mouthing, imitating the mouth movements of a corresponding word from the spoken language. Unlike ASL,

which uses the same whqfe for covert questions as for overt questions, Nihon Shuwa has a particular nonmanual marker (wh') that can occur clause-finally by itself; in addition, unlike the ASL whqfe, the Nihon Shuwa marker does not need to be attached to segmental material:

(35)   Nihon Shuwa (Japan) (Fischer and Osugi 1998)

                  _____wh'_
        COLOR LIKE

        'What color do you like?'

As explained in Chapter 4, covert questions are heavily dependent on context for proper interpretation, as the following examples illustrate:

(36)   Lengua de Señas Argentina (Veinberg n.d., in Zeshan 2004)

        _____whq_
        MAN DETERMINER

        'Who is that man?'

(37)   Russian Sign Language

        _____whq_
        INDEX$_2$ NAME INDEX$_2$

        'What's your name?'

(38)   Nederlandse Gebarentaal (Netherlands) (Coerts 1992, in Zeshan 2004)

        _____whq_
        MY SUITCASE

        'Where is my suitcase?'

Using mouth movements to indicate covert content questions is much less common crosslinguistically, and is apparently tied to the extent of oral (articulation and lip reading) in the country; consequently, mouthing is more common in Western signed languages, such as Norsk Tegnspråk (Norway) and

Nederlandse Gebarentaal (Netherlands) below. Mouthing is represented by words in double quotes (Zeshan 2004).

(39)   Norsk Tegnsprȧk (Norway) (Vogt-Svendsen 1990b, in Zeshan 2004)

    a.   <u>   whq</u>
                  OLD INDEX$_2$
        "how"
        'How old are you?'

    b.   <u>   whq</u>
                  SAY INDEX$_2$
        "what"
        'What are you saying?'

(40)   Nederlandse Gebarentaal (Netherlands) (Coerts 1992, in Zeshan 2004)

    <u>   whq</u>
               MONEY
    "how much"
    'How much money is it?'

Mouthing is crucial for disambiguating the meanings of the general interrogative in Israeli Sign Language, as different Hebrew words are mouthed for 'what' and 'why.' Also, the mouthing that accompanies the sign for 'number' distinguishes 'how many' and 'when.' Likewise, in New Zealand Sign Language, older signers use mouthing to specify the meaning of the general interrogative 'what/where/how/why/when.' Younger singers, however, use a larger paradigm of interrogative signs. Mouthing is an important typological parameter in the characterization of signed languages, but more research needs to be done (Zeshan 2004).

1.6 Noninterrogative Uses of Interrogative Words/Signs

In both signed and spoken languages, many interrogative expressions correspond to a noninterrogative quantifier or modifier of a noun (Dryer In press c):

this book   which book

a good book   what sort of book

three books   how many books

my book   whose book

Some languages, like English, have multi-word interrogative expressions, like 'what sort of' and 'how many.' Other languages, like Ambulas (41), a Sepik-Ramu language of Papua New Guinea, have a single word for 'how many,' while Tsova-Tush (42), a Nakh-Daghestanian language of the Caucasus region of Russia, has a single word for 'what sort of':

(41)   Ambulas (Wilson 1980, in Dryer In press c)

baalé *yapap*

pig   how.many

'how many pigs'

(42)   Tsova-Tush (Holisky and Gagua 1994, in Dryer In press c)

[*molun* k'nat]   Va e,   ğazen-i le mos:in?

[what.sort boy] is 3SG good-Q or bad

'What sort of boy is he, good or bad?'

Interrogative expressions like those presented here are usually treated grammatically like their corresponding noninterrogative expressions. In example

(41) above from Ambulus, for example, the postnominal position of *yagap* 'how many' is the same as the postnominal position of numerals, as illustrated below:

(43)   Ambulas (Wilson 1980, in Dryer In press c)

gaan kupuk

night three

'three nights'

In other languages, however, interrogative words are regarded differently from their corresponding noninterrogative words. In Turkana, a Nilotic language of Kenya, for examples, numerals follow the noun, but 'how many' precedes it, as presented below:

(44)   Turkana (Dimmendall 1983, in Dryer In press c)

a. ŋa-kine-iˋ ŋaareyˋ

PL-goat-PL two

'two goats'

b. ŋɪaɪ   ŋi-keɲi̥

how.many PL-bird

'how many birds'

As in spoken languages, interrogative signs in many signed languages also have a noninterrogative use, most commonly as indefinites: Nihon Shuwa (Japan), Finnish Sign Language, Auslan (Australia), New Zealand Sign Language, and Língua de Sinais Brasileira, among others. Table 1.2 lists the interrogative and noninterrogative uses of signs in Finnish Sign Language (Zeshan 2004):

Interrogative Function	Noninterrogative Function	Other Noninterrogative Function
'who'	'someone'	
'what/where'	'something, somewhere'	
'where'	'somewhere'	
'when'		'every day, daily'
'why'		'because, that's why'
'which of two'		'one or the other, both of them'

TABLE 1.2. Interrogative and Noninterrogative Functions of Signs in Finnish Sign Language

Aside from the interrogative-indefinite uses, a number of other interrogative-noninterrogative meanings are also similar across signed languages. These interrogative-noninterrogative pairs are disambiguated via facial expressions: In the absence of a whqfe, the sign is interpreted as noninterrogative. Some languages, such as Auslan (Australian), Nihon Shuwa (Japan), and Israeli Sign Language, have many such forms, some have none at all. The table below (Zeshan 2004) lists the most frequent uses of interrogative-noninterrogative pairs. Some of the signs listed here can be combined with general interrogatives to express specific question words, as described earlier.

Noninterrogative Meaning	Interrogative Meaning	Occurring in... # of Languages
'many/much'	'how many'	6
'age'	'how old'	6
'number'	'how many'	5
'reason'	'why'	5
'time'	'when'	5
'money/cost'	'how much money'	3
'manner'	'how'	3

TABLE 1.3. Associated Interrogative and Noninterrogative Meanings Across Signed Languages (of 35 sample languages)

For 'who' and 'what,' the only associated noninterrogative meanings are indefinites. No signed language in her study uses the same sign to mean both 'thing' and 'what,' for instance.

CHAPTER 2: ROLE AND REFERENCE GRAMMAR

2.1   Introduction and Background

With their view of language as "a system of communicative social action,"
Van Valin and LaPolla (Van Valin 1995) attempted to answer two fundamental
questions in the development of Role and Reference Grammar (RRG):

     a.   What would linguistic theory look like if it were based on the analysis
         of Lakhota, Tagalog, and Dyirbal, rather than on English?

     b.   How can the interaction of syntax, semantics, and pragmatics in
         different grammatical systems best be captured and explained?

The result is a 'structural-functional' theory of grammar similar to Fillmore's
(1968) case grammar. As in case grammar, nothing intervenes between the
semantic and syntactic representation; in RRG, however, discourse-pragmatic
factors influence the mapping between these two levels of representation. As a
direct descendent of Fillmore's theory, RRG also divides the clause into
'proposition' and 'modality.' Propositions include predicates, arguments, and
modifiers, while modality subsumes grammatical categories such as tense,
aspect, and mood. Furthermore, in neither theory are grammatical relations
universal.

2.2   Syntactic Structure

An exploration of the syntactic-semantic-pragmatic interface across languages
requires first an understanding of syntactic structure. Van Valin and LaPolla
identify two facets of clause structure that every theory of syntax must address:
relational and non-relational structure. Relational structure concerns the various

relationships—syntactic, semantic, and pragmatic—between a predicate and its arguments, while non-relational structure concerns the hierarchical organization of phrases, clauses, and sentences. An adequate theory of clause structure should—

(a) capture all the universal features of clauses without imposing features on language in which there is no evidence for them;

(b) represent comparable structures in different languages in comparable ways.

All theories of syntax strive to develop a representation of clause structure that reflects universal distinctions made in every language. In Role and Reference Grammar (RRG) the representation of the non-relational aspects of clause structure is called the Layered Structure of the Clause (LSC). The first step in analyzing the sentences of any language within an RRG framework, then, is to determine the units in the LSC by distinguishing first between predicating and non-predicating elements and then between arguments and non-arguments. These oppositions are universal and semantically motivated. Such a representation also highlights the interaction of syntax, semantics, and pragmatics in the grammatical system.

2.2.1   Universal Aspects of the Layered Structure of the Clause

The **nucleus** consists of the predicate, which may be a verb, an adjective, or a nominal. The nucleus plus any semantic arguments of the verb form the **core**. Although a clause may contain a number of NPs and PPs, only those which are arguments of the predicate are part of the core.   In other words, core arguments are part of the semantic representation of the verb. Core arguments

may be **direct** (unmarked or marked for case) or **oblique** (marked by an adposition). In both English and Icelandic, NPs not signaled by a preposition are usually core arguments, but some core arguments do take a preposition. Consider the English verbs *give* and *take*: the core arguments for these verbs take a *to*-phrase and a *from*-phrase, respectively, and the NPs in the PPs are evidenced in the semantic representation of these verbs. The Icelandic verb *skila* 'return, give back' takes three arguments, which can be realized in either of two ways:

(1)

         a. Ég   skila-ð-I   henni   pening-un-um.

             1sgNOM return-PAST-1sg 3FsgDAT money-DEF-DAT

             'I returned her the money.'

         b. Ég   skila- ð-i   pening-un-um til hennar.

             1sgNOM return-PAST-1sg money-DEF-DAT to 3FsgGEN

             'I returned the money to her.'

Although the non-subject NPs in these sentences have different morphosyntactic codings, the verb *skila* has the same semantic representation in both sentences; likewise, the semantic representation for *give* is the same in both of its active-voice forms . In the first sentence (1a) above, the NPs are all case-marked and, therefore, are direct core arguments; in the second sentence, the NP *hennar* 'her' is marked with the preposition *til* 'to' and is, consequently, an oblique core argument.

      All other elements, usually temporal and locative modifiers of the core, are part of the **periphery**; they are by definition adjuncts. These components of the

LSC are syntactic, motivated by semantic contrasts, as represented in **Figure 2.1**:

CLAUSE	
CORE NUCLEUS	PERIPHERY
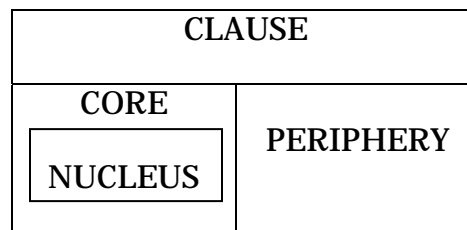
FIGURE 2.1. Components of LSC

These distinctions—between nucleus and core and between core and periphery—are universal and basic to the clause structure of language. Even languages that do not make a lexical distinction between nouns and verbs do manifest a predicate-argument structure, as all languages employ reference and predication. The nucleus, core, and periphery are syntactic units motivated by semantic contrasts. Cross-linguistic evidence from both clause-internal and complex sentence syntax supports such an arrangement. While the clause consists of the core and periphery, a sentence is a larger syntactic unit consisting of multiple clauses. **Table 2.1** below summarizes the semantic units underlying the syntactic units represented in the LSC:

Semantic Element(s)	Syntactic Units
Predicate	Nucleus
Argument in Semantic Representation of Nucleus	Core Argument
Non-Arguments	Periphery
Predicate + Arguments	Core
Predicate + Arguments + Non-Arguments	Clause (= Core + Periphery)

TABLE 2.1. Semantic Basis for Syntactic Units in LSC

Because these units are semantically, not syntactically, motivated, they may occur in any allowable order in a language. The linear order of the elements in a clause is not affected by the layers themselves, as evidenced by Dyirbal, an Australian language:

(2)

a. Ba-yi   bartgan_{CORE}   ba-ŋgu-1   yaɽa-ŋgu_{CORE} ɖurga-ɲu_{NUC} gambi-ɽa_{PER*}

    DEIC-ABS.I wallaby-ABS   DEIC-ERG-I   man-ERG   spear-TNS   mountains-LOC

b. Baŋgul yaɽaŋgu_{CORE} gambiɽa_{PER} bayi bargan_{CORE} ɖurgaɲu_{NUC*}

    man   mountains wallaby   speared

c. ɖurgaɲu_{NUC} gambiɽa_{PER} bayi bargan_{CORE} baŋgul yaɽaŋgu_{CORE*}

    speared   mountains wallaby   man

d. Bayi bargan_{CORE} gambiɽa_{PER} ɖurgaɲu_{NUC} baŋgul yaɽaŋgu_{CORE*}

    wallaby   mountains speared   man

    'The man speared the wallaby in the mountains.'

2.2.2 Non-Universal Aspects of the Layered Structure of the Clause

The LSC allows other, non-universal slots as well, including a PreCore Slot [PrCS] for question words that do not occur *in situ*. This slot is distinct from the core-initial slot of the subject. Non-Wh NPs and PPs can also occur in this slot: ***That book*** *you put on the table* or ***To Dana*** *Pat gave a new watch*. Some verb-final languages (Japanese, for example) have a PostCore [PoCS] slot (Shimojo 1995); both PrCSs and PoCSs are inside the clause but outside the core.

Left-Detached [LDP] and Right-Detached Positions [RDP] are also possible, but these are never obligatory; LDP and RDP are outside the clause but inside the sentence. These non-universal elements seem to be pragmatically rather than semantically motivated (Van Valin and LaPolla 1997). To show how English uses these positions, Van Valin provides the representation in **Figure 2.2**. Notice that there is no VP, as the notion is irrelevant in this approach to clause structure[6]. Instead, the clause contains the core plus its arguments, and also the nucleus, which includes the predicate. In the margin, the periphery is identified as an adjunct by the arrow (Van Valin and LaPolla 1997); in other words, the peripheral constituents "in the library yesterday" are optional modifiers of the core. *Robin* and *Pat* are core-internal arguments, but *Robin* is a direct and *Pat* an oblique core argument.
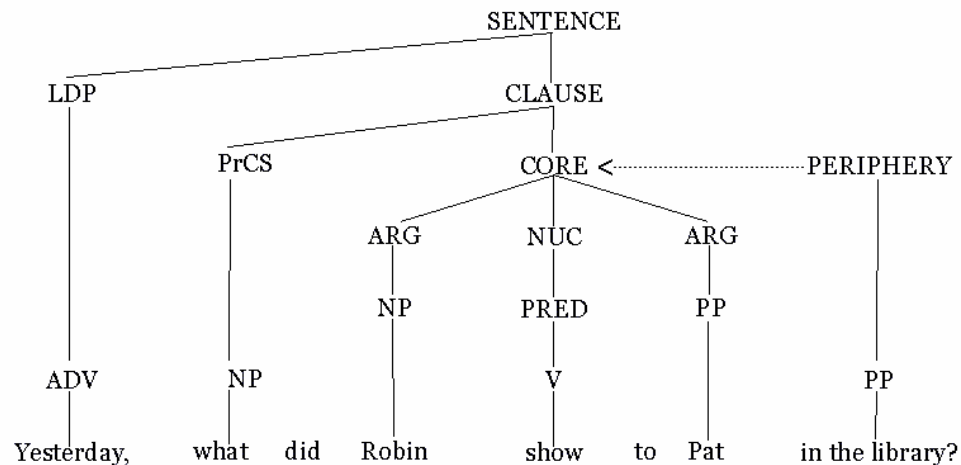
Figure 2.2 English Example, Constituent Projection

RRG posits grammatical structures that are "stored as *constructional templates*, each with a specific set of morphosyntactic, semantic and pragmatic

---

[6] For a complete discussion of the representation of verb structure, see Van Valin & LaPolla (Van Valin and LaPolla 1997).

properties, which may be combined with other templates to form more complex structures." The RRG approach to constructional templates assumes a set of syntactic templates that reflect properties of clauses and represent syntactic structures of the language and, therefore, vary across languages. These syntactic templates are stored in the 'syntactic inventory,' which, naturally, complements the lexicon. In addition, the templates combine to form complex sentences of the language. The universal parts of the LSC—nucleus, core, periphery—are fundamental components of complex sentences across languages. The unmarked pattern is a result of combining units of the same level to form the appropriate juncture. Two nuclei functioning as a single complex predicate and taking one set of core arguments form a **nuclear juncture**, as in *Fred **forced** the door **open***. Two or more cores, each of which may have its own core arguments, joined in a single clause form a **core juncture**, as in ***I ordered Fred** to force the door open*. Two or more clauses in a single sentence form a **clausal juncture**, as in ***Mary called Fred yesterday**, and **she asked him to paint her room white***.

       Nexus relations define the syntactic relationship between units in a structure. RRG posits three types of nexus relations: coordination, subordination, and cosubordination.

            <u>coordination</u>: Anna read for a few minutes, and then she went out.

            <u>subordination</u>: Bill went to the party after he talked to Mary.

            <u>cosubordination</u>: Paul drove to the store and bought some beer.

With regard to coordination, one must distinguish this abstract syntactic linkage of equivalent units from conjunction, a construction type of the form 'X conj Y';

in fact, coordinate and cosubordinate structures are sometimes realized through conjunction. The examples above all represent *clausal* nexus relations; however, the three levels of juncture combine with the three nexus types, resulting in nine possible juncture-nexus types in universal grammar, not all of which are evidenced in every language. English, for example, has seven of the nine types, as shown below in **Table 2.2**:

Max made the woman leave.	Nuclear cosubordination
Vince wiped the table clean.	
Ted tried to open the door.	Core cosubordination
Sam sat playing the guitar.	
David regretted Amy's losing the race	Core subordination
That Amy lost the race shocked everyone.	
Louisa told Bob to close the window.	Core coordination
Fred saw Harry lave the room.	
Harry ran down the hall laughing loudly.	Clausal cosubordination
Paul drove to the store and bought some beer.	
John persuaded Leon that Amy had lost.	Clausal subordination
Bill went to the party after he talked to Mary.	
Anna read for a few minutes, and then she went out.	Clausal coordination

TABLE 2.2. English Juncture-Nexus Combinations

2.3   Operators and Their Representation

At every level, modifying the parts of the clause, are operators. There are at least eight operator categories, some of them (like tense, aspect, and negation) familiar, assigned a distinct representation from predicates and their arguments. One of the eight categories is **tense**, which "expresses a temporal relationship between the time of the described event and some reference time"; in the unmarked case, the reference time is the speech time.   Another operator category is **aspect**, which is also related to temporality; aspect defines the "internal temporal structure of the event itself." In English, aspect is revealed through distinctions like perfect and progressive, although these differ in other languages. **Negation**, perhaps the most familiar operator category, is expressed in English by *not*.

Modality and **status** concern modal verbs. In RRG, modality refers to the root, or deontic, sense of modal verbs; in other words, modality concerns the relationship between the referent and the action, including such notions as strong obligation (*must* or *have to*), ability (*can* or *be able to*), permission (*may*) and weak obligation (*ought* or *should*). In contrast, status comprises "epistemic modality, external negation and categories like realis and irrealis." Epistemic modality refers to necessity (*must*) and possibility (*could*, *may*, and *should*). Status represents "a semantic continuum ranging from necessity (and realis) at one end to possibility (and irrealis) at the other."

Crucial and universal, **illocutionary force** indicates whether an utterance is, for example, assertion, question, command, promise, or wish. To adequately identify illocutionary force, one must distinguish speech act type from sentence

type; although the two are often conflated in English, they may be distinct in other languages, which use only one sentence type but various means—syntax, prosody, particles—to mark speech act distinctions (42). **Directionals** are markers which indicate either the direction of the action itself, or the direction of motion of one of the core arguments. Many languages use distinct morphemes, but some lexicalize directional meanings into verbs (like English *push* and *pull*).

To summarize, Van Valin proposes the following operators in the LSC:

Nuclear Operators	Core Operators	Clausal Operators
Aspect Negation Directionals	Directionals Event Quantification Modals Internal negation	Status Tense Evidentials Illocutionary force

TABLE 2.3. Operators in the LSC

Nuclear operators have scope over the nucleus. Without making reference to the participants, nuclear operators modify the action, event, or state. Core operators, especially directionals and modality, describe the relationship between a core argument (normally the actor) and the action. Clausal operators modify the entire clause. The order of operator morphemes in relation to the verb indicates their relative scope. Basically, clausal operators have scope over core operators, and core operators have scope over nuclear operators. In Projection Grammar, Johnson (1987) formalized the representation of the LSC with two distinct projections—one for predicates and their objects, and another for operators—joined through the nucleus (Van Valin 2004). These are called constituent and operator projections, respectively. With regard to the verb,

operators are arranged in terms of ever wider scope. **Figure 2.3** illustrates the

LSC with the constituent and operator projections.

Figure 2.3 Operator Projection

```
                            SENTENCE
            _____/   |   _____
           /                    |                    \
        (LDP)                 CLAUSE                 (RDP)
           |          _____/  |  _____           |
           |         /           |           \          |
           |      (PrCS)        CORE        (PoCS)       |
           |         |       ___/ |  \___       |        |
           |         |      /     |      \      |        |
           |         |    ARG   (ARG)  NUCLEUS  |        |
           |         |     |      |       |     |        |
           |         |     |      |      PRED   |        |
           |         |     |      |       |     |        |
        (XP)       (XP)  (XP)   (XP)      V    (XP)     (XP)
```

```
                  NUCLEUS  <------------- Aspect
                     |
                  NUCLEUS  <------------ Negation
                     |
               NUCLEUS/CORE<--------Directionals
                     |
                   CORE  <--------- Event Quantification
                     |
                   CORE    <------------- Modality
                     |
                   CORE   <-------- Negation (Internal)
                     |
                  CLAUSE   <------------ Status
                     |
                  CLAUSE   <------------- Tense
                     |
                  CLAUSE <------------ Evidentials
                     |
                  CLAUSE <-------- Illocutionary Force
                     |
                 SENTENCE
```
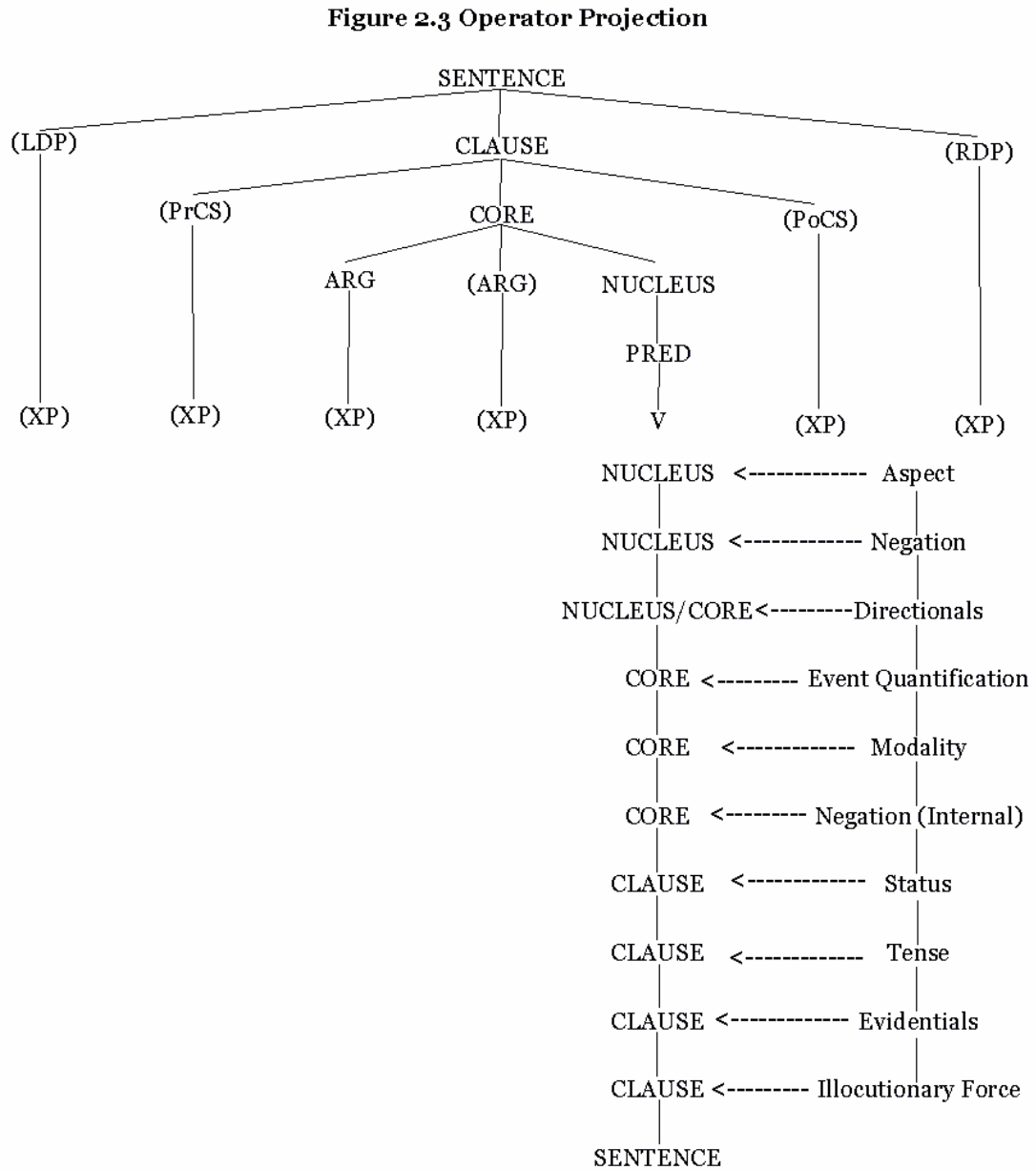
2.4   Clause Structure in Dependent- and Head-Marking Languages

The languages so far cited as examples—English, Dyirbal, and Icelandic— are all dependent-marking languages (Nichols 1986). That is, the relationship between the verb and its arguments is indicated with case or adpositional markings on the dependents themselves. In fact, most syntactic approaches were developed from the analysis of dependent-marking languages. Because this contrast between dependent- and head-marking languages relates to important differences in what is considered a possible phrase or clause in the two language types, any descriptively adequate theory of clause structure must be able to capture it.

Tzotzil provides a good example of a head-marking language; this means that relationships between the predicate and its arguments are marked on the predicate, the head of its clause, and no case marking appears on NPs. Consequently, "dependents can be omitted without affecting the grammaticality of the phrasal unit; the head alone can count as the whole unit" (Van Valin 2004).
(3)

a. ʔi-0-s-pet   lo'kel ʔantz   ti 'tul-e

   ASP-3 ABS-3ERG-carry away   woman DEF rabbit-DEF

   'The rabbit carried away the woman.'

b. ʔi-0-s-pet

   ASP-3 ABS-3ERG-carry

   'S/he carried him/her/it.'

If the NPs are omitted, the clause then consists of only a verb with its argument-indexing affixes, as in (3b). Van Valin argues that the pronominal affixes on the verb, not the optional independent lexical NPs and pronouns, are the core arguments of the verb in a head-marking language. The structure of the sentences above, as well as the English translation, is presented in **Figures 2.4 and 2.5.**

```
                        SENTENCE
                           |
                        CLAUSE
                        /    \
                      CORE     \
                   /   |   \     \   \
                 ARG  ARG  NUC    NP   NP
                  |    |    |      |    |
                  |    |   PRED    |    |
                  |    |    |      |    |
                 PRO  PRO   V      |    |
                  |    |    |      |    |
        ʔi-       ø    s-  pet  loḱel Pantz  ti ʼtul-e
```

Figure 2.4 Structure of Tʒotʒil (3a)

```
        SENTENCE                      SENTENCE
           |                             |
        CLAUSE                        CLAUSE
           |                             |
         CORE                          CORE
        /  |   \                     /    |    \
     ARG  ARG  NUC                 ARG   NUC   ARG
      |    |    |                   |     |     |
      |    |   PRED                 NP   PRED   NP
      |    |    |                   |     |     |
     PRO  PRO   V                   |     V     |
      |    |    |                   |     |     |
      ø    s  -pet                 He  carried her
```
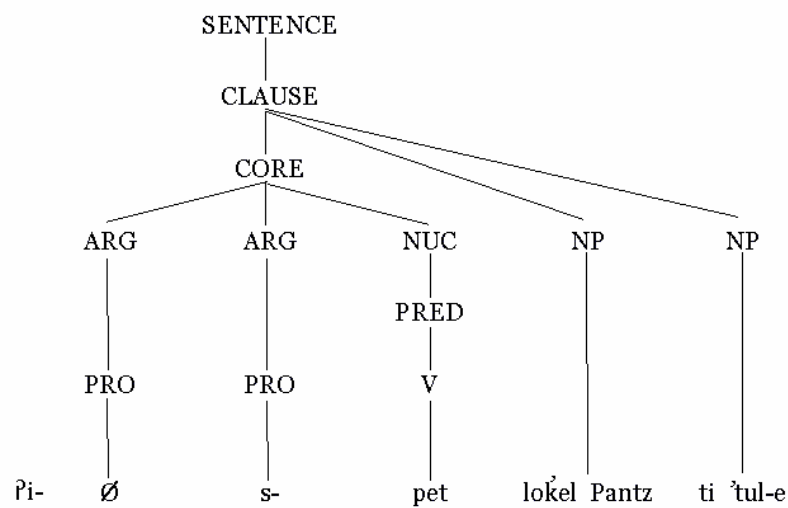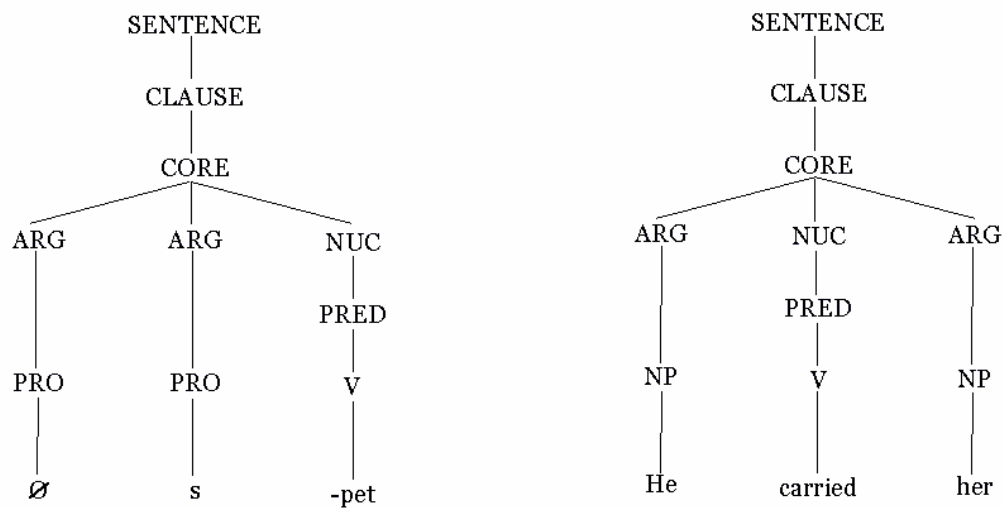
Figure 2.5 Structure of Tʒotʒil and English (3b)

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Verbs and other predicating elements convey the various features of states of affairs. So, an adequate theory of lexical decomposition must delineate these features—i.e. whether the state of affairs has an endpoint or happens spontaneously. Lexical decomposition requires a clearly-defined semantic meta-language to translate verbs into primitive elements. An ideal working system requires a balance between the demands of semantics and those of syntax: "[F]rom the point of view of syntactic theory the most desirable system of decomposition is one which is just fine-grained enough (and no more) to make the distinctions necessary for capturing linguistically significant generalizations about syntax, semantics, and their interaction" (Van Valin and LaPolla 1997). Fundamental to the representation of a clause is the representation of the predicating element in the nucleus. One first must determine how the verb is represented in the lexicon, and then determine the semantic representation of the core of the clause.

2.5 Verb Classes

RRG employs the system of lexical decomposition proposed by Vendler (1957 [1967]), wherein verbs in the lexicon are represented according to their *Aktionsart*, or inherent temporal properties. Verbs are segregated into four basic classes: states, activities, achievements, and accomplishments, as the following examples show (Van Valin and LaPolla 1997):

(4)

    a. <u>State</u>: non-dynamic, temporally unbounded

        be sick, be tall, be dead, love, know, believe, have

    b. <u>Achievement</u>: code instantaneous changes, usually of state but sometimes in activities; inherent terminal point

        pop, explode, shatter (all intransitive), reach (transitive)

    c. <u>Accomplishment</u>: temporally extended changes of state leading to a terminal point

        melt, freeze, dry (intransitive)*; recover from illness, learn*

    d. <u>Activity</u>: dynamic, temporally unbounded

        march, walk, roll (intransitive)*; swim, think, rain, read, eat*

In the lexicon, verbs are represented by one of these four *Aktionsart* types; however, in context, the *Aktionsart* interpretation of the same verb may be different with the addition of PPs and adverbials. Furthermore, these four classes are defined by three features: [±static], [±punctual], and [±telic]. **Static** indicates whether the verb codes a 'happening' or a 'non-happening.' If one can answer the question, "What happened?" or "What is happening?" then the verb is [-static]: *A deer ran through the room* is static, while *John believes the world to be round* is non-static. Of the four classes, only states are [+static]. **Telic** concerns whether the verb describes a state of affairs that has a terminal end point. Achievements and accomplishments are telic, or bounded, as in *The clothes are drying on the line*, while states and activities are atelic, or unbounded, as in *John is running in the park*. **Punctual** codes whether a telic verb—achievements and accomplishments—has internal duration or not.

Contrast the verbs *pop* and *melt*, which both involve a change of state; they differ, however, in that melting takes place over time while popping happens instantaneously: *The ice melted* and *The balloon popped*. States and activities are atelic, inherently involving temporal duration, and are therefore non-punctual.

a.	State	[+static], [-telic], [-punctual]
b.	Activity	[-static], [-telic], [-punctual]
c.	Accomplishment	[-static], [+telic], [-punctual]
d.	Achievement	[-static], [+telic], [+punctual]

TABLE 2.4. Features of States of Affairs

A fifth category, active accomplishments, includes verbs which behave like either activities or accomplishments depending on the type of object they have. With a non-specific, indefinite, generic or mass noun object, they behave like activities, but with a specific, quantified object which delineates the action, they behave like accomplishments. These are usually verbs of creation or consumption, and their terminal point is the ultimate creation or consumption of the entity.

By helping to uncover cooccurrence patterns, the following tests determine the *Aktionsart* class of a verb. Each test isolates at last one semantic feature of the classes. The asterisks will be explained below.

	Criterion	States	Achievements	Accomplishments	Activities
1.	Occurs with progressive	No	No	Yes	Yes
2.	Occurs with adverbs like *vigorously, actively*, etc.	No	No	No	Yes
3.	Occurs with adverbs like *quickly, slowly*, etc.	No	No*	Yes	Yes
4.	Occurs with *X for an hour, spend an hour Xing*	Yes*	No	Irrelevant	Yes
5.	Occurs with *X in an hour*	No	No*	Yes	No

TABLE 2.5. *Aktionsart* Tests

Although the tests are designed to have cross-linguistic validity, some language-specific qualifications do exist; for example, the first test is useful only in languages with a progressive aspect, like English, Spanish, and Icelandic. This test identifies non-static, non-punctual verbs since it occurs only with accomplishments and activities.

(5)

    a. *Miriam is being tall/fat/a linguist.

    a'. *Aisha is knowing the answer/believing that today is Wednesday.

    b. The snow is melting.

    c. * The balloon is popping.

    d. Stan is dancing/singing/running/talking/crying/sleeping.

Test 2 suggests a subdivision among non-static verbs, that of [±dynamic], since achievements and accomplishments are odd with adverbs like *vigorously* while activities are not:

(6)

  a. *Max is vigorously tall/fat/a linguist.

  a'. *Max vigorously knows the answer/believes that today is Wednesday.

  b. *The snow is melting/melted vigorously.

  b'. *The window shattered vigorously.

  c. Mary is dancing/singing/running/talking/crying vigorously/actively.

When applying this second test, one must avoid adverbs that require a controlling subject, like *deliberately* and *carefully*, as they are incompatible with activity verbs having subjects that refer to non-agent participants. For instance, *The dog shivered violently/*deliberately in the cold* and *The house shook violently/*carefully during the earthquake*. Adverbs in this test must be compatible with both involuntary verbs (like *shiver*) and verbs with inanimate subjects (like *shake*). The third tests also applies to non-static verbs, distinguishing [+punctual] and [-punctual] verbs. Pace adverbs like *quickly* and *slowly*, can occur with events having temporal duration, whether or not those events are dynamic, so it is important to choose adverbs which indicate a relatively slow process, such as *The bomb exploded *slowly/*gradually*. Pace adverbs with very short temporal intervals are only marginally acceptable with these verbs, as indicated by the asterisk on the 'No' in the achievement column in Table 3.1—i.e., *The bomb exploded instantly*. These verbs require a pace adverb which indicates a relatively slow process—i.e., *The bomb exploded *slowly/gradually*.

  The fourth and fifth tests distinguish telic and non-telic verbs. Test 4 isolates verbs with duration in time (states, accomplishments, and activities),

sometimes requiring one to identify which adposition in the language designates duration and which designates completion—the *for* and *in* tests. Generally, *for*-phrases are compatible with states and activities, while *in*-phrases are compatible with achievements and accomplishments. The asterisk on the'Yes' in the state column indicates that this test is problematic for some state predicates; in particular, state predicates that code inherent properties do not usually take for-phrases: **Sandy was tall for an hour*. The fifth test highlights terminal points. Because achievements are punctual, they are incompatible with *in*-phrases referring to longer temporal periods and are, therefore, marked with an asterisk in Table 3.1. Not surprisingly, there are exceptions for all of these tests, but by using all five tests and adapting them to the language under study, one can distinguish the classes (Van Valin and LaPolla 1997).

Each of the five classes (including active accomplishments) also has a causative counterpart, for a total of ten classes. The tests above can be applied to all of the classes, as follows:

Class	Test 1 Progressive	Test 2 Dynamic	Test 3 Punctual	Test 4 Duration	Test 5 Telic	Test 6 Causative
State	No	No	No	Yes*	No	No
Activity	Yes	Yes	Yes	Yes	No	No
Achievement	No	No	No*	No	No*	No
Accomplishment	Yes	No	Yes	Irrelevant	Yes	No
Active accomplishment	Yes	Yes	Yes	Irrelevant	Yes	No
Causative state	Yes*	Yes*	No	Yes	No	Yes
Causative activity	Yes	Yes	Yes	Yes	No	Yes
Causative achievement	No	Yes*	No*	No	No*	Yes
Causative accomplishment	Yes	Yes*	Yes	Irrelevant	Yes	Yes
Causative active accomplishment	Yes	Yes	Yes	Irrelevant	Yes	Yes

TABLE 2.6. Predicate Class Tests

With causative states, tests 1 and 2 can be complex, in that "the more active the causing state of affairs is, the better the progressive and dynamic adverbs are with causative state predicates" (Van Valin and LaPolla 1997). Consider the two sentences below:

(7)

    a. Your attitude upsets / ? is upsetting me.

    a'. Your boorish behavior upsets/is upsetting me.

In the first sentence, the cause of the state of affairs is a somewhat static situation, but in the second, the cause is more dynamic; clearly, the progressive is

better with the more dynamic causing state of affairs. Sentence (b) also highlights aspectual differences in the verb forms. For causative achievements and accomplishments, the 'Yes' for Test 2 indicates that this type of adverb is not always acceptable with these verbs. In the logical structure, it modifies the causing activity. Causative accomplishments differ only slightly from causative active achievements in terms of these tests because both are sometimes acceptable. Still, there are two important differences. First, there are always some dynamic adverbs which are compatible with these verbs, but because there are two activity predicates in the logical structure of the causative active achievements, some ambiguity may arise as to which one is being modified (i.e., *shattered the window violently* vs *violently shattered the window*). No such ambiguity occurs with causative accomplishments. Second, causative accomplishments are derived from a state predicate; causative active accomplishments, in contrast, are derived from an activity predicate. Therefore, if the pattern of morphological derivation relates a telic, non-punctual causative verb to a state, then it is the more common causative accomplishment; but, if the pattern relates that verb to an activity, then it is the less common causative active accomplishment.

2.5.1   Lexical Representation of Verb Classes

The six classes of verbs, including the causative, can be represented formally with the following logical structures:

Verb Class	Logical Structure
State	**predicate'** (x) or (x, y)
Activity	**do'** (x, [**predicate'** (x) or (x, y)])
Achievement	INGR **predicate'** (x) or (x ,y)
Accomplishment	BECOME **predicate'** (x) or (x, y)
Active Accomplishment	**do'** (x, [**predicate$_1$'** (x, (y))]) & BECOME **predicate$_2$'** (z, x) or (y)
Causative	A CAUSE β, where α, β are LSs of any type

TABLE **2.7** **Logical Structure of Verb Classes**

After determining the *Aktionsart* of a verb, one can determine its logical structure and, from there, its thematic relations.

2.5.1.1   Semantic Roles

RRG employs two types of semantic roles, specific and general. The specific semantic roles correspond closely to thematic relations posited in other theories. The logical structure of a verb reveals its relevant semantic properties, and these properties identify the thematic relations; in other words, thematic relations are independently motivated, as a function of verb class and logical structure. **Thematic relations**, then, describe "the relation between a predicate and its arguments which express the participant roles in the state of affairs denoted by the verb" (Van Valin and LaPolla 1997). Thematic roles include familiar notions such as *agent*, *theme*, *patient*, and *experiencer*. Following

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Jackendoff (1976), Van Valin and LaPolla adopted a system of wherein only states and activities define thematic relations. All other types are derived from these two basic verb class types (Van Valin and LaPolla 1997).

The second type of semantic roles are generalized semantic macroroles, of which there are two, actor and undergoer, which are equivalent to the two basic arguments in a prototypical transitive construction. By default, the most agent-like argument is the actor, and the most patient-like argument is the undergoer. As Van Valin explains, "The maximal unmarkedness of agent as actor and patient as undergoer follows from the fact that if a verb has an agent argument, it will always be actor, and likewise if one has a patient argument, it will always be undergoer" (Van Valin 2004). Because each one includes a variety of specific thematic relations, they are called macroroles. The hierarchy below displays the relation between macroroles and logical structure argument positions:

ACTOR ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ▶ *UNDERGOER*

◀ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─

| Arg. of | 1st arg. 0f | 1st arg. of | 2nd arg. of | Arg. of state |
| DO | **do'** (x,... | **pred'** (x, y) | **pred'** (x, y) | **pred'** (x) |

['→ ' = increasing markedness of realization of argument as macrorole]
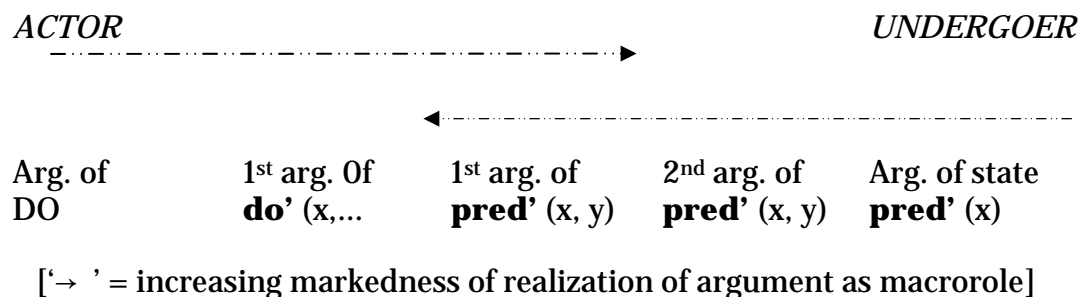
FIGURE 2.6 Markedness Hierarchy

These two macroroles serve as the interface between thematic relations and grammatical relations. The following sentences illustrate the differences among actor and subject as well as the difference between undergoer and direct object (Van Valin 2004).

(8)

    a. Chris [SUBJ, ACTOR] drank the beer [DOBJ, UNDERGOER].

    b. The beer [SUBJ, UNDERGOER] was drunk by Chris [ACTOR].

    c. Chris [SUBJ, ACTOR] drank beer [DOBJ].

    d. The fireman [SUBJ, ACTOR] ran into the burning building.

    e. The lawyer [SUBJ, UNDERGOER] became upset over the decision.

2.5.1.2   Complex Sentences

As mentioned earlier, a crucial aspect of the theory of complex sentences is the semantic relations that occur between units in a juncture. The semantic relations can be arranged in a hierarchy defined by whether the juncture expresses facets of a single event, state, or action or distinct events, states, or actions. Interclausal Relations Hierarchy expresses the linkage between the nine possible juncture-nexus types and the various semantic relations.

Strongest   **Closest**

Causative

Aspectual

Psych-Action

Nuclear Cosubordination   Purposive

Nuclear Subordination   Jussive

Nuclear Coordination   Direct Perception

Core Cosubordination   Propositional Attitude

Core Subordination   Cognition

Core Coordination   Indirect Discourse

Clausal Cosubordination   Temporal Adverbial

Clausal Subordination   Conditionals

Clausal Coordination   Simultaneous Actions

Sequential Actions: Overlapping

Sequential Actions: Non-Overlapping

Action-Action: Unspecified

Weakest   **Loosest**

SYNTACTIC RELATIONS   SEMANTIC RELATIONS

FIGURE 2.7. Interclausal Relations Hierarchy

An iconic relationship exists between the syntax and semantics of the clause such that the tightness of the syntactic linkage directly reflects the semantic integration of the units in the linkage" (Van Valin 1995).

2.6   Focus Structure

In RRG, focus structure is crucial to grammatical analysis. The theory of focus structure adopted in RRG was proposed by Lambrecht (1994), who offers the following definitions for the crucial concepts in this theory (Lambrecht 1994):

(9)

Pragmatic assertion: the proposition expressed by a sentence which the hearer is expected to know or believe or take for granted as a result of hearing the sentence uttered.

Pragmatic presupposition: the set of propositions lexico-grammatically evoked in an utterance which the speaker assumes the hearer already knows or believes or is ready to take for granted at the time of speech.

Focus, or focus of the assertion: the semantic component of a pragmatically structured proposition whereby the assertion differs from the presupposition.

Focus structure: the conventional association of a focus meaning [distribution of information] with a sentence form.

Simply put, the pragmatic assertion represents the 'new' information, while the pragmatic presupposition represents the 'old' information, and it is the interaction of the two—not merely the 'new' information—that is informative.

The 'old' information in the presupposition provides the context in which the 'new' information in the assertion can be processed. Within the pragmatic presupposition resides the topic portion of the topic-comment structure. Its purpose is to name the topic referent, or at least aid in the expression of a semantic relation between a topic referent and a predication. The topic referent is not necessarily given or presupposed, but is that part of the utterance that is crucial to the proposition. The function of a topic influences its coding; that is, topics that name a referent are usually lexical NPs, while those that express a relation with the predicate are often zero or unstressed pronouns, understandable from context (because they are active, as opposed to inactive or anchored, referents). The scale of markedness relations shows the relationship between the coding and markedness of topic referents:

Markedness of occurrence as focus

Zero	Clitic/Bound pronoun	Pronoun [-stress]	Pronoun [+stress]	Definite NP	Indefinite NP

Markedness of occurrence as topic
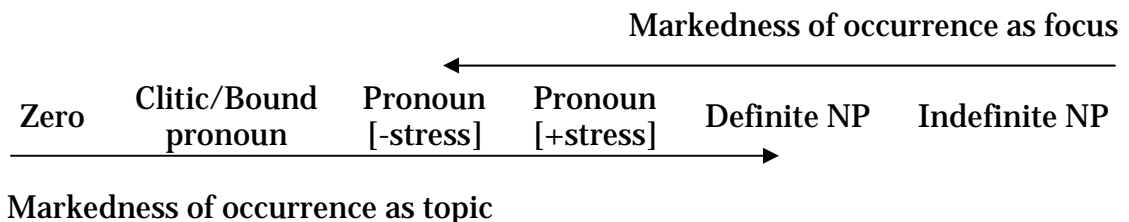
FIGURE 2.8. Scale of Markedness Relations

In Lambrecht's taxonomy of focus types are two categories: broad and narrow focus. When a single constituent is in focus the result is **narrow focus**; when more than one constituent—up to and including all but the topic—the result is **broad focus**. Within broad focus are two divisions: **predicate focus**, including all but the topic, and **sentence focus**, including the entire clause. These focus types correspond to the communicative functions—"identifying a referent, commenting on a topic and reporting an event or presenting a new

discourse referent, respectively" (Van Valin and LaPolla 1997). The universally unmarked type is predicate focus.

The syntactic constituent in which the focus of the assertion appears is called the **focus domain** (Van Valin and LaPolla 1997). Any syntactic constituent in which the focus element(s) may occur is called the **potential focus domain**, while the **actual focus domain** is the part of the sentence actually in focus. A comparison of a language like English, in which word order is strict and focus placement is flexible, with a language like Italian, in which the reverse is true, shows that languages can perhaps be characterized typologically according to the interaction of syntax and focus structure. These notions will be elaborated in Chapter 4, Focus Structure in ASL.

In RRG, focus structure is given a separate projection, distinct from the constituent and operator projections. Because elements of the constituent structure define focus domains, the focus structure is closely linked to the constituent projection. Likewise, the focus and operator projections are closely related because the potential focus domain must be within the scope of the illocutionary force operator (Van Valin and LaPolla 1997). Unlike the operator projection, which has the same hierarchical structure as the constituent projection, the focus structure projection divides the elements of the constituent projection first according to those that are inside or outside of the potential focus domain, and then into those which are within the actual focus domain. **Figure 2.9** presents a predicate-focus construction:

SENTENCE

CLAUSE

CORE

ARG   NUC   ARG   ARG

PRED

NP   V   NP   PP

John   presented   a girl   with some flowers

ARG   NUC   ARG   ARG

Potential
focus
domain

SPEECH ACT

Actual
focus
domain
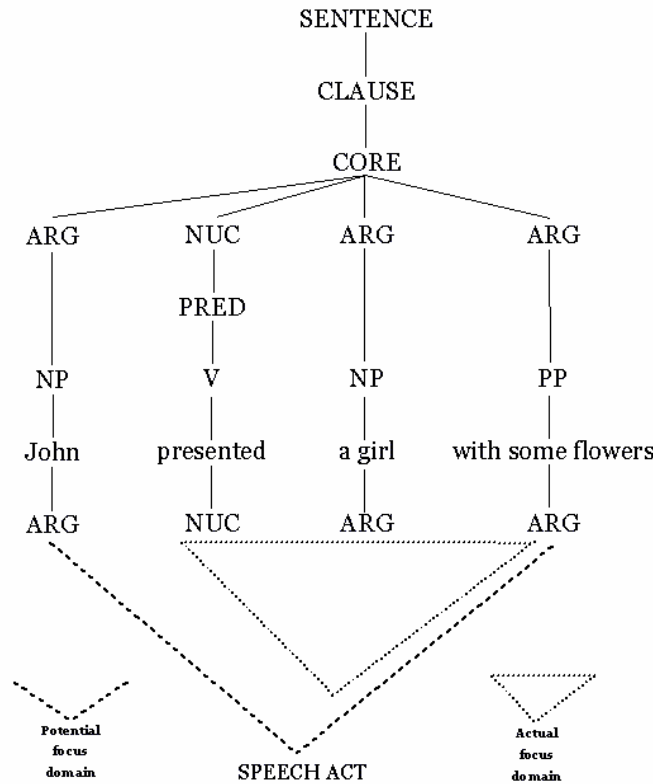
Figure 2.9 English Example, Focus Projection

2.7   Grammatical Relations

Van Valin and LaPolla began their investigation by asking whether all
languages have at least one primitive syntactic relation. An examination of both
behavioral and coding properties of grammatical relations indicates "whether a
particular clause-internal syntagmatic relation is syntactic, semantic or
pragmatic" (Van Valin and LaPolla 1997). The goal is to determine whether the
constructions of a language are organized in terms of subject-object, actor-
undergoer, or topic-comment dichotomies. Coding properties refer to
morphological features such as case and, as in the English example below, verb
agreement:

(10)

      a. 3rd person singular: The cat runs.

      b. 3rd person plural: The cats run.

With a singular NP, the verb takes the *−s* suffix, and with a plural NP, the verb

takes no suffix. But, is agreement sensitive to semantic, pragmatic, or syntactic

relations? Because the single argument of *run* is an actor, perhaps the verb is

agreeing with the semantic actor, not the syntactic subject. Or, maybe the

grammatical relation subject triggers the agreement. Compare the example

above with a sentence in which the grammatical subject is not also an actor:

(11)

      a. The dog dies.

      b. The dogs die.

Here, the single argument of the verb is not an actor but an undergoer, but the

verb still agrees with it. Clearly, an analysis which predicts that agreement is

with a semantic argument like actor is incorrect in this instance.   Next, consider

the verb *kill* in both active and passive sentences:

(12)

      a. John kills the ducklings.

      b. The ducklings are killed by John.

In the active sentence, agreement is with the subject, an actor. In the passive

sentence, agreement is also with the subject, but now it's an undergoer.

Therefore, verb agreement in English is with the syntactic relation of subject, not

with a semantic relation like actor or undergoer. In other words, the contrast

between actor and undergoer is neutralized and, consequently, irrelevant to verb

agreement. If, for every semantic relation there were different agreement patterns, all with different behavior, then there would be no neutralization. In English, this neutralization is also *restricted*, in that the verb agrees *only* with the actor *or* undergoer. If the verb agreed with other syntactic argument(s), regardless of their semantic roles, then there would still be a neutralization of the semantic oppositions for syntactic purposes, but it would not be a restricted neutralization. These examples prove that, in addition to the semantic roles of actor and undergoer, there is a syntagmatic relation—i.e. a grammatical relation—involved in determining verb agreement.

Is it possible that agreement in English is not with the grammatical relation of subject but with the pragmatic relation of topic? Testing this possibility requires a sentence in which the subject is not a topic: The syntactic analysis predicts agreement while the pragmatic analysis predicts no agreement with the verb. Topics, as discussed earlier, provide 'old' or already established information in a discourse, while comments provide 'new' ideas for discussion. The answer to a simple *wh*-question—that part which corresponds to the *wh*-word itself—is the prototypical example of focused material, so, by examining these answers, one can test the pragmatic analysis to verb agreement:

(13)

> **Q:** Who is winning the ball game?
>
> **A:** The Giants are/*is/*be winning.

The pragmatic analysis predicts that the focused element, *The Giants*, should not agree with the verb, while the syntactic analysis predicts that, because it is also the subject, it should agree with the verb. Clearly, English verb agreement is

sensitive to the syntactic relation of subject, not the pragmatic relation of topic

(or the semantic relation of actor).

All of the above arguments and examples concerned coding properties; however, the same approach can be taken to uncover behavioral properties. Consider the following sentences. In the first set (14), an NP is missing in each of the dependent cores. In the second set (15), the matrix core contains a semantic argument of the verb, which appears in the dependent core. Sentence (15a), for example, could be paraphrased as 'It seems that Jack is running in the park,' where *Jack* appears to replace *it* as the subject of *seem* in the matrix core.

(14)

      a. Susan$_i$ wants _____$_i$ to run in the park.

      b. Susan$_i$ wants _____$_i$ to eat a hamburger.

      c. Susan$_i$ wants _____$_i$ to be taller.

      d. *Susan$_i$ doesn't want the police to arrest _____$_i$.

      e. Susan$_i$ doesn't want _____$_i$ to be arrested by the police.

(15)

      a. Jack$_i$ seems _____$_i$ to be running in the park.

      b. Jack$_i$ seems _____$_i$ to be eating a hamburger.

      c. Jack$_i$ seems _____$_i$ to be taller.

      d. *Jack$_i$ seems the police to have arrested _____$_i$.

      e. Jack$_i$ seems _____$_i$ to have been arrested by the police.

As the (d) examples show for both constructions, certain restrictions determine which NP can be omitted or matrix-coded. In the first two sentences (14 a, b and 16 a, b) of each set, the missing or matrix-coded element is an actor. In the (c)

and (e) sentences in each set, the undergoer is omitted or matrix-coded. Likewise, in the ungrammatical (d) sentences, the missing or matrix-coded element has the same semantic role as the grammatical (c) and (e) sentences— undergoer—which means that this particular restriction cannot have a semantic basis. What, then, is the difference between the grammatical and ungrammatical sentences? The syntactic relationship between the NP and the verb: In the (d) sentences, the NP would be the object, while in the (e) sentences, it would be the subject. Therefore, the syntactic function of the NP affects the verb, making this another example of a restricted neutralization.

English does employ unrestricted neutralizations as well, too. Consider relative clauses—specifically, the head of the clause, the relative pronoun:

(16)

Mary talked to the man

a. who [AGENT] bought the house down the street.

b. who [PATIENT] the dog bit.

c. to whom [RECIPIENT] Bill sold the house.

Mary looked at the box

d. in which [LOCATION] the jewelry was kept.

e. out of which [SOURCE] the jewelry had been taken.

For the head of a relative clause, the contrast in semantic roles is neutralized; in the sentences above, the relative pronoun can have any semantic role, so this is an unrestricted neutralization. This type of neutralization offers no support for grammatical relations in the language.

Although all of the examples thus far have come from English, a dependent-marking language, the same phenomena occur in head-marking languages, too. In these cases, the tests focus on bound morphemes on the verb rather than on independent NPs, as shown with Enga, a Paluan language (Lang 1973; Li and Lang 1979):

(17)

     a. (Baa-mé) mená lóngo-0 p-í-á.

        3sg-ERG   pig many-ABS hit-PAST-3sg

        'He killed many pigs.'

     a'. *(Baa-mé) mená lóngo-0 p-í-ám í.

        3sg-ERG   pig many-ABS hit-PAST-3pl

     b. (Baa) á nd á dóko-nyá ka-ly-á-mo.

        3sg   house DET-LOC be-PRES-3sg-DEC

        'He is in the house.'

     c. (Baa) pe-ly-á-mo.

        3sg   go-PRES-3sg-DEC

        'He is going.'

Enga is actually a 'double-marking' language; this means that the NPs have case marking and the verbs have bound argument markers. The independent pronouns in the example sentences are optional. Compare (a) and (a'). Notice specifically the suffix –á '3sg', which cross-references the actor *baa* 'he,' not the undergoer *mená lóngó* 'many pigs.' However, in (b) the undergoer of an intransitive verb is cross-referenced while in (c), the actor of an intransitive verb is cross-referenced. As it did in English, a semantic analysis of verb agreement

would make the wrong prediction because the suffixes code the syntactic subject, not the semantic actor or undergoer. Next, to examine syntactic properties, consider the Enga counterparts of the English sentences in (14). The desiderative suffix –*nya* on the infinitive combined with the matrix verb *m̃ási*- 'think' produce equivalent of English *want* + infinitive. Of particular interest is whether the morpheme –*a* is cross-referenced with a verb in the matrix core: Here, the linked verb does not carry the suffix, but as the main verb in (17), it did.

(18)

    a. (Baa-é) mená dóko-0 pyá-la-nya mási-ly-mo.

       3sg-ERG pig   DET-ABS kill-INF-DES think-PRES-3sg-DEC

       'He wants to kill the pig.'

    a'. (Baa-é) pyá-la-nya mási-ly-a-mo.

       3sg-ERG kill-INF-DES think-PRES-3sg-DEC

       *'He wants to be killed.'

    b. (Baa-é) akáli ká-lya-nya mási-ly-mo.

       3sg-ABS man   be-INF-DES think-PRES-3sg-DEC

       * 'He wants to be a man.'

    c. (Baá-0) Wápaka pá-a-nya   mási-ly-mo.

       3sg-ABS Wabag go-INF-DES think-PRES-3sg-DEC

       'He wants to go to Wabag.'

The (a) and (a') examples show that, in the linked core, if the verb is transitive, then only the actor can be omitted. It is impossible, then, to interpret the actor of *mási*- 'think' (with the desiderative suffix) as the undergoer of *pyá*- 'kill.' Unlike English, Enga makes no voice distinctions, so the undergoer of a transitive verb

cannot be omitted. Intransitive verbs in Enga function much like those in

English, in which the undergoer can be omitted, as in (b) and (c). In these cases,

the omitted argument can be the actor of a transitive verb or an intransitive verb,

or the undergoer of an intransitive verb. When an argument is omitted, it is

interpreted as the subject of the linked core. As a result, there is in Enga a

restricted neutralization of semantic roles for syntactic purposes. Although both

English and Enga have such a neutralization, it differs between the languages, as

will be explained below.

Tests such as these can be applied to the grammar of any language to

determine whether grammatical relations are relevant to that language. If, for at

least one construction in the language, there is a restricted neutralization of

semantic and pragmatic relations for syntactic purposes, then that language does

employ syntactic relations. Likewise, if there are no such constructions in the

language, then a syntactic predicate-argument relation probably does not exist

for that language (Van Valin and LaPolla 1997).

Most languages do have grammatical relations. But, are grammatical

relations the same across languages? That is, are subjects and objects the same

from language to language? In simple terms, grammatical relations comprise

combinations of three basic functions: S, the single argument of an intransitive

verb; A, the actor of a transitive verb, and U, the undergoer of a transitive verb.

In English, both S and A can serve as subject, but only U serves as 'direct object.'

This results in an *accusative* pattern, so-named because in languages like

German and Russian, the S and A receive nominative case and the U receives

accusative case. In contrast, *ergative* languages group the functions differently

for at least some grammatical phenomena: S and U receive absolute case while A receives ergative case.   Although a number of languages provide evidence for the notion of subject, that of direct object is more questionable.

Dryer argues that, in many languages, the accusative NP does not behave syntactically or morphologically like a traditional direct object (1986). When considering semantic roles, the category of direct object comprises PATIENTS and THEMES, while indirect object corresponds to RECIPIENTS (P, T, and R, respectively). Citing Kunama and Yoruba, Dryer explains, "Not all languages operate in terms of direct and indirect objects; in other words, not all languages group P's and T's together and treat R's differently" (In press b). This distinction is illustrated in the following diagram:

DIRECT VS INDIRECT OBJECT   PRIMARY VS SECONDARY OBJECT

Direct Object   Primary Object

Monotransitive   P   Monotransitive   P

Ditransitive   T   R   Ditransitive   T   R

Indirect Object   Secondary Object
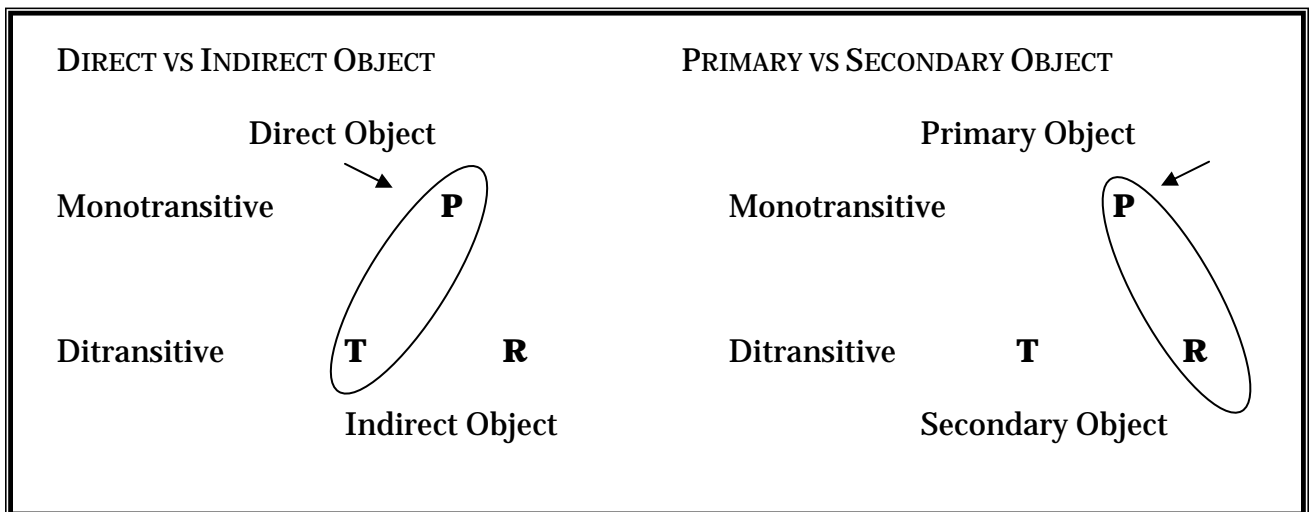
FIGURE 2.10 DO/IO and PO/SO Languages

Dryer views the PO/SO distinction as independent of whether a language is accusative or ergative (Dryer 1986). In a discussion of object types, Dryer explains why some languages make such differentiations:

The DO/IO distinction follows semantic roles more closely: the DO of either a monotransitive or a ditransitive clause is prototypically a patient/theme, while the IO is a recipient/beneficiary. The PO/SO distinction, in contrast, is linked more closely to discourse/pragmatic function. In ditransitive clauses, the IO tends to be more 'topical' than the DO, since the IO is generally human and definite, and often 1st or 2nd person; the DO is generally non-human and indefinite, and almost invariably 3rd person….The PO/SO distinction can be viewed as a grammaticization of secondary topic vs. non topic. (Dryer 1986)[7]

Semantic roles are universal; grammatical relations, at least from an RRG perspective, are not.   RRG considers grammatical relations to be neither basic nor derived from structural configurations. Furthermore, RRG recognizes only one syntactic function, something akin to subject, rather than the three (subject, direct object, and indirect object) normally recognized by traditional grammar. Still, "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" (Van Valin 2004).   A restricted neutralization, then, is the Privileged Syntactic Argument of a Grammatical Construction (PSA): "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

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[7] Van Valin has suggested that labeling these Secondary Object languages would be more appropriate since this terminology better parallels ergative languages (Dryer, personal communication).

function with respect to that construction" (Van Valin 2004). So, in English, this neutralization occurs in most syntactic constructions and cannot be explained in terms of semantic roles.

Recall the English examples of verb agreement, for which the **controller** of verb agreement was syntactic (because of the restricted neutralization) rather than semantic. An examination of complex constructions, like the English and Enga 'want' constructions, revealed a restricted neutralization with regard to which argument of the dependent core could be omitted. This argument is called the **pivot**—specifically, the **syntactic pivot**, because it bears the privileged grammatical function in the construction. Restrictions do apply to controllers and pivots; namely, only specific morphosyntactic phenomena may define controllers and pivots, and only one of each may be defined per construction. Furthermore, pivots are construction-specific. All of these concepts and distinctions will be addressed more fully in relation to ASL, when necessary, in later chapters.

CHAPTER 3: ASL PREDICATES AND COMPLEX SENTENCES

3.1 Introduction

American Sign Language (ASL) has five sentence types: declaratives, negatives, interrogatives, conditionals, and topicalized, with declaratives being syntactically unmarked; that is, unlike the other sentence types, declaratives in ASL are not marked by any non-manual signal. Non-manual signals include facial expressions, head movements, and body postures (Valli and Lucas 2000). In addition, declaratives are also typologically unmarked, as they are the most common sentence type. The chart below (Valli and Lucas 2000) shows the sentence types and the required non-manual signals.

SENTENCE TYPE	NON-MANUAL SIGNALS	EXAMPLE
1. Questions		
a. Yes-No Questions	Eyebrows raised, eyes widened, head and body may be tilted forward; shoulders may be raised; last sign may be held	_____Q MAN HOME? *Is the man home?*
b. *Wh*-Questions	Eyebrows squinted, head tilted; body may be forward; shoulders may be raised	_____wh MAN WHERE? *Where is the man?*
c. *Rhetorical Questions	Eyebrows raised, head may be tilted or may shake slightly	_____br INDEX$_1$ TIRED WHY, STUDY ALL-NIGHT *I am tired because I studied all night.*
2. Negation	Head shakes side-to-side; May have frown or squint	_____neg MAN HOME *The man is not home.*
3. Commands	Direct eye contact with addressee, may frown	*SIT* *Sit!*
4. Topicalized	Eyebrows raised, head tilted, possibly a short pause	_____t HOMEWORK, INDEX$_1$ DETEST *Homework, I detest it.*
5. Conditionals	Eyebrows raised, head tilted; possibly a short pause and eye gaze shift	_____cond TOMORROW RAIN, GAME CANCEL *If it rains tomorrow, the game will be cancelled.*

Despite the label, Rhetorical Questions are neither rhetorical nor questions (Wilbur 1994); instead, they have the same focusing function as wh-*clefts in other languages. This construction will be discussed briefly in Chapter 4.*

TABLE 3.1 Sentence Types and Nonmanual Signals

3.2 Predicates in ASL

Van Valin & LaPolla stress that "the predicate-argument distinction is independent of the lexical distinctions that a language may make; that is, the claim is not that all languages distinguish nouns from verbs lexically, but rather that in structuring clauses at least some of the clauses in every language manifest predicate-argument structure, regardless of the lexical classes of the elements filling the predicate and argument slots" (1997:27). This claim is relevant because ASL does not require a verb as part of the predicate; since ASL does not employ a copula, adjectives and nouns may also function directly as predicates.

One subtype of predicates in ASL is classifier predicates, which consist of a classifier handshape and a movement root (Supalla 1982). As in many languages, a classifier represents a class of objects; when combined with other phonological features—location, orientation, movement, and non-manual signals—ASL classifiers form a predicate. For example, by moving the **3-CL** handshape from right to left, a signer says, "The car drove past," the predicate being *VEHICLE-DRIVE-BY*. Here, the handshape (3) is the classifier representing a car, while the movement is the predicate. Supalla (1986) describes the formational parameters of classifier predicates, at least those which are still morphologically complex, or "novel," and which have not yet become fused, "frozen" morphemes:

> The root of the ASL verb of motion or location consists of one of a small number of possible movements, referring to the underlying predicate type (existence, location, or motion) of the noun and, for verbs or motion, one of a small number of possible movement paths (e.g., linear, arc, or circle). Obligatorily affixed to the movement stem is a set of

articulator morphemes, consisting of a hand or other body part, formed

into a particular shape and located in a particular place and orientation

along the movement path. The handshape is typically the classifier

morpheme of the verb of motion or location (i.e., it marks the

classification of the noun as, for example, legged vs. non-legged). The

relative locations of the hand and body articulators mark the locative

relationships among the central noun (the moving object) and any

secondary nouns (the ground objects).

Supalla then elucidates the several ways signers classify nouns, all of which have

sub-types which will be elaborated later, if necessary:

1. *Size-and-shape specifiers* (SASS): parts of the hand, including the
   fingers, thumb, and forearm, are morphemes representing different
   aspects or dimensions of the noun referent. For example, a handshape
   with the index and middle fingers together and extended can refer to a
   bandaid, while having the two fingers spread apart can refer to a
   ladder.

2. *Semantic classifiers*: the entire handshape is one morpheme
   representing the semantic category of the noun referent. For example,
   the classifier for a tree of any type is the spread hand in combination
   with the vertical forearm.

3. *Body classifiers*: the signer's body refers to other animate objects with bodies and appendages; unlike the other types of classifiers, these are not visual-geometric representations of the noun referent but mimetic. For example, to articulate the verb *HIT-IN-THE-EYE*, the signer's closed fist would move toward his face.

4. *Bodypart classifiers*: the hand represents the shape of the referent body part while the location indicates its spatial orientation. So, for example, the signer can either point to a location on his body, such as his arm, or trace the outline of a body part, such as his face.

5. *Instrument classifiers (also called 'handle')*: the hand represents the type of agent, human or mechanical, acting on the referent noun. For example, the handshape varies depending on whether the signer is holding a thin, flat shape rather than a wide, flat shape.

Although there are restrictions on the combination of movement roots with classifier handshapes, classifier predicates represent one of the most productive ways of creating new signs in ASL (Valli and Lucas 2000).

3.3 Verb Classes in ASL

To identify predicates and analyze sentences in ASL, one must first understand the verbs of the language.   One clue to whether something is a verb in ASL is *inflection* for person.   More often than subject, however, object (for agreement verbs) as well as source and goal (for spatial verbs) and occasionally other arguments influence the form of the verb (Fischer and Gough 1978). Another clue is *context*: If it appears between two nouns or after an auxiliary,

then it may be a verb. Sometimes, the addressee must actually supply a common

verb that is appropriate to the object; if this proves impossible, then the sentence

is ungrammatical. Finally, although methodologically problematic, the *intuition*

of a native signer can be used to determine whether something is a verb, as

Fischer & Gough explain: "If our informant feels that *DOCTOR* is a noun and not

a verb, even though there is an implicit verbal feel in a sentence like (1), this is a

valid piece of evidence" (1978:20):

> (1)   THAT BOY WILL DOCTOR.
>
>   'That boy will <u>become</u> a doctor.'
>   Or, in context, 'That boy will <u>go to</u> the doctor.'

ASL uses transitive and intransitive verbs, distributed among three main classes:

Plain verbs, agreement verbs, and spatial verbs are attested in the literature,

beginning with Klima & Bellugi (1979) and elaborated by Padden (1988, 1990).

These verbs are distinguished primarily by the arguments for which they inflect,

the affixes with which they combine, and the word order they require (Petronio

1995). Meir proposes an admittedly oversimplified semantic basis for the verb

classes, which will be elaborated below: Agreement verbs denote *transfer*

(Gruber 1976; Jackendoff 1976), both concrete (*GIVE*, *TAKE*, *SEND*) and abstract

(*TEACH*, *SHOW*, *HELP*), while spatial verbs denote *motion* from one location to

another. Plain verbs, which denote neither transfer nor motion, are defined

negatively—i.e., by the absence of other characteristics (Meir 2002).

3.3.1   Plain Verbs

<u>Plain verbs</u> do not inflect for person or number (Padden 1990).   In other

words, the referential features of its arguments have no affect on the form of the

verb; in fact, the form of the verb is the same regardless of the Referential-loci (R-loci) of its arguments (Meir 2002). R-loci, first described by Klima & Bellugi (1979) are discrete locations in space associated with nominals in a clause. This association is formed by pointing to or gazing at a specific point in space (Meir 2002). Plain verbs do, however, often indicate manner and aspect through speed of repetition and nonmanual features (Sutton-Spence and Woll 1999).   Examples of plain verbs in ASL include *LOVE, LIKE, TASTE, THINK, UNDERSTAND, SHOCKED,* and *KNOW* (Valli and Lucas 2000).

3.3.2   Agreement Verbs

Agreement verbs inflect for person and number of subject and object. Typically, the articulation of these verbs consists of a three-part sequence: The beginning point of the sign is the subject agreement marker, and it varies depending on whether the subject is first, second, or third person. This marker is followed by the stem, which is a linear movement toward the end point, the object agreement marker. Examples of agreement verbs include *GIVE, SEND, ASK, SHOW,* and *BAWL-OUT* (Padden 1988).

(2)   Q‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾
       $INDEX_2$ $_2SEND_1$ INVITATION $INDEX_2$?

       'Did you send me an invitation?

As the number of subject and object changes, the beginning and endpoints of agreement verbs also change (Padden 1988).   Exceptions exist, of course: Some agreement verbs express agreement with only one nominal (in which case it is the object), while others do not include "motion" in their linear movement stem; still,

most exceptions to verbal processes can be explained with general principles (Fischer and Gough 1978).

Agreement verbs also include a small sub-class called *backwards verbs* (Meir 2002; Padden 1988), which differ with regard to the linear ordering of agreement affixes. Examples of verbs with "backwards" agreement include *INVITE*, *BORROW*, *TAKE-OUT*, *ATTRACT*, and *PERCEIVE*; with these verbs, the beginning point marks the object and the end point marks the subject (Padden 1988).

(3) $INDEX_1$ $_1TAKE-OUT_i$ FRIEND $SISTER_i$.

'I'm taking out my friend's sister.'

In an analysis of Israeli Sign Language (ISL), Meir notes that argument marking of agreement verbs is complex, involving two morphological mechanisms, each serving a different function: the direction of the path movement, which signals agreement with thematic functions of source and goal; and the facing of the hands, which marks the syntactic object (Meir 2001).[8] Stated as Agreement Morphology Principles (AMPs):

1. The direction of the path movement is from source to goal.

2. The facing of the hand(s) is toward the object of the verb.

While *orientation* is a general label referring to the orientation features that remain stable across the inflected forms of a sign, *facing* is a specific type of orientation, indicating those features that mark agreement, those that are determined by the R-loci of the verb's arguments (Meir 2001). These two

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[8] Fischer believes that, with some exceptions—BORROW and LEND, for example, for which some signers do not change the hand facing—Meir's claims apply to ASL verbs as well (personal communication).

agreement marking mechanisms are independent but simultaneous (Meir 2002).

Ditransitive agreement verbs (such as *GIVE*, *SEND*, and *TAKE*) agree with the

object that corresponds to the English indirect or prepositional object. The

element equivalent to the direct object in English is not a factor in the agreement

morphology of ISL. Having found no evidence to support their validity, Meir

avoids labels like "direct object" and "indirect object" altogether. Instead, she

hypothesizes, ISL (like ASL) might be better described in terms of primary and

secondary objects (Meir 2001). [9]

Consider the regular agreement verb *SEND* in the sentence below. The

agreement pattern of this verb establishes ASL as a PO language:

(4)   LETTER INDEX$_1$ $_1$SEND$_2$

'**I** sent	**you** the letter.'
Subject	Object
Source	Goal

In this sentence, the direction of the path can be described as moving from either

subject to object or source to goal. The facing can be described in the same way.

An examination of backwards verbs, though, makes the distinction between these

two functions clear:

(5)   BOOK INDEX$_1$ $_2$TAKE$_1$

'**I** took the book from **you**.'	
Subject	Object
Goal	Source

---

[9] ASL benefactives generally require the preposition *FOR* to indicate the recipient (Fischer, personal communication); these recipients, then, are adjuncts.

With backwards verbs, the relationship between thematic structure and syntax is switched. In this sentence, the book is transferred from *YOU*, the thematic source, to INDEX$_1$, the thematic goal. In moving from second to first person, the path also moves from source to goal while the hands face the syntactic object, *YOU*.

The AMPs presented above, then, adequately characterize both regular and backwards agreement verbs. In the example sentences, with both $_2$*TAKE*$_1$ and $_1$*SEND*$_2$, the hands face outward, toward the 2P locus. This interaction between the path and the facing of the hands is predicted by the second AMP since, in both sentences, *YOU* is the syntactic object. However, as the first AMP predicts, the direction of the path is reversed with these two verbs. Clearly, agreement verbs are morphologically complex. In fact, each argument is double marked: first, as source or goal by the direction of the path, a spatial notion; and second, as (default) subject or object by the facing of the hands, a syntactic notion. The facing of the hands, Meir claims, serve as a verbal affix which assigns dative case[10]. Note that the subject NP is morphologically unmarked, although the subject agreement marker is optional. Object marking is mandatory (Meir 2002). With *SEND*, *INDEX$_1$* is the source and *YOU* the goal, so the path is from first- to second-person locus; with *TAKE*, in contrast, *INDEX$_1$* is the goal and *YOU* is the source, so the path is from second- to first-person locus.

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[10] In some cases, the dative label may be misleading: With verbs like *HATE*, for example, there may be no direct object. Also, the DO may be indicated by using a classifier.

3.3.2.1 Person Agreement

Historically, ASL has been described as having three person forms: first, second, and third. First-person forms are located near the signer's body, second-person forms are articulated in the direction of the addressee, and third-person forms are signed in any other location (Padden 1988; Padden 1990). Although other languages have multiple third-person forms, ASL is unique in allowing a potentially huge number of agreement forms, as the entire space around the signer's body is available for marking third person. Generally, no more than five different third-person locus points are used at one time during a conversation in ASL, and these change when the discourse frame or time reference changes (Padden 1988); in British Sign Language (BSL), no more than three are used (Sutton-Spence and Woll 1999).

Meier argues that, although ASL does distinguish first-person singular and plural, it does not distinguish second- from third-person (1990). This claim is based primarily on a study of eye gaze, since second- and third-person references are distinguished by eye contact. Second-person forms require gazing and pointing in the direction of the addressee, while third-person forms index any other location but do not require eye contact with the addressee. The distinction is pragmatic, not grammatical, because gazing seems to be a property of conversations, not signs.[11] The first-person plural forms *WE* and *OUR* are lexicalized in ASL, rather than compositional, reflecting a pattern common among spoken languages and resulting in the system below:

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[11] For a more in-depth review of non-manual behaviors in signing, see Baker & Padden's (1978) study.

1st sg	1st pl
Non-1st	

3.3.2.2 Number Agreement

In ASL, there are two categories of number agreement, singular and plural. Within the plural category are many subforms, including dual ("two"), multiple ("them"), exhaustive ("each"), and reciprocal ("each other") (Klima and Bellugi 1979). For singular or collective plural, number agreement is unmarked, in a single point in neutral space (Padden 1988; Padden 1990). In most cases, plural agreement involves displacement, "movement away from a single point" (Padden 1990).   In addition, pronoun clitics may also accompany number agreement, as with *GIVE* below.

(6)   C-O $_0$GIVE$_{a, exhaust}$, FINISH $_0$GIVE$_{b, exhaus}$.

'The company gave one to everyone in that group$_i$, and one to everyone in the other group$_j$.'

Here, each iteration of *GIVE*, a prototypical ditransitive verb, is inflected for exhaustive plural but in different locations. The first use refers to one group, while the second use refers to a second group (Padden 1990).

3.3.3 Spatial Verbs

Like agreement verbs, <u>spatial verbs</u> use the signing space, particularly the initial and final location of the sign; however, although they may inflect for aspect and manner, spatial verbs refer to location—rather than to subject and object. One subclass of spatial verbs, verbs of motion and location, was introduced

earlier. Aside from providing information about the location of the action, spatial verbs can provide details about the path, trajectory, and speed of movement of the action. Within the class of spatial verbs, there are different types:

a. Some spatial verbs (*BREAK, PUT*) include information about the location and movement included but not about what is acting or being acted on in the verb.

b. Other spatial verbs (*CARRY, DROP, OPEN*) not only provide information about the location of the noun in the action but also show the shape of the object or the way it is handled.

c. Another, often studied, group of spatial verbs contain information about location and involve semantic classifiers to indicate not only where the item is but where and how it moves. Examples include *CAR-TURN-LEFT*, *TWO-PEOPLE-WALK-INTO-EACH-OTHER*, and *BOAT-BUMP-OVER-ROUGH-SEA*.

d. The final group of spatial verbs involves an action using a body part, in which the location of the verb is actually on the signer's body (*PAINT-(a part of the body), SCRATCH-(a part of the body), WASH-(a part of the body)*). (Sutton-Spence and Woll 1999)

In denoting motion from one location to another, spatial verbs agree with spatial referents (Meir 2001; Meir 2002).

As stated earlier, spatial verbs may inflect for aspect and manner; sometimes, however, because of either physical or arbitrary constraints, the inflectional morphemes cannot be articulated simultaneously and must be distributed over a series of separate verbs (Supalla 1990). Within the class of

spatial verbs, the most commonly studied subclass are verbs of motion and location, in which both the central (usually moving) and secondary (usually background) object are represented by classifier morphemes. In a typical verb of motion, the secondary object occurs simultaneously as part of the verb stem describing the motion of the central object. However, if one of the objects involves both hands, then they cannot be produced simultaneously. ASL morphology stipulates that the background object classifier be articulated first with a verb of location, and the central object classifier be articulated second with a verb of motion. Likewise, if an utterance requires the production of a ground classifier, then it must be articulated first with a verb of location, followed by the object structures. These are examples of physical constraints (Supalla 1990).

Arbitrary constraints on simultaneity occur with verbs that include manner of locomotion morphemes. Supalla offers three examples: a human limping in a circle, a person coasting downhill on a toy wagon, and a person running uphill in a zigzag course. All three refer to single but complex events involving a marked manner of locomotion along with direction and path of motion. Although it would be physically possible to produce the relevant morphemes of these events simultaneously, the combination of morphemes that result would be ungrammatical. Instead, the signer must produce a two-verb sequence: first, a verb incorporating a complex classifier and the morphemes marking manner of locomotion; second, a verb including a less complex classifier and the morphemes marking path and direction of motion (Supalla 1990). This represents only one type of serial verb of motion; however, these constructions all share the same universal properties found in serial verb constructions in spoken

languages: the serial verbs share the same subject noun (or, in ASL and some other languages, an argument) and cannot be interrupted by any other sign; in addition, verb inflections apply only to the whole structure of verbs in the series, while the second verb tends to be less complex than the first (Supalla 1990).

Although less complex, the structure of spatial verbs is similar to that of agreement verbs; with spatial verbs, though, the beginning and end points of the sign represent the source and goal (rather than subject and object) of the motion, respectively. In fact, the agreement and spatial verb classes are often confused: Consider the agreement verb *GIVE* and the spatial verb *MOVE-BY-HAND*. The handshape for these two verbs is similar and, in each of the following sentences, the dominant hand moves from one side of the signing space to another.

(7) x-GIVE-y

‘person$_x$ give to person$_y$.’

MOVE-BY-HAND-FROM-x-TO-y

‘move object from x to y.’

If the initial and final locations of these two signs were reversed, the meanings would be changed to ‘person$_y$ give to person$_x$’ and ‘move object from y to x,’ respectively (Liddell 1980b). While they lack person and number inflections, many spatial verbs—like *MOVE*, above—include the characteristic linear movement of agreement verbs. Unlike agreement verbs, spatial verbs with a first-person subject may have a beginning point in any neutral space. This beginning point, then, may resemble first-person agreement when in fact it is a locative marker:

(8)

    a. $_1$INDEX$_i$WALK$_j$.

        'I walked from here to there.'

    b. $_1$INDEX$_j$WALK$_k$.

        'I walked from there to there.'

    c. $_1$INDEX$_k$WALK$_l$.

        'I walked from there to there.'

The first sentence above can be more accurately translated as 'I walked from a location near myself to another one over there' (Padden 1988). Other examples of spatial verbs in ASL include *GO-TO, DRIVE-TO, MOVE, PUT, BRING/CARRY*.

Both spatial and agreement verbs make productive use of the signing space; spatial verbs use the signing space to refer to *locations*, however, while agreement verbs use it to refer to *arguments*. Poizner, Klima, and Bellugi (1987) argue for two types of signing space, *syntactic* and *topographic*. The actual horizontal plane of signing space is the same for each type, but "in spatial description the relations among spatial loci become significant because they represent actual spatial relations topologically. This significance of relations among loci for mapping stands in contrast to the arbitrary , abstract nature of loci established for the syntax and discourse of ASL" (1987). So a signer's use of topographic space reflects the arrangement of items in the real world, while his use of syntactic space arises from within the language and, consequently, does not necessarily map onto the real world (Sutton-Spence and Woll 1999). Syntactic space, as used with agreement verbs, is grammatical. Topographical space, as used with spatial verbs, is iconic; for example, if a signer describes the

placement of furniture in his living room, that spatial layout would represent the actual layout of the living room.

Liddell (1990) argues against this view, focusing on the distinction between referential equality (associated with syntactic space) and location fixing (associated with topographic space). In the class of agreement verbs, Liddell insists, any connection between the location of the locus and the articulation of the verb is coincidental, because the placement of the verb is lexically specified. To establish an index, then, is to locate an entity, whether or not a human referent is present . In addition, classifier handshapes may also be used to locate a referent. If, for example, the index finger (the 1-classifier) is used to represent a person, this classifier would remain in place while the verb, perhaps *ASK (-QUESTION)*, is directed toward its middle, since the handshape functions as the entire body (with no discernible parts) of the referent. This is an example of location fixing. Consider the three agreement verbs *INFORM*, *TELL*, and *GIVE*: With a present referent or a spatially established index, all three verbs would be articulated at a different, lexically specified, height, but when directed at a classifier handshape, no such height distinctions are made . If a locus is established without a classifier, by pointing, then other classifier predicates can move toward it, either as old referents change position or as new referents enter the scene. These facts prove that, even with agreement verbs, topographical space is relevant. Janis (1992) concurs, noting that locative pronouns and locative agreement appear to employ aspects of both syntactic and topographic space.

Distinguishing agreement and spatial verbs often proves problematic, though, because some verbs, like *LOOK-AT*, act like both types in different contexts: In sentences like *I-LOOK-AT-YOU* and *THEY-LOOK-AT-ME*, the verb acts like an agreement verb; but in sentences like *I-LOOK-AT-MY-ARM* and *I-LOOK-AT-THE-FLOOR*, it acts like a spatial verb (Sutton-Spence and Woll 1999). The easiest way to determine the verb type is to consider what kind of space it maps: agreement verbs utilize syntactic space while spatial verbs utilize representational space. In addition, agreement verbs are limited to movement within a horizontal plane, while spatial verbs can move in any plane within the signing space (Padden 1990). Liddell posits two criteria for distinguishing agreement and spatial verbs: (1) whether the hand must move to a specific locus in the signing space, and (2) "whether that locus identifies the subject or object of the verb or signifies the initial and/or final location of the entity." Generally, agreement verbs indicate the subject or object without moving completely to or from specific loci. With spatial verbs, *near*, *far from*, and *at* a locus all contrast (Liddell 1990).

Unlike agreement verbs, spatial verbs are unable to inflect for person or number (Padden 1990)[12]; they can, however, provide details about the path, trajectory, speed, and location of the movement or action. As stated earlier, the movement and location of spatial verbs are 'isomorphic' with the real world in that the verb moves in the same way as its referent (Sutton-Spence and Woll

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[12] Fischer notes that, in a way, spatial verbs do inflect for number, although it is the event that is being pluralized in constructions like BRING-THINGS-FROM-MANY-PLACES (personal communication).

1999). Spatial verbs employ other morphological processes that are unavailable to agreement verbs:

> First, agreement morphology cannot co-occur with locative, manner, instrument, or nominal morphemes. Unlike spatial verbs, where rich combinations of simultaneously occurring locative, nominal, instrument and manner affixes are possible, agreement affixes are exclusive of these affixes. Second, agreement verbs and spatial verbs use the space in front of the signer's body in very different ways. Agreement verbs have certain spatial restrictions that do not apply to spatial verbs; the spatial possibilities of agreement verbs are far more constrained. This second fact…follows from properties of verb agreement morphology in natural languages. (Padden 1990)

Number agreement morphemes may be many and complex, but all involve a stable trajectory of movement. Locative morphemes, in contrast, "are drawn from a rich class of forms, each varying finely one from the other in range of possible locations. Consequently, what is phonetic variation for number agreement is distinctive for locative morphology." In addition, pronoun clitics may accompany number agreement (Padden 1988).

Although nouns and adjectives can serve as predicates in ASL, most often the nucleus will consist of one of these three types of verbs, sometimes in combination with a classifier. Padden (1990) provides a summary of the three verb types:

	Plain	Agreement	Spatial
Morphology			
person	*no*	*yes*	*no*
number	*no*	*yes*	*no*
locative	*no*	*no*	*yes*
noun classifier	*no*	*no*	*yes*
instrument classifier	*no*	*no*	*yes*

TABLE 3.2 Verb Types

3.4   ASL as a Head-Marking Language

These verb classes result in structural differences which make ASL typologically unique. An analysis of agreement and spatial verbs would indicate that ASL is a head-marking language, since relationships between the predicate and its arguments are marked on the predicate through indexing, as shown by examples in the previous section. However, plain verbs require no such indexing, but neither do the dependent elements have case or adpositional markings when a plain verb is used. ASL is clearly not a dependent-marking language, yet head-marking appears only within two verb classes.

3.5 Prepositional Predicates in ASL

Padden, for example, argues that "the benefactive *FOR* is the only consistently freestanding preposition in ASL," and, unlike English *for*, it agrees with its object (Padden 1990), behavior typical of head-marking languages. For a language to have only one true preposition may seem strange, but in fact, languages with no or even only one adposition are not uncommon. Clearly, more research is needed in this area of sign linguistics. Fischer suggests that perhaps *WITH* and *SINCE* also serve as pre- or postpositions (personal communication).

Locative relationships, normally requiring a prepositional phrase in English, are part of the verb in ASL (Padden 1990). Valli & Lucas elaborate:

> Prepositions show relationships between nouns and predicates or pronouns. In ASL these relationships are typically expressed with classifier predicates, agreement verbs, and the index finger pointing to mean "at." ASL does not have many independent preposition signs like the English words *under, on, in, above, with*, and *to*. ASL does use signs like IN, ON, UNDER, and BEHIND; however, these signs function like predicates and not like prepositions in English. We could call them prepositional predicates. (2000:128)

Per Bresnan (1982), prepositions can be either **predicative** or **non-predicative**. A predicative preposition licenses the occurrence of an NP in the clause, while a non-predicative preposition does not (Van Valin and LaPolla 1997). In the sentence *Kim gave the book to Sandy*, for example, the NP *Sandy* is licensed not by the preposition *to* but by the verb *give*, making *to* in this sentence an example of a predicative preposition. In the sentence *Robin read in the library*, though, the NP *the library* is licensed by the preposition *in* and is not related to the meaning of the verb *read*, making *in* in this sentence an example of a non-predicative preposition. Preposition-like signs in ASL are normally combined with a classifier predicate, an agreement verb, or indexing; when combined with a classifier predicate (10) or an agreement verb (11), the result is a predicative preposition, but when combined with indexing (12), the result can also be a non-predicative preposition. Valli & Lucas illustrate prepositional

predicates with the sign *INSIDE*; to represent inner feelings, this sign is produced

on the chest with repeated movement (Valli and Lucas 2000):

(9)   OLD FEELING STILL INSIDE-my-chest

      Adj   N   Adv   Pred

      'I still have that old feeling.'

The repeated movement added to INSIDE makes the sign a predicate. In (10)

below, the 1-CL (the index finger of the dominant hand extended upright)

represents a standing individual, and the movement incorporates the

prepositional meanings of *to* and *from*:

(10) $\overline{\qquad\qquad\text{t}}$
    POSS FRIEND, 1-CL
     N   CL Pred + Prep

    'My friend walked from here to there.'

In example (11), the agreement verb GIVE incorporates the preposition meaning

to:

(11) $\overline{\qquad\text{t}}$
    BOOK, A-N-N$_a$ $_a$GIVE$_b$ $_b$J-O-H-N
               Pred + Prep

    'As for the book, Ann gave it to John.'
Example (12) illustrates a non-predicative preposition, the index:

(12)   INDEX$_a$ $_a$LIVE INDEX$_b$ $_b$CHICAGO
                   Prep   N
    'He lives in Chicago.

      Classifier predicates and agreement verbs, by incorporating the

prepositional relationship into their structure, can function as prepositions by

conveying the relationship between nouns/pronouns and predicates. Elements of

the periphery are overtly signed and/or marked, sometimes in a departure from

true ASL structure by using an English-like phrase and a preposition sign. The constituent structure of an ASL with both a predicative (*to*) and non-predicative (*in*) preposition is illustrated below in **Figure 3.1**. *SHOW* is an agreement verb. As explained above, signs with preposition-like meaning are, in fact, more predicative in nature. True non-predicative prepositions do not really occur in ASL, but are actually indices indicating direction or location. Predicative prepositions, like *to* above, being combined with either a classifier or an agreement verb, occur only in clausal nuclei, as with *SHOW*.

Figure 3.1 Constituent Projection of ASL Sentence

3.6   Non-Predicating Elements

As for the other elements of the Layered Structure of the Clause (LSC),

ASL employs primarily direct core arguments (Van Valin and LaPolla 1997),

coded in the semantic representation—and location in the signing space—of the

verb (i.e., *LOOK*, *PUT*, *CRASH*, and *BREAK*). Given the lack of adpositions in

signed languages (illustrated below in section 2.5), many arguments that are

oblique (that is, marked by a preposition) in English and other spoken languages

are direct in ASL; these arguments they are not marked by case but are

unmarked. As shown above in the discussion of agreement and spatial verbs,

ASL has the means to incorporate grammatical roles through inflection of subject

and object; in addition, ASL can systematically incorporate semantic features of

arguments of the verb. Consider the verb *stabbed*, which in English does not

specify an instrument but in ASL does. While incorporation in English typically

involves a verb form that is identical to the noun from which it was formed (e.g.,

knifed), incorporation in ASL consistently uses a classifier to indicate the size and

shape of the object or the way in which the objects are handled (Brown et al.

1991).

In constructions involving instruments, particularly, ASL relies on

simultaneous means, most commonly morphological incorporation (i.e., the

concurrent articulation of two or more morphemes) to express a particular

concept. English typically uses syntax for this purpose; for example, in English

we would say, *the man cut the paper in half with the paper cutter*, but in ASL,

the sign *CUT* would be produced with a handle classifier and an appropriate

movement to show that a paper cutter was used; in other words, the instrument

is often incorporated into the verb. ASL has the means and often the requirement to systematically integrate both grammatical roles and semantic features of arguments of the verb. Consequently, ASL verb morphology often necessitates that certain information be provided, so elements that are considered arguments in ASL may not even be present in English. Brown, Fischer, and Janis note that signers usually incorporate as many thematic roles as are feasible into the morphology.

3.7 Operators in ASL

Sign linguists readily recognize the grammatical categories of *aspect*, *reference*, and *deixis* in ASL, although tense, discussed below, is highly debatable, and most sign linguists prefer instead to discuss *time* markers. All four categories, however, are operators in RRG, which has previously been applied only to spoken languages. *Reference*, which indicates "the relationship between noun phrases and their referents," is usually indicated by determiners (Valli and Lucas 2000): pointing signs made with the index finger and occurring before, during, or after the noun they modify (Valli and Lucas 2000). Likewise, *deixis* also involves pointing and is used to indicate "orientation or position of objects and events with respect to certain points of reference" (Valli and Lucas 2000). ASL employs three types of deixis: personal, spatial, and temporal. In the question *Do you have any questions about that?* uttered by a teacher while pointing at the blackboard, the personal pronoun *you* and the demonstrative pronoun *that*, reflect personal and spatial deixis. Temporal deixis, which orients objects or events in time, will be elaborated below in relation to tense (Valli and

Lucas 2000). Although both reference and deixis involve pointing, they have different meanings and functions, and neither occurs in the same environment as the other; therefore, reference and deixis are in complementary distribution. Other manual and non-manual aspects of ASL, though, also modify different layers of the clause and relationships between them. Such modifiers, which differ from predicates and their arguments, are Operators. In the LSC, RRG recognizes the following operators, all of which are available to signers (Van Valin 2004; Van Valin and LaPolla 1997):

Nuclear Operators	Core Operators	Clausal Operators
	Directionals	Status
Aspect	Event Quantification	Tense (Time)
Negation	Modals	Evidentials
Directionals	Internal Negation	Illocutionary Force

TABLE 3.3 Operators in the LSC

3.7.1 Time

Although ASL has a number of ways to express time, most sign linguists agree that it does not employ tense in its truest sense.[13] Instead, ASL uses temporal adverbs anchored to an imaginary timeline running perpendicular to the signer's body (Frishberg 1979): The area nearest the body represents the present, while the area behind represents the past and the area in front represents the future. Signs referring to present or near-present events— *YESTERDAY* and *RECENTLY*, for example—are articulated close to the torso. Signs referring to more distant events, whether past (*ONCE-UPON-A-TIME* and *LONG-TIME-AGO*) or future (*LATER* and *FROM-NOW-ON*), are articulated

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[13] Neidle, et al, argue that ASL does have a set of lexical tense markers, which are similar to time adverbials but with different articulatory and distributional properties (Neidle et al. 2000). NihonSyuwa, the sign language of Japan indisputably employs grammatical tense (Fischer and Osugi 2002).

further away in the appropriate direction (Baker-Shenk and Cokely 1980). Some of the signs (*YESTERDAY* and *TOMORROW*) are full <u>lexical items</u>, related to the imaginary time through their location, orientation, and movement but not dependent on it for determination of their meaning. Others, like *UP-UNTIL-NOW* and *FROM-NOW-ON* require movement along the timeline to secure their meaning (Valli and Lucas 2000). By inflecting time lexemes, signers can indicate such notions as *regularity*, *duration*, *approximation*, and *repetition* (Baker-Shenk and Cokely 1980). Temporal deixis, "the position or orientation of actions or events in time," then, relies on these lexical items, bound morphemes, and possibly even body and hand position (Valli and Lucas 2000).

Finally, to indicate time in its purest sense, ASL employs the sign *WILL* to indicate future. In addition, the sign *FINISH* often refers to the *completion* of an event, thereby implying that the event happened in the past (Baker-Shenk and Cokely 1980); Fischer & Gough (1999), however, distinguish seven meanings for this sign. Their research indicates that the past use of *FINISH* is reserved primarily for children, while adults more commonly use *FINISH* as a perfective indicating either completion of an action or in sequences of actions (Fischer and Gough 1999). Only these two signs, *WILL* and *FINISH*, are operators in RRG.

3.7.2 Aspect

Unlike tense, which indicates the "temporal relationship between the event time and speech time," aspect concerns "the temporal structure of the event itself" (Van Valin and LaPolla 1997). Klima & Bellugi (1979) distinguish two types of aspect in ASL: distributional and temporal. *Distributional aspect*, discussed next, signals event quantification—and is, therefore, a core operator.

Temporal aspect is actually a coverall term for a way of modifying predicates to indicate onset, duration, frequency, recurrence, permanence, or intensity of states or events—the traditional understanding of aspect. From an RRG perspective, however, some of these morphological operations are *Aktionsart*, not aspectual, distinctions. Only those inflections that reveal something about the internal temporal structure of the action or event denotated by the verb are aspectual.

In the earliest studies of aspect in ASL, Fischer (1973) and Fischer & Gough (1978) focused on reduplication: fast reduplication (without horizontal movement) to indicate habitual aspect and slow reduplication to indicate continuous aspect (1978). Later, Pederson, Klima, & Bellugi (1979) expanded the study of aspectual modulations on adjectival predicates and identified eight distinct forms, representing four pairs applying to states and changes of state, as shown in the chart below, all of which are operators in RRG.

Transitory State	Change to State
Predispositional 'be characteristically sick'	*Susceptative/Frequentative* 'easily get sick often'
Continuative 'be sick for a long time'	*Iterative* 'keep on getting sick again and again'
Protractive 'be sick uninterruptedly'	*Incessant* 'seem to get sick incessantly'
Intensive 'be very sick'	*Resultative* 'get (fully) sick'

TABLE 3.4. Aspectual Modulation Pairs

Inflection in ASL usually involves a change not in the handshape or orientation but in the basic structure of the sign, which results in a change in location (Valli and Lucas 2000). Consider the sign for *STUDY*, analyzed according to the Liddell-Johnson Movement-Hold Model, in which

> [S]igns consist of hold segments and movement segments that are
> produced sequentially. Information about the handshape, location,
> orientation, and nonmanual signals is represented in bundles of
> articulatory features....similar to the sounds of spoken languages. Holds
> are defined as periods of time during which all aspects of the articulation
> bundle are in a steady state; movements are defined as periods of time
> during which some aspect of the articulation is in transition. More than
> one parameter can change at once. (Valli and Lucas 2000)

So, for *STUDY*, the base, or non-dominant, hand is a hold in the **B** handshape, palm upward, while the dominant hand is in the **5** handshape, palm downward, with the fingers wiggling. The sign is a hold with internal movement (107). To produce the meaning of *STUDY-CONTINUALLY*, the active hand moves repeatedly in a circle (107).

3.7.3   Event Quantification

Distributional aspect serves to differentiate "actions denoted by the verb, distinguishing (a) whether a specific act presents itself as an indivisible whole or as several separate actions, (b) whether the actions are specified for occurrence at distinct points in time, (c) whether the actions are specified for their order of occurrence, and (d) how the actions are distributed with respect to individuals participating in the action—an action for each one, or actions for certain ones, certain groups, or just anyone" (Klima and Bellugi 1979). How verbs are marked for distributional aspect is a matter of signer choice and focus (284). Below are brief descriptions of seven inflectional forms:

Exhaustive: actions distributed to each individual in a group—the actions viewed

> as a single event.

Allocative determinate: actions distributed to specified individuals at distinct

> points in time.

Allocative indeterminate: actions distributed to unspecified individuals over

> time.

Apportionative external: actions distributed around members of a closed group.

Apportionative internal: actions distributed all over, within a single whole.

Seriated external: actions distributed over a series of objects in the same general

> class.

Seriated internal: actions distributed with respect to internal features (or typical

> parts) of an object.

The use of these forms indicates that some argument of the verb is grammatically

multiple and, most important, that the action of the verb is distributive as well

(Klima and Bellugi 1979). Note that only a few verbs, such as *GIVE* and *LOOK*,

can take all of these inflections (Fischer, personal communication). Using *GIVE*,

Partee (1995:548) offers a set of sentences in ASL that illustrate the inflectional

forms identified by Klima & Bellugi above. Because *GIVE* is an agreement verb,

arguments are encoded in the verb through referential indexing, so the start and

end points of the verb motion indicate agreement (Partee 1995).

(11)

a. singular

[Woman]_{TOP} book I-give-singular.

I gave a/the woman a/the book.

b. dual

[Woman]_{TOP} book I-give-dual.

I gave two women books (one book to each).

c. allocative indeterminate

[Woman]_{TOP} book I-give-allocative_indeterminate.

I gave some women books (one book to each).

d. allocative determinate

[Woman]_{TOP} book I-give-allocative_determinate.

I gave some (specific) women books (one book to each).

e. multiple [multiple action viewed as a single episode]

[Woman]_{TOP} book I-give-multiple.

I gave the/all the women books (one each, but single action).

f. exhaustive [distributive to each of a given set]

[Woman]_{TOP} book I-give-exhaustive.

I gave each woman a book.

g. non-distributive

[Woman @ CL: GROUP]top book I-give-singular. (@ share.)

I gave the group of women a/the book. (They shared it.)

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3.7.4 Negation

Interestingly, to produce a negative sentence, signers need not articulate the sign for *not*: the non-manual head-shake—possibly while frowning, squinting, wrinkling the nose, or raising the upper lip—is usually sufficient (Baker-Shenk and Cokely 1980). For example, to say, "The man is not home," a signer may simply produce the following (Valli and Lucas 2000):

(12)

<div style="text-align:center">

_____neg
MAN HOME

</div>

This head-shake can both negate positive sentences and reinforce negative sentences (Yang and Fischer 2003). When used, this non-manual marking must extend to the scope of the negative operator (17). In fact, negation can operate at any of the three levels of the LSC, and often the nonmanual signals alone dictate whether a negative utterance has wide or narrow scope. In Chinese Sign Language (CSL), in contrast, the simultaneous head-shake is insufficient and ungrammatical for negating positive signs; instead, the signer may articulate the sign and then add either the headshake or a negative hand-wave (Yang and Fischer 2003). ASL also has lexical items meaning 'not': *NOT*, *DON'T* (formal or imperative), and *NOT-YET* (momentary) (Baker-Shenk and Cokely 1980). For emphasis, the negative sign can be repeated sentence-finally (148).

3.7.5 Directionals

Simply put, directionals indicate the direction of the action specified by the verb or the motion of one of its core arguments (Van Valin and LaPolla

1997)[14]. **Nuclear directionals** are rare and concern only the orientation of the action or event itself, whereas **core directionals** express "the orientation or motion of one participant with reference to another participant or to the speaker" (Van Valin and LaPolla 1997). ASL employs both nuclear and core directionals, although the latter may be more common given the structure of spatial verbs, which can move along any plane to convey information about the object or participant of the action. As an example of a nuclear directional, Van Valin cites *burn uphill*, which takes no argument, in this sentence from Kewa, a Papuan language:

(13)

    Ira-pa-saa-ru

    Cook-PRFV-up-1sgPAST

    (V-ASPECT-DIR-TENSE)

    'I burned it upward (as a hill).

The Mayan language Jakaltek, has a verb meaning 'to induce something to move,' and prefixes are added to indicate direction of movement since there is no word meaning 'push' or 'pull' in the language (Craig 1977). Some languages, like German, attach particles (*her* and *hin*) to the verb to indicate whether the action is toward or away from the speaker. Other languages, like English, have separate morphemes (usually prepositions) to indicate the direction of the action, as in "Mother hollered *up* the stairs." Samoan also uses particles to indicate direction toward or away from the speaker (Marsack 1980). Many languages, English

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[14] Here, *directional* refers to verbs that involve semantic, but not necessarily morphological, directionality. This category is distinct from directional verbs, discussed above, which involve morphological agreement.

included, use distinct morphemes to express directional notions (*push* and *pull*) (Van Valin and LaPolla 1997). Both spatial and agreement verbs inherently convey information about not only the action of the verb but also its participants and so are prime candidates for directional operators.

In her analysis of ISL agreement verbs, Meir isolated a directional morpheme (DIR) which indicates the path or trajectory of a referent. This morpheme attaches to the verb root to indicate the direction of motion of the theme argument. Without this morpheme, the transfer verb would be unspecified for direction of motion. The path denotes motion between the source and goal and agrees with both. The ISL directional morpheme is similar to those in German in that it can be either bound or independent; however, rather than being linearly affixed to the stem as in spoken languages, DIR is articulated simultaneously with it (Meir 2002).

Because classifier handshapes in ASL are often used to convey the orientation of an action or event, separating nuclear from core directionals may prove difficult.

3.7.6   Modality

Van Valin & LaPolla use modality to refer to "the root, or deontic, sense of modal verbs," through which the relationship between the subject NP and the action is expressed. Modality includes such notions as strong and weak obligation (*must* or *have to* versus *ought* or *should*), ability (*can* or *be able to*), and permission (*may*). In ASL, two morphologically related signs are used for both strong and weak obligation, the only difference being the intensity and/or repetition. ASL has a sign to express ability but does not have a sign to express

permission. Fischer has identified four negative modals in ASL, two of which are *CAN'T* and *WON'T* (in the sense of 'refuse'). In addition, *NOT* forms a compound with *MUST* to form a negative modal and with the "quasi-modal" *WANT* (Yang and Fischer 2003).

3.7.7   Status

This operator subsumes external (or wide scope) negation, epistemic modality, and realis-irrealis distinctions (Van Valin and LaPolla 1997). As in English, ASL deontic and epistemic modality require the same lexical forms but with different meanings and different nonmanual signals; the "difference between epistemic and deontic modality is necessity and possibility versus obligation and ability" (Van Valin and LaPolla 1997). As explained above, deontic modals (expressing necessity and possibility), are core operators, while epistemic modals (expressing obligation and ability) are clausal operators. To illustrate the difference, Van Valin offers the following paraphrases:

<u>Deontic</u>: John must/is obliged to win the race.

<u>Epistemic</u>: It is necessary for John to win the race.

<u>Deontic</u>: John is able to win the race.

<u>Epistemic</u>: It is possible for John to win the race.

For each set of sentences, the same sign would be used to express both meanings, but the intensity or repetition would be stronger for the deontic use.

The realis-irrealis distinction indicates "whether the event described is real or hypothetical" (Van Valin and LaPolla 1997). According to Fischer, this area of ASL is yet to be systematically investigated. Her impression, though, is that "irrealis is difficult to express in ASL when one is using definite constructions,"

such as classifiers. Because classifiers require an antecedent and are, therefore, definite, their use assumes the existence of objects to which they refer (Yang and Fischer 2003). To show that some part of their conversation is hypothetical, signers may rely on conditional and topicalized sentences. Nonmanual signals, including body posture and eyebrow raise, may also indicate that the event being described is not real. The operator category of status, then, covers "a semantic continuum ranging from necessity (and realis) at one end to possibility (and irrealis) at the other (Van Valin and LaPolla 1997).

3.7.8   Illocutionary Force

Illocutionary Force is a universal operator indicating whether an utterance is an assertion (declarative), a question (interrogative), a command (imperative) or an expression of a wish (optative) (Van Valin and LaPolla 1997). In ASL, these distinctions are made through both lexical items and nonmanual expressions. To make an assertion, signers nod their head to indicate that a statement 'is true' or 'did/will happen.' For emphasis, signers will nod repeatedly; in addition, they tighten and close their lips. To ask yes-no question, the signer would use a brow raise, widened eyes, often a forward tilt of the head, and sometimes a shoulder raise. Content questions are usually accompanied by a brow squint, often a head tilt, and sometimes raised shoulders. Commands usually involve emphasis— through speed and sharpness—on the verb (Baker-Shenk and Cokely 1980).

The structure below shows both the constituent and operator projections of the ASL sentence presented in **Figure 3.2**.

SENTENCE

LDP — CLAUSE

PERIPHERY ----------------------> CORE

ARG   NUC   ARG

NP   PRED   NP   PoCS

ADV   PP   PRO   V   PRO

YESTERDAY   LIBRARY   ROBINⱼ   ⱼ SHOW ₖ   PATₖ   WHAT?

whq

V

NUC

CORE

CLAUSE   <-----------------------
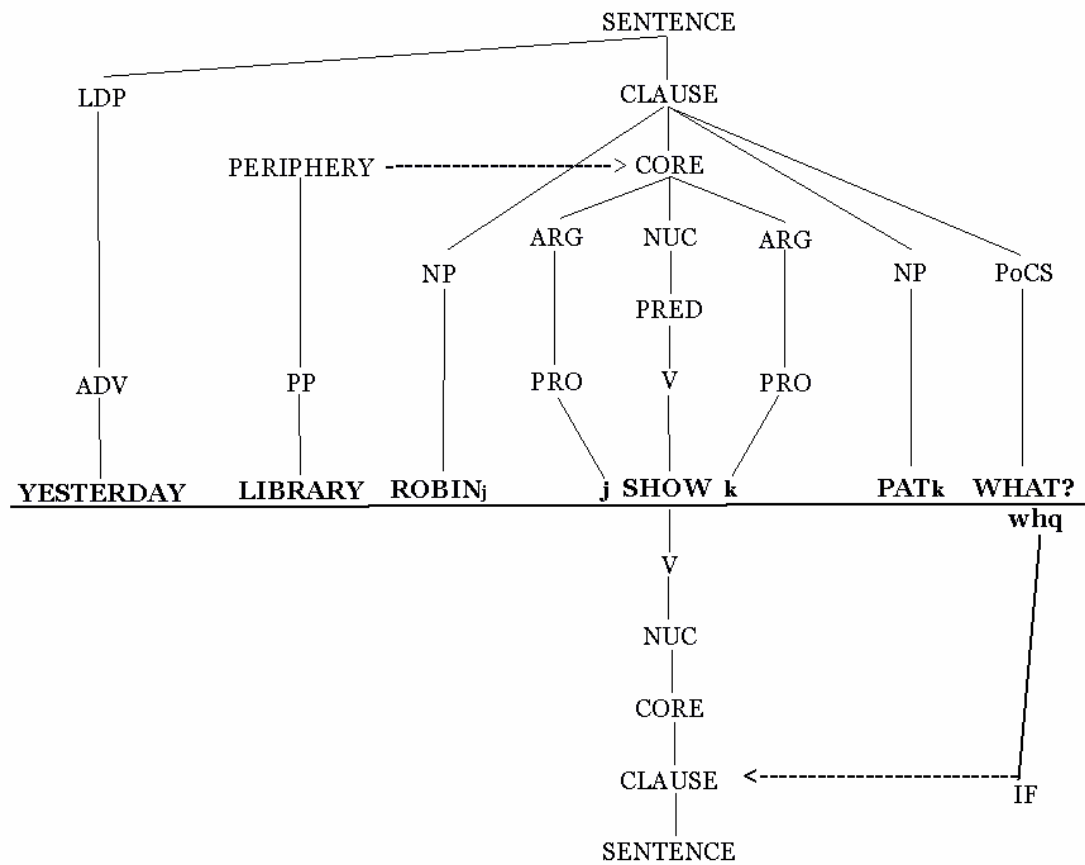
SENTENCE   IF

YESTERDAY LIBRARY ROBINⱼ ⱼSHOWₖ PATₖ WHAT?
Yesterday, in the library, what did Robin show to Pat?

Figure 3.2 Operator Projection of ASL Sentence

3.8 Grammatical Relations in ASL

As stated in the third chapter, one goal of RRG is to determine whether the constructions of a language are organized in terms of subject-object, actor-undergoer, or topic-comment dichotomies. The analysis above of the *coding*, or morphological, properties of grammatical relations in ASL revealed that agreement—person, number, and even locative—is heavily dependent on indexing. As for *behavioral* properties of grammatical relations, consider the following examples, all of which are missing an NP:

(14)

      a. Susan$_i$ wants _____$_i$ to run in the park.

      b. Susan$_i$ wants _____$_i$ to eat a hamburger.

      c. Susan$_i$ wants _____$_i$ to be taller.

      d. *Susan$_i$ doesn't want the police to arrest _____$_i$.

      e. Susan$_i$ doesn't want _____$_i$ to be arrested by the police.

As the (d) example shows, certain restrictions determine which NP can be omitted or matrix-coded. In the first two sentences (a) and (b), the missing or matrix-coded element is an actor. In the (c) and (e) sentences, the undergoer is omitted. Likewise, in the ungrammatical (d) sentence, the missing element has the same semantic role as the grammatical (c) and (e) sentences—undergoer— which means that this particular restriction cannot have a semantic basis. The difference between the grammatical and ungrammatical sentences concerns the syntactic relationship between the NP and the verb: In the (d) sentences, the NP would be the object, while in the (e) sentences, it would be the surface subject. The syntactic function of the NP affects the verb, making this an example of a restricted neutralization.

Next, consider ASL. While it does not have a passive voice, ASL does have a sort of middle. The major syntactic difference between ASL verbs and the corresponding English gloss concerns transitivity: Many intransitive verbs in English are transitive in ASL, while many transitive verbs in English are intransitive in ASL. Fischer & Gough (1978) offer two reasons for this. First, although ASL verbs often incorporate directional meanings, as explained earlier, the language does not use enclitics. Fischer argues, however, that changes in

verb formation to signal agreement may be derived from clitic pronouns (Klima and Bellugi 1979:396). Consider the pairs of sentences below, in which the English enclitics/prepositions are underlined:

(15)

I arrived <u>in</u> New York.	INDEX₁ ARRIVE NEW-YORK.
I went <u>to</u> New York.	INDEX₁ GO-TO NEW-YORK.
I am ashamed <u>of</u> you.	INDEX₁ SHAME YOU.
George is afraid <u>of</u> spiders.	GEORGE AFRAID SPIDER.
The linguist got even <u>with</u> the government.	LINGUIST REVENGE GOVERNMENT.
The vase fell <u>off</u> the table.	TABLE VASE FALL-OFF.
We will not invite her <u>to</u> our party.	WE NOT INVITE-HER OUR PARTY.
I always laugh <u>at</u> him.	INDEX₁ ALWAYS MOCK HIM.
Do you subscribe <u>to</u> *Ms.*?	YOU SUBSCRIBE *M-S*?

Second, even among semantically similar verbs, some that are intransitive only or transitive only in English may be either in ASL. In general, the transitive in ASL is the causative of the intransitive, or the intransitive is the passive (or middle) of the transitive.   In English, we have sentences like these:

(16)

    a. The door opened.

    b. The boy opened the door.

(17)

    a. The ice melted.

    b. The sun melted the ice.

This phenomenon depends, of course, on the class of the verb, since activity verbs would likely behave differently. Still, in ASL, the situation is more complex:

(18)

    a. HOW MUCH BUTTER LEAVE IN COLD BOX?

        'How much butter is left in the icebox?'

    b. PLEASE LEAVE BUTTER IN COLD BOX YOU.

        'Please leave the butter in the icebox.'

(19)

    a. MAN OPERATE FOR CANCER.

        'The man was operated on for cancer.'

    b. DOCTOR OPERATE MAN FOR CANCER.

        'The doctor operated on the man for cancer.'

(20)

    a. PICNIC POSTPONE BECAUSE RAIN.

        'The picnic was postponed because it rained.'

    b. WE POSTPONE PICNIC BECAUSE RAIN.

        'We postponed the picnic because it rained.'

(21)

    a. BABY SAVE IN BATH, CAN SWIM.

        'The baby is safe in the bathtub since it can swim.'

    b. DOG SAVE BABY.

        'The dog saved the baby.'

Now, with this understanding of the syntactic differences between English and ASL verbs, consider the signed counterparts of the sentences presented in (13) above:

(22)

a. Susan$_i$ wants _____$_i$ to run in the park.   SUSAN$_i$ WANT _____$_i$ RUN INDEX$_{j}$ $_j$PARK.

b. Susan$_i$ wants _____$_i$ to eat a hamburger.   SUSAN$_i$ WANT _____$_i$ EAT HAMBURGER.

c. Susan$_i$ wants _____$_i$ to be taller.   SUSAN$_i$ WANT _____$_i$TALLER.

d. *Susan$_i$ doesn't want the police to arrest _____$_i$.   *SUSAN$_i$ NOT WANT COP $_i$ARREST _____$_i$.

e. Susan$_i$ doesn't want _____$_i$ to be arrested by the police.   SUSAN$_i$ NOT WANT COP$_j$ _____$_{i}$ $_j$ARREST$_i$.

These sentences show that in both English and ASL, the controllers (the trigger for verb agreement) and pivots (the missing arguments) are syntactic, meaning they involve grammatical relations, rather than semantic relations (Van Valin 2004). As in English, the single argument of an intransitive verb in ASL (whether it is an actor or an undergoer) and the actor of a transitive verb are treated alike. Note that ASL has no passive voice, so sentence (e) would be signed exactly like sentence (d).

Following Dixon (1972), Van Valin proposes characterizing patterns of neutralizations in a language:

(23)

A_T =   Actor of a transitive verb

U_T =   Undergoer of a transitive verb

d-S =   derived Subject of an intransitive verb

Given these labels, then, English can be characterized as having a Privileged Syntactic Argument (PSA) neutralization pattern of [S,A_T,d-S] and ASL [S,A_T]. This pattern characterizes the prefixal markings in ASL, while [U_T] characterizes the suffixal markings. Although PSA seems to coincide with syntactic subject in these examples, the two notions are not the same, partly because PSAs are construction-specific while grammatical relations are not. In addition, this parallelism between PSA and subject is not as consistent in all languages as it is in English and ASL. The occurrence of the subject as the PSA in the majority of constructions in many languages, however, does allow for the categorization of languages as either ergative or accusative.

3.9   Complex Sentences

3.9.1   Levels of Juncture.

RRG characterizes subclausal units in accordance with the parts of the Layered Structure of the Clause—nucleus, core, and clause. In complex constructions, three basic patterns are evident:

(46)

 a. [$_{CORE}$ ... [$_{NUC}$ PRED] ... + [$_{NUC}$ PRED] ...]   Nuclear Juncture

 b. [$_{CLAUSE}$ ... [$_{CORE}$ ...] ... + ... [$_{CORE}$ ...] ...]   Core Juncture

 c. [$_{SENTENCE}$ ... [$_{CLAUSE}$ ...] ... + ... [$_{CLAUSE}$ ...] ...] Clausal Juncture

These patterns represent the unmarked linkage paradigm, with units of the same

level combining—nucleus with nucleus, core with core, and clause with clause. A

nuclear juncture, then, has a single core with multiple nuclei, as in (47) (Van

Valin and LaPolla 1997):

(47)

 a. John forced the door open.

 b. John forced open the door.

In this sentence, *force* and *open* are distinct predicates, although in (b) they

function as a single complex predicate. An ASL sentence with a nuclear juncture

is presented in (48) below. Here *push* and *open* are distinct predicates

functioning as a single complex predicate.

(48) ‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾Q
   DON'T-MIND TRY $_2$PUSH DOOR-OPEN.

  'If you don't mind, would you try to push the door open?'

Although PUSH is a plain verb, nuclear juncture structures are more common

with spatial verbs and classifier predicates. In addition to providing information

about the location of the action, spatial verbs can provide details about the path,

trajectory, and speed of movement of the action.   In the example above, DOOR

would be represented with a classifier, and then moved to show its being forced

open.

In a **core juncture**, a single clause has multiple cores, each of which may be internally complex; that is, each core may contain a nuclear juncture:

(49)

    a. I ordered Fred to force the door open.

    b. John forced the door to open.

In (a), the two cores are *I ordered Fred* and *Fred force the door open*; in (b), *John forced the door* and *the door open*. In this type of structure, one core argument is semantically an argument of the nucleus in both cores: in (a) *Fred* and in (b) *door*. In sentence (49a), the second core contains a nuclear juncture, as described above. The sentences in (50) below are examples from ASL of core juncture (Padden 1988):

(50)

    a. $_1$FORCE$_i$ MAN $_i$GIVE$_j$ BOY $_j$POSS BOOK.

       "I forced the man to give the boy his book.'

    b. $_i$PERSUADE$_1$ BUY $_i$POSS CAR.

       'He persuaded me to buy his car.'

In a **clausal juncture**, a sentence consists of whole clauses, which may be dependent on one another, as illustrated in the following examples from English:

(51)

    a. Anna read for a few minutes, and then she went out.

    b. Bill went to the party after he talked to Mary.

    c. Harry ran down the hall laughing loudly.

For complex structures like these, ASL would resort to topicalization or multisentence discourses.

      Nexus relations define the syntactic relationship between units in a structure. RRG posits three types of nexus relations: coordination, subordination, and cosubordination, as illustrated in **Figure 3.3**. In a coordinate construction, illustrated in (50a), two or more independent units of equal status are joined. In a subordinate construction (50b), one of the clauses is modified by one or more subordinate clauses functioning as sentential 'subjects,' 'objects,' or modifiers, usually introduced by a subordinating conjunction; in addition, the subordinate clause is grammatically dependent on the main clause. An example of a cosubordinate structure would be Paul *drove to the store and bought some beer*. A cosubordinate construction has features of both coordinate and subordinate structures: although the clauses may seem independent in that neither is dependent on the other as a modifier or argument, the clauses do share an operator across the units in the juncture.[15] This operator dependence at the level of juncture is a distinguishing feature of cosubordination. The relevant operators in a nuclear juncture are (nuclear) directionals, (nuclear) negation, and aspect; in a core juncture, they are modality, (core) directionals, and internal negation; and in a clausal juncture, they can be any of the clausal operators but are usually tense and illocutionary force.

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[15] Coordination and cosubordination are abstract linkage relationships, and conjunction, a formal construction type, is one way by which they are instantiated.

Figure 3.3 Nexus Types

The three levels of juncture combine with the three nexus types, resulting in nine possible juncture-nexus types in universal grammar, not all of which are evidenced in every language. American Sign Language displays the same six of these types as English, as listed below.

American Sign Language Juncture-Nexus Combinations	
a. Q DON'T-MIND TRY PUSH DOOR-OPEN? 'If you don't mind, would you try to push the door open?	Nuclear Cosubordination
b. SAM TRY LIFT BOX. 'Sam tried to lift the box.'	Core Cosubordination
c. GO NOW MISTAKE. 'To go now would be a mistake.'	Core Subordination
d. ᵢPERSUADE₁ BUY ᵢPOSS CAR. 'He persuaded me to buy his car.'	Core Coordination
e. DAWN GO MALL SPEND#. 'Dawn went to the mall and spent a lot of money.'	Clausal Cosubordination
f. LOUIS SHOCKED MARY SELL POSS JEEP. 'Louis was shocked that Mary sold her Jeep.'	Clausal Subordination
g. MARY DANCE SECOND-OF-TWO SING. 'Mary danced and then, as the second of two, she sang.'	Clausal Coordination

TABLE 3.5. Juncture-Nexus Types in ASL

Nuclear junctures are single cores with more than one nuclei functioning as a single complex predicate and taking a single set of core arguments. In example (a) above, the core consists of PUSH and OPEN, two nuclei sharing the argument DOOR. ASL does not seem to permit nuclear subordination, in which two nuclei are structurally dependent upon one another as modifier and argument. Nor does ASL seem to permit nuclear coordination, in which the core consists of two nuclei with independent nuclear operators.

In a core juncture, a single clause contains more than one core, each of which may have its own core argument(s). The clause in (b) contains two cores, STRUGGLE and LIFT, which share the argument SAM. In cosubordination, these cores must also share one of the relevant operators: modality, (core) directionals, or internal negation, as in the sentence below with a modal:

(52)   SAM MUST TRY LIFT BOX.

'Sam must try to lift the box.'

The core operator MUST would have scope over both cores; that is, *Sam* would be obligated not to just *try* but to *try to lift the box*. Example (b), then, illustrates core cosubordination, while example (c) illustrates core subordination. Again, a single clause contains two cores, GO and MISTAKE, the latter an adjectival predicate. Here, the subordinate core GO NOW functions as an argument of the matrix core MISTAKE. In (d), an example of core coordination, the two cores— PERSUADE and BUY—are independent of one another with respect to operators.

Clausal junctures consist of two or more whole clauses, each of which may be fully independent of the others. In example (e), the two clauses, DAWN GO MALL and DAWN SPEND#, are independent but obligatorily share tense and

illocutionary force operators, making this an example of clausal cosubordination. In example (f), the subordinate clause MARY SELL POSS JEEP functions as an argument of the matrix clause LOUIS SHOCKED. Example (g), with two independent clauses—MARY DANCE and MARY SING—represents clausal coordination.

Clausal junctures consist of two or more whole clauses, each of which may be fully independent of the others. In example (g), the two clauses, DAWN GO MALL and DAWN SPEND#, are independent but obligatorily share tense and illocutionary force operators, making this an example of clausal cosubordination. In example (h), the subordinate clause MARY SELL POSS JEEP functions as an argument of the matrix clause LOUIS SHOCKED. Example (i), with two independent clauses—LEE STUDY and LEE GO PARTY—represents clausal coordination.

3.9.2 Embedded Structures in ASL

3.9.2.1 Relative Clauses

ASL does employ relative clauses with distinct nonmanual marking that occurs during the articulation of the elements of the relative clause: the head is tilted back, the eyebrows are raised, and the muscles of the upper lip are tensed. This nonmanual marking is indicated by (*r*) (Liddell 1980b).

(53)   _____r
          RECENTLY DOG CHASE CAT COME HOME

          'The dog which recently chased the cat came home.'

Such structures are widespread in ASL, but signers might just as easily choose a multi-sentence discourse. A multi-sentence discourse, however, would involve

two assertions (RECENTLY DOG CHASE CAT and [DOG] COME HOME), a sequence of events, whereas the relative clause would involve only one, as distinguished by nonmanual marking.

3.9.2.2 Embedded Clauses

Although complementizers are rare in ASL[16], Padden argues that the following sentences are complement structures with embedded clauses (1988):

(54)

    a. $_1$FORCE$_i$ MAN $_i$GIVE$_j$ BOY $_j$POSS BOOK.

       'I forced the man to give the boy his book.'   (core juncture)

    b. $_i$PERSUADE$_1$ BUY $_i$POSS CAR.

       'He persuaded me to buy his car.'   (core juncture)

    c. INDEX$_1$ HOPE $_i$INDEX COME VISIT WILL.

       'I hope he will come to visit.'   (clausal juncture)

Even though there is no overt marking of the relationship between the two constituents in each sentence, these sentences represent different juncture types. In RRG, as explained above, subclausal units are categorized according to the layered structure of the clause: nucleus, core, and clause. In this theory, only sentence (c) is considered an embedded clause in the traditional sense.

One argument Padden uses to support her claim that such sentences are complex[17] is "subject pronoun copy," which serves as a confirmation by the speaker, a sort of afterthought.   The doubled subject of the matrix clause can

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[16] Fischer (1987) argues that THAT, INDEX, and SELF may function post-clausally as complementizers.

[17] Padden describes all of the complex sentences presented in this section as embedded. From an RRG perspective, however, her arguments do not prove that the linked clause is embedded; instead, her arguments help to distinguish the different nexus types.

follow the linked clause (1988); usually, the matrix clause contains one of these predicates: FORCE, PERSUADE, DECIDE, TELL, ASK, ENCOURAGE, COMMAND.

(55)

    a. $_1$FORCE$_i$ MAN $_i$GIVE$_j$ BOY $_j$POSS INDEX$_1$.

       'I forced the man to give the boy his book, I did.'

    b. INDEX$_1$ DECIDE $_i$INDEX SHOULD $_i$DRIVE$_j$ SEE CHILDREN INDEX$_1$.

       'I decided he ought to drive over to see his children, I did.'

    c. MOTHER SINCE $_i$PERSUADE$_j$ SISTER $_j$COME$_i$ INDEX$_i$.

       'My mother has been urging my sister to come and stay here, she has.'

    d. INDEX$_i$ C-O $_i$COMMAND$_1$ $_i$MOVE$_j$ INDEX$_i$.

       'The company has ordered me to move, it has.'

In fact, the restrictions on doubling provide one means for distinguishing 'embedded' from conjoined structures.

    Another argument that Padden offers to prove that the sentences in (54) above are complex structures concerns negative marking: The scope of negation must extend from the matrix clause into the linked clause (1988):

(56)

    a. $\overline{\hspace{5em}\hspace{5em}\text{n}}$
       INDEX$_1$ WANT INDEX$_i$ GO-AWAY.

       'I didn't want him to leave.'

    b. $\overline{\hspace{4em}\text{n}}$
       $_2$TELL$_1$ STAY ALL-DAY.

       'You didn't tell me to stay for the entire day.'

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The two cores within the clause share the negation marker, so the sentences in (56) represent a core juncture. The sentences in (56) below show that if the second clause is not embedded in the first, then the negative marker can apply only to the first clause. If the negative marker applied to both clauses (rather than simply the matrix clause), both would be negated, resulting in different meanings:

(57)

    a.   n   hn
INDEX_1 TELEPHONE, $_i$INDEX MAIL LETTER.

'I didn't telephone, but she sent a letter.'

    b.   n   hn
INDEX_i SEE, $_i$INDEX UNDERSTAND.

'He didn't see it but she understood.'

The sentences in (57) represent a clausal juncture—two separate clauses with separate scope markers; the nexus relation is one of coordination.

3.10 Summary

Because English is incorporated into ASL (through, for example, fingerspelling)[18], the two languages are inseparable in ways that go beyond translator biases—and which are often unrecognizable even to native signers[19]. In her analysis of word order changes in ASL, Fischer posits two reasons for the impact of English upon the signed language. First, the pressure of numbers: Although hearing people do not often come into contact with deaf people, it is

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[18] Some fingerspelled words lose middle letters, gain movement, and eventually become lexicalized signs; examples include JOB, EARLY, and NO (Battison 1978).
[19] See Battison (1978) for a discussion of loan signs.

nearly impossible for deaf people to avoid hearing people. To be literate, deaf

people must learn to read English, as there is no written form of ASL[20]. Second,

because it is uncommon and even difficult for hearing parents of deaf children to

learn ASL, they often tend to sign English; frequently, then, the input to the deaf

child is a combination of ASL (from deaf peers and teachers in the residential

school) and some signed form of English (from hearing family members) (Fischer

1975). In fact, English and ASL actually represent the extremes of a continuum

on which there are variations, or hybrids: Pidgin Signed English, Signed English,

Manual English, Signed Exact English, and Visible English. The difference in

modality between English and ASL is only the most obvious of many.

Other, more important, differences between the languages, however,

might account for longstanding misconceptions about ASL, both linguistically

and socially. As these first two chapters have shown, English is dependent-

marking language, while ASL, to some extent, is a head-marking language—

depending on verb class. Furthermore, in English, the distinction between direct

and indirect object is an important one, while in ASL, the notion of primary and

secondary objects may, with more research, prove more relevant. Also, an

analysis of complex sentences highlights the role of operators in ASL. As in

English, predicate structure in ASL imposes restrictions on the juncture-nexus

types available in the language; later, these distinctions will prove crucial for

distinguishing indirect and embedded questions and for isolating subjacency

effects. Finally, because it lacks a passive voice, the pattern of neutralizations for

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[20] See, however, the work of Sutton (1986; 1991) and Supalla, Wix, & McKee (2001) and Supalla &
McKee (2002).

ASL would be characterized as [S,A$_T$], while for English, which has a passive, it would be [S,A$_T$,d-S]. For a thorough analysis and understanding of ASL, one must understand the connection and differences between the two languages.

CHAPTER 4: FOCUS STRUCTURE IN ASL

4.1   Introduction to Information Structure

For effective communication, whether spoken or signed, utterances must provide necessary context and require minimal processing for the recipient to be able to correctly interpret the utterance. Assuming that the sentence will be constructed in such a way, the recipient takes the first logical proposition, along with its associated assumptions, as what the speaker/signer intended. Most commonly, the NP referring to the topic of the sentence comes first, and comments about that NP follow; however, the topic need not be the first element in a sentence, and not every sentence has a topic.[21] Lambrecht (1994) refers to this distribution of information in a sentence as *information structure*. In the late 1920s, as the study of modern linguistics was developing, Mathesius (1928) investigated information structure; in recent years, many other linguists have furthered the understanding of the relationship between information structure and sentence structure, but it is largely Lambrecht's work upon which Van Valin and LaPolla based their theory.

Information, according to Lambrecht, involves a

distinction between (i) the *pragmatic states* of the denotata of individual

sentence constituents in the minds of the speech participants, and (ii) the

pragmatic relations established between these referents and the

propositions in which they play the role of predicates or arguments. It is

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[21] The information in Sections 3.1, 3.2, and 3.3 is largely summarized from Van Valin & LaPolla (1997) and Van Valin (2004).

the establishment of such pragmatic relations that makes information possible (Lambrecht 1994).

If someone says, *It was John that left early*, for example, he assumes not only that the hearer knows the referent of the name *John* (the 'focus') but also that someone left early (the 'presupposition'). The relation between the focus and the presupposition, the 'open proposition,' reflects the 'new' information—that it was John who left early. These relations can be exhibited in a variety of ways in the information structure of a sentence.

When a referent is first introduced into a discourse, it is considered a 'new referent'; in many languages, new referents are coded as indefinite NPs. A referent that is identifiable to the addressee will be in one of three activation states: **active**, if the referent is the current focus of consciousness; **accessible**, if it is textually, situationally, or inferentially available because of its presence in the physical context or its relation to something in the physical or linguistic context but not yet the current focus of consciousness; or **inactive**, if it exists in the hearer's long-term but not yet his short-term memory (Chafe 1987).

Usually, when a speaker makes a statement, she is making an 'assertion,' offering information she hopes the addressee will become aware of as a result of his utterance. The assertion may also be referred to as a 'pragmatic assertion' because the utterance is pragmatically structured, linking 'old' information, such as the topic and its associated presuppositions, with 'new' information, such as the comment about the topic. As stated earlier, the 'old' information is the set of assumptions, or the '(pragmatic) presupposition,' that comprise the context necessary for understanding the utterance. The part of the assertion that lies

outside of the presupposition is the 'new' information, or 'focus (of the assertion)'; hence, it is unpredictable and unrecoverable from the context. The 'new' information alone, however, is not truly informative by itself; rather, the relation between the 'new' and the 'old' information makes the utterance meaningful. All languages have a grammatical system by which they distinguish 'old' from 'new' information, whether through intonation, morphological marking, word order, or some combination. The association of a particular information structure with its corresponding morphosyntactic or intonational structure is the 'focus structure.' Lambrecht (1994) offers the following definitions for these terms:

Pragmatic assertion: the proposition expressed by a sentence which the hearer is expected to know or believe or take for granted as a result of hearing the sentence uttered.

Pragmatic presupposition: the set of propositions lexico-grammatically evoked in an utterance which the speaker assumes the hearer already knows or believes or is ready to take for granted at the time of speech.

Focus, or **focus of the assertion:** the semantic component of a pragmatically structured proposition whereby the assertion differs from the presupposition.

Focus structure: the conventional association of a focus meaning [distribution of information] with a sentence form.

4.2   Types of Focus

4.2.1   Broad Focus

4.2.1.1 Predicate Focus

In his theory of focus structure, Lambrecht also developed a taxonomy of focus types. The major dichotomy is between broad and narrow focus. In the former, the focus domain encompasses only a single element, while in the latter, it encompasses more than one element. Within **broad focus**, there are also two types—predicate focus and sentence focus. The universally unmarked type, **predicate focus**, corresponds with the traditional notion of 'topic-comment' sentence structure. In this type, the presupposition contains the topic, while the predicate phrase contains a comment about the topic. In the following examples (Lambrecht 1994), the focus constituent is in caps:

(1)

      Q: What happened to your car?

      A:

        a. My car/It BROKE DOWN.   English

        b. (La mia macchina) si è ROTTA.   Italian

        c. (Ma voiture) elle est en PANNE.   French

        d. (Kuruma wa) KOSYOO-si-ta.   Japanese

In many languages, including Italian and Japanese, speakers often omit the subject if it can be inferred from the context or from verbal morphology. The information structure of the English example is represented below (Lambrecht 1994):

(2)

Sentence:	My car BROKE DOWN.
Presupposition:	'speaker's car is available as a topic for comment x'
Assertion:	'x = broke down'
Focus:	'broke down'
Focus domain:	verb plus remaining postverbal core constituents

In the answers above, the presupposition is that the speaker's car is the topic about which a comment is being made. The car represents the presupposition, and the fact that it broke down comprises the assertion. In each example, an NP functions as topic: in English and Italian, it is the subject NP, but in French, it is the detached (or left-dislocated) NP, and in Japanese, it is the *wa*-marked NP. The focus is the predicate *broke down*, marked prosodically in all four languages, while the focus domain is the core minus the subject-topic.

4.2.1.2 Sentence Focus

In a **sentence-focus** construction, there is no topic because the entire clause is within the focus domain. This marked structure is most often used in presentational situations, usually to introduce new participants in the discourse, as in *Once upon a time, there was an OLD WOMAN (who lived in a SHOE)*. Consider the following examples (Lambrecht 1994):

(3)

    Q: What happened?

    A:

        a. My CAR broke down.   English

        b. Mi si è rotta la MACCHINA.   Italian

        c. J'ai ma VOITURE qui est en panne.   French

        d. KURUMA ga KOSYOO-si-ta.   Japanese

No pragmatic presuppositions are evoked by the sentence-focus structures; in addition, the assertion and the focus coincide, and both are novel information for the hearer, as the information structure makes clear:

(4)

Sentence:	My CAR broke down.
Presupposition:	None
Assertion:	'speaker's car broke down'
Focus:	'speaker's car broke down'
Focus domain:	clause

In sentence-focus constructions, no topic-comment relation exists between the referent and the proposition; in other words, the utterance is not really 'about' the referent coded by the subject. As explained earlier, topichood does not really define the pragmatic status of the referent itself but the relationship between it and the assertion. The languages above may use different means for marking this structure—i.e., Japanese uses a different morphological marking and pitch prominence—but they all mark the subject as non-topic.

A comparison of the responses in (1) and (2) reveals the difference between the unmarked predicate focus and the marked sentence focus. In English, word order is unchanged, but the subject car is stressed in the sentence focus construction. Italian and French both change the word order, making the subject the stressed, final element of the sentence. In the French example, the predicate is also stressed. Like English, Japanese maintains the same word order, but inserts a focus marker, *ga*. Regardless of any other prosodic or morphological markings, all of these languages include the subject as part of the focused element, at a minimum, in sentence focus constructions.

4.2.2   Narrow Focus

With **narrow focus**, the focus domain may be a subject, an object, an oblique NP, or even the verb or VP, but it is only a single constituent. In this case, there is a clear presupposition associated with the sentence, as the examples show:

(5)

Q: I heard your motorcycle broke down.

A:

    a. My CAR broke down.   English

    b. Si è rotta la mia MACCHINA.   /   Italian (literally, 'broke down my car'/
                 È la mia MACCHINA che si è rotta.   'It's my car which broke down.'

    c. C'est ma VOITURE qui est en panne.   French ('It is my car which broke down.')

    d. KURUMA ga kosyoo-si-ta.   Japanese

Here, the presupposition is the proposition 'something of the speaker's broke down,' relates to the assertion that it was his car, not his motorcycle, which broke

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down. The relationship between the two is asserted, but it is not focused. The focus is simply 'car,' and the focus domain is the whole NP. The information structure of the English example is below:

(6)

Sentence:	My CAR broke down.
Presupposition:	'speaker's x broke down'
Assertion:	x = car
Focus:	'car'
Focus domain:	NP

It is the relationship between the referent and the presupposition that makes a focus constituent informative. In the question above, the open proposition x *broke down* is active but the referent *my car* is inactive—opposite of the predicate-focus construction. The same answer could have been given to the question *Was it your car or your motorcycle that broke down?*, in which both elements are active.

RRG further distinguishes between **marked** and **unmarked** narrow focus, a distinction which hinges on the position of the narrow-focused element. Unmarked narrow focus falls on an element in the unmarked focus position, while marked narrow focus falls on an element in other than unmarked focus position. Many languages have a clearly identified unmarked focus position in the clause. In English, for example, the unmarked focus position is the final position in the core, which may not be the final position in the clause. So, if narrow focus falls on the final constituent in the core, then it is unmarked;

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otherwise, if it falls to the right or left of that, then it is marked. The sentences below illustrate the different focus possibilities:

(7)

    a. Chris gave the book to PAT yesterday.

    b. Chris gave the book to Pat YESTERDAY.

    c. Chris gave THE BOOK to Pat yesterday.

    d. Chris GAVE the book to Pat yesterday.

    e. CHRIS gave the book to Pat yesterday.

In (a), with focal stress falling on *Pat*, the interpretation of the focus domain is ambiguous between a narrow-focus reading and a predicate-focus reading, in which the actual focus domain is *gave the book to Pat*. Only (a) represents an unmarked narrow-focus reading, since *Pat* is the last element in the core.

4.3   Morphosyntactic Marking of Focus Structure

    Although all of the languages above—English, Italian, French, and Japanese—use intonation to mark the different focus structure constructions, they differ in the extent to which they rely on additional syntactic or morphological means. In some languages, like English, the same syntactic construction can be used for all three focus types, as the examples above prove. The focal stress can fall on any constituent of the sentence: for predicate focus, the accent is on the predicate phrase; for sentence focus and marked narrow focus, the accent is on the focal NP. In English, marked word order also expresses narrow- or sentence-focus structure, as in a narrow-focus cleft construction like *It was Robin that hit you.*

| Zero | Clitic/Bound | Pronoun | Pronoun | Definite NP | Indefinite NP |
| | Pronoun | [-Stress] | [+Stress] | | |

Markedness of Occurrence as Topic →
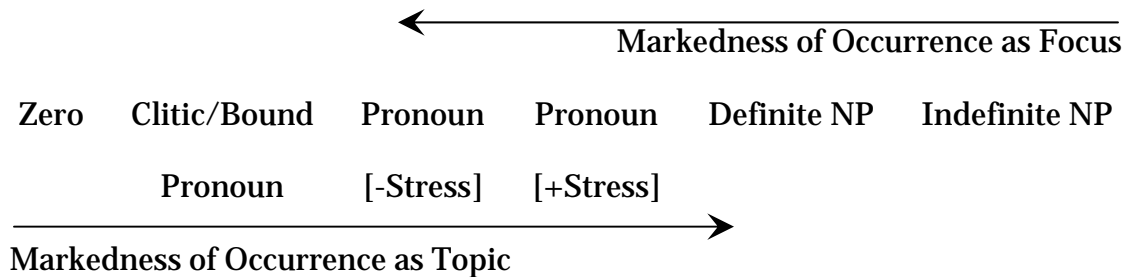
FIGURE 4.1. Coding of referents in terms of possible functions

The type of referring expression selected to fill a variable position in LS depends on the focus structure and reflects the status of that referent in the discourse. The figure above shows that zero coding is the least marked coding for a topic referent, while an indefinite NP is the least marked coding for a focal referent. However, focus types can be indicated by means other than prosody. In Japanese, for example, morphological marking—basically through the particles *wa* and *ga*—is coupled with intonation. The particle *wa* marks a predicate-focus topic (as in (1d) above), while *ga* marks a sentence-focus (3d) structure if it is unstressed or narrow-focus (5d) structure if it is stressed. In Italian and French, by contrast, it is impossible to mark a sentence-focus or narrow-focus construction merely by stressing a preverbal NP, as in English. Because focal elements can not appear preverbally, Italian and French rely on syntactic means—namely, cleft structures, as in (5b) and (5c). Such restrictions are not uncommon across languages.

These languages illustrate the difference between the **potential focus domain** and the **actual focus domain**. In English, as shown in (7) above, the focus can be anywhere in the clause, so the potential focus domain is the entire clause, while the actual focus domain is that part of the clause that happens to be

in focus, as indicated by the Lambrecht paradigms. In Italian and French, the potential focus domain is restricted to the verb and postverbal elements within the clause. A comparison of English and Italian highlights an interesting typological phenomenon related to the interaction of syntax and focus structure: In English, word order is constrained but focus placement is flexible, while the reverse is true in Italian. As Van Valin & LaPolla explain,

> In English, the focus structure adapts to the rigidity of the word order by allowing free focus placement (i.e. focus can fall on any constituent within a simple clause), whereas in Italian, the syntax adapts to the rigid focus structure (i.e. non-WH focal elements must be postnuclear) by having constructions which allow focal elements which would normally be prenuclear to occur in a postnuclear position. Hence it seems that one dimension along which languages could be characterized typologically is in terms of how syntax and focus structure interact. (1997)

Like the constituent and operator projections, focus structure is depicted separately in the representation of clause structure in RRG. Elements in the constituent structure delineate the focus domains; that is, predicates, arguments, and peripheral PPs of the constituent projection form the basic information units of the focus structure. The minimal focus domain is the nucleus, a core argument, or a peripheral PP. So, the constituent and focus structures are closely related. Also, in many languages, focus structure influences constituent structure. As **Figure 4.2** exemplifies, the focus structure is also closely related to the operator structure through illocutionary force:
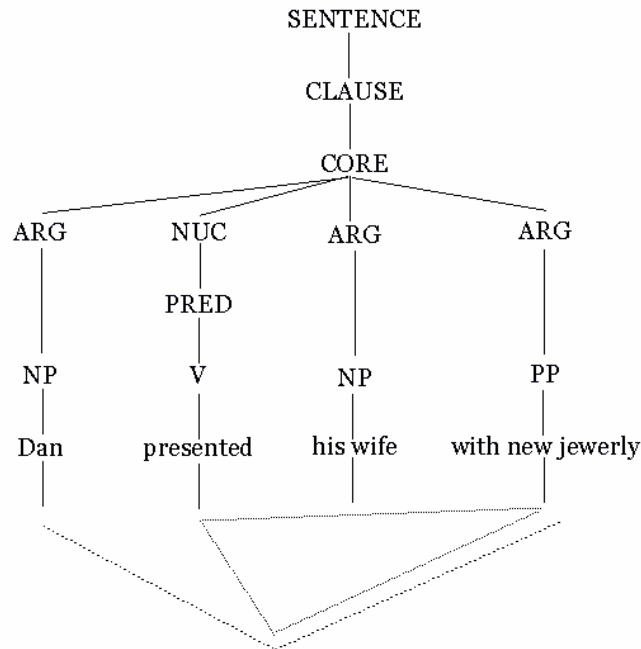
**Figure 4.2 Focus Structure Projection of English
Predicate-Focus Sentence**

Notice that the potential focus domain must fall within the scope of the illocutionary force operator. The node labeled 'speech act,' which, according to Van Valin and LaPolla, can be of the type declarative, interrogative, etc., reflects the division of the utterance into presupposed (non-focal) and non-presupposed (focal) parts. This node also serves to anchor the focus structure projection. The sentence above is an example of a predicate-focus structure; here, the focus domain is the entire clause, and the actual focus domain is the nucleus plus the postnuclear arguments. The sentence-initial NP is the topic. Since intonation is the primary linguistic realization of focus in English, the representation above assumes focus intonation on the phrase *presented a girl with some flowers*, not on *Harry*. In a narrow-focus structure, such as *HARRY borrowed pencils from her*, the focus would be on *Harry*, and the actual focus domain would be restricted to that NP, too, as shown in **Figure 4.3**.
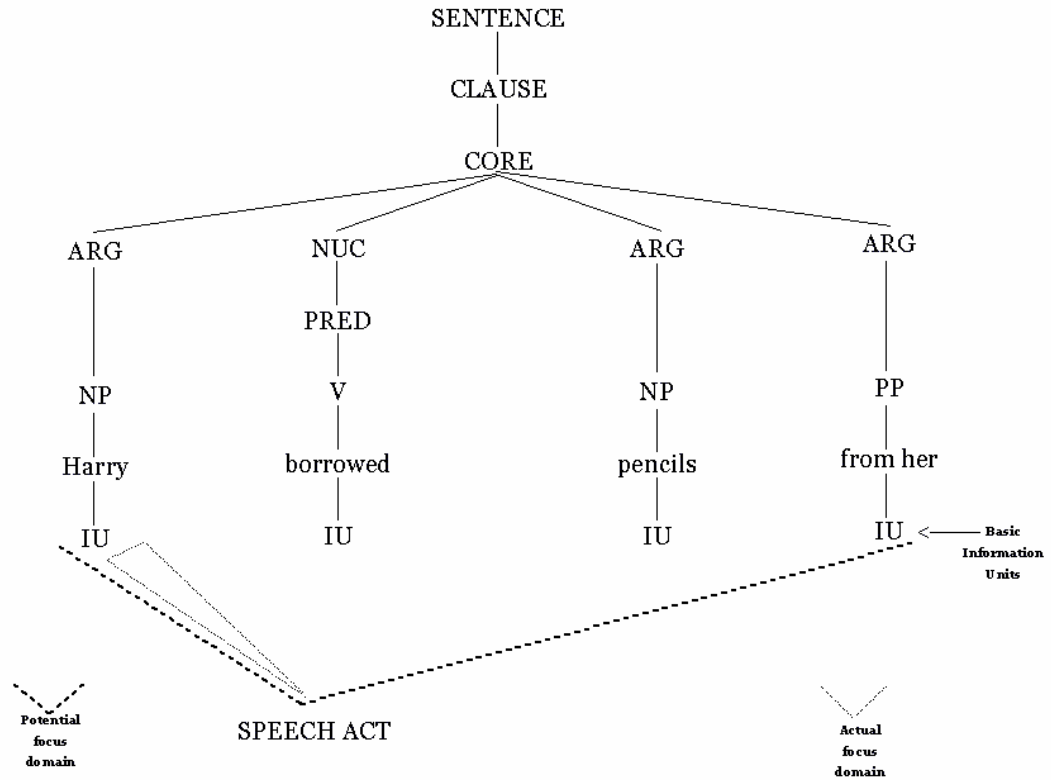
Figure 4.3. Focus-Structure Projection of English Narrow-Focus Sentence

Figure 4.4 shows the clause structure with constituent, operator, and focus structure projections. Note that the operator projection has the same hierarchical structure as the constituent projection, with the operators modifying layers of the constituent projection. The focus structure projection, in contrast, makes divisions to the linear elements of the constituent projection—first, those within the potential focus domain, and those outside of it; then, within the focus domain, those elements that are part of the actual focus domain from those elements that are not.

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Operator Projection   **Constituent Projection**
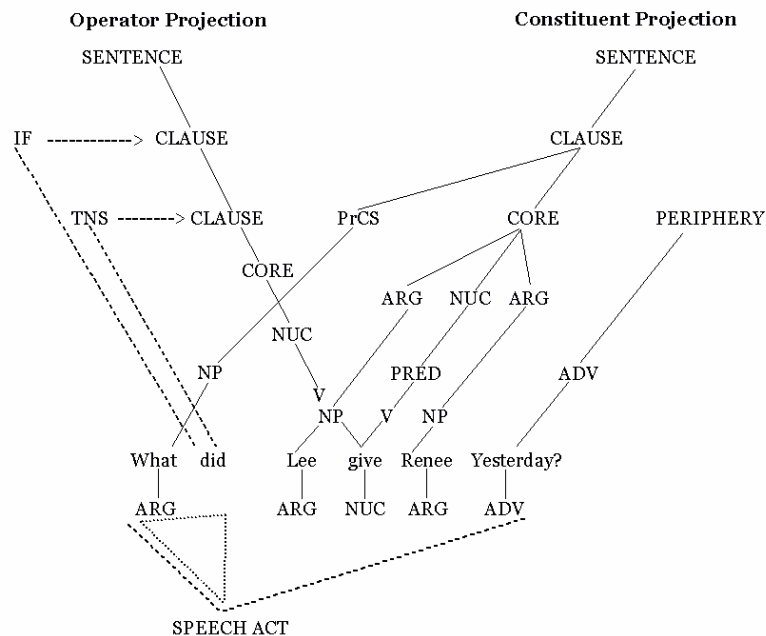
Figure4.4 Clause Structure with Constituent, Operator, and Focus Projections

Interestingly, in the RRG conception of clause structure, there is nothing corresponding to the traditional notion of verb phrase. According to Van Valin & LaPolla, predicate-focus structures are the universally unmarked focus structure, and such structures contain within the actual focus domain that grouping of verb and object known as the VP. Narrow-focus constructions with a subject NP also isolate a similar VP grouping. So, VP is simply a language-specific phrasal category, one that is grammaticalized by the focus structure. Not all languages have VPs, but all languages do have predicate- and narrow-focus constructions.

4.4 Focus Structure Types and Marking in American Sign Language

4.4.1 Word Order in ASL

Before we can adequately address focus structure in ASL, we must first understand its word order. In the earliest such investigation, Fischer (1974)

identified the basic word order of ASL as subject-verb-object (SVO)[22], specifying

that this is the word order of sentences with 'reversible subject and object' that

are full noun phrases—that is, in sentences in which the order of the NPs can be

changed without affecting the 'semantic acceptability' of the sentence; for

example, the reversed form of sentence (8a) below would be CHILD NOTICE

MAN, meaning 'The child noticed the man.' In addition, SVO word order prevails

in subordinate clauses in which both subject and object are full noun phrases.

Any other order, like the OSV and VOS sentences below, includes intonation

breaks, which are indicated with pauses, head tilts, eyebrow raises, and other

non-manual clues.

(8)

      a. MAN NOTICE CHILD. (SVO)

         'The man noticed the child.'

      b. CHILD, MAN NOTICE. (OSV)

         'As for the child, the man noticed it.'

      c. NOTICE CHILD, MAN. (VOS)

         'He noticed the child, the man did.'

In sentence (8b), the object is topicalized, while in (8c) the object or perhaps the

verb phrase is topicalized. Topicalized sentences will be discussed more fully in

section 4.5. As the following examples show, more complex sentences can

include embedded subjects, objects, verb phrases, and even entire sentences:

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[22] Liddell (1980a) and Padden (1988) later confirmed SVO word order for ASL.

(9)

    a. V-P DENY PRESIDENT CHEAT CONGRESS.

        'The vice-president denies that the president cheated Congress.'

    b. $\overline{\rule{3cm}{0pt}\text{t}}$
        PRESIDENT, V-P DENY CHEAT CONGRESS.

        'As for the president, the vice-president denies that he cheated

        Congress.'

    c. $\overline{\rule{3cm}{0pt}\text{t}}$
        CONGRESS, V-P DENY PRESIDENT CHEAT[23].

        'As for Congress, the vice-president denies that the president

        cheated it.'

    d. $\overline{\rule{3.5cm}{0pt}\text{t}}$
        CHEAT CONGRESS, V-P DENY PRESIDENT (FINISH).

        'As for cheating Congress, the vice-president denies that the

        president (did).'

    e. $\overline{\rule{5cm}{0pt}\text{t}}$
        PRESIDENT CHEAT CONGRESS, V-P DENY.

        'As for the president cheating Congress, the vice-president denies

        it.'

The preceding sentences involve topicalization and represent the only allowable

orders of subject-object-verb with reversible NPs; in present-day ASL, SOV

sequences with reversible subject and object are nonexistent among native

signers. Idiomatic expressions aside, if the subject and object NPs are not

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[23] Lillo-Martin (1991) argues for different grammaticality judgments when extracting an NP from an embedded clause that does not contain verb agreement.

reversible, and only one plausible interpretation of the sentence exists, then word order is much more free:

(10)

     a. MAN MUST PAY B-I-L-L-S.

        'The man must pay bills.'

     b. MAN MUST B-I-L-L-S PAY.

        'The man must pay bills.'

     c. *MAN MUST WOMAN PAY.

        'The man must pay the woman.'

Also, if the direction or orientation of the verb itself predicts the grammatical relations, then other word orders, including SOV, are possible. A simple rule, though, predicts the location of subject and object in a sentence, making confusion impossible: before or after the intonation break, if the subject or object accompanies the verb, then the subject precedes the verb and the object follows it (Liddell 1980b). So, then, in addition to the basic SVO word order, these orders are possible in ASL:

(11)

          O,SV   topicalized object

          VO,S   topicalized verb phrase

          SOV   non-reversible subject and object

     To further establish SVO as the basic word order, Liddell examined yes-no questions such as (8) below:

(12)

    a. $\overline{}^{q}$
        WOMAN FORGET PURSE

        'Did the woman forget the purse?'

    b. $\overline{}^{q}$
        * WOMAN PURSE FORGET

    c. $\overline{}^{q}$
        * PURSE WOMAN FORGET

    d. $\overline{}^{q}$
        * FORGET WOMAN PURSE

    e. $\overline{}^{q}$
        * FORGET PURSE WOMAN

    f. $\overline{}^{q}$
        * PURSE FORGET WOMAN

Of all possible orders for the three elements of this sentence, only one order will produce the required reading.[24] All other orders are ungrammatical single questions, a necessary qualification given constructions like (g) below:

    g. $\overline{}^{q}\overline{}^{q}$
        FORGET PURSE WOMAN

        'Did she forget the purse? Do you mean the woman?

Next, Liddell studied the non-manual headshake negation, which accompanies the entire clause that it negates; therefore, the scope of headshake negation is all and only those signs that are accompanied by it, as the following examples illustrate:

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[24] Both *wh*-word and yes-no questions, as well as the relevant focus structure information, will be discussed extensively in Chapter 4.

(13)

    a. $\overline{\hspace{3.5cm}\text{n}}$
       DOG CHASE CAT

      'It is not the case that the dog chased the cat.'

    b. $\overline{\text{t}}\;\;\overline{\hspace{2.5cm}\text{n}}$
       DOG, CHASE CAT

      'As for the dog, it didn't chase the cat.'

Clearly, topicalized subjects, as in (b) above, are no longer in the domain of the

negation. In an SVO sentence, the subject may or may not be the topic,

depending on the pragmatics of the conversation and indicated by non-manual

markers. Consequently, the first sign may or may not be accompanied by

headshake negation.

      The situation is different, however, if the object is topicalized, as in (c)

below:

    c. $\overline{\text{t}}\;\;\overline{\hspace{2.5cm}\text{n}}$
       CAT, DOG CHASE

      'As for the cat, the dog didn't chase it.'

Topicalized elements are not within the domain of negation, or there would be no

difference between sentence (c) above with a topicalized object and sentence (d)

below which represents the basic SVO order.

    d. $\overline{\hspace{3.5cm}\text{n}}$
       DOG CHASE CAT

      'It isn't the case that the dog chased the cat.'

Friedman claims that word order in ASL is relatively free, with a tendency for the

verb to appear last, although the basic word orders is not necessarily dependent

upon frequency. However, as these examples show, although a number of

different word orders are possible in ASL, all except SVO are highly constrained. In addition, an object can occur in sentence-initial position only when topicalized; otherwise, a sentence like (e) below should be acceptable. In this sentence, which assumes the semantically obvious OSV order (since mice do not usually chase cats), the object is not marked as topic and the nonmanual marking extends through the entire clause:

e. $\underline{\hspace{4cm}n}$
    *CAT MOUSE CHASE

    'It isn't the case that the mouse chased the cat.'

If the object is not topicalized, then the OSV order is ungrammatical. These examples support Fischer's claim that O,SV sentences are derived from SVO sentences by topicalization, as are VO,S sentences, as the following examples show:

f. $\underline{\hspace{2.5cm}t}$ $\underline{\hspace{0.5cm}hn}$[25]
    CHASE CAT DOG

    'As for chasing the cat, the dog did it.'

g. $\underline{\hspace{2.5cm}t}$ $\underline{\hspace{0.5cm}n}$
    CHASE CAT DOG

    'As for chasing the cat, the dog didn't do it.'

When the verb phrase is situated in initial position before the subject, then it must be marked as the topic, which—unlike the comment—cannot fall under the scope of negation.

Not surprisingly, the analysis of word order is complicated by locative constructions; in fact, such constructions form a class of sentence types with a

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[25] Here, 'hn' represents a specific kind of head nod, not relevant to this discussion.

normal order of object-subject-verb but no topic marking on the initial object—a

phenomenon similar to locative inversion in other languages. Consider the

following sentence:

(14)

    FENCE 4-CL _____
                 CAT **V**-CL on 4-CL

    'A cat is sitting on the fence.'

The articulation of this sentence would require, first, the sign for FENCE followed

by the classifier that represents physical objects of a specific shape; in this

instance, the classifier represents objects with the properties of an upright

rectangular plate that may or may not be completely solid, such as a picket fence

or a brick wall. This classifier is held for the duration of the sentence and

functions as a reference point, or the ground. Next, the sign CAT is also followed

by the bent-V classifier, representing humans and some (usually small) animals

with their legs bent. This classifier serves as the figure. Rather than using the

preposition ON to indicate the relationship between the fence and the cat, the

signer would place the bent-V classifier on top of the 4-classifier to show that the

cat was sitting on the fence. Because classifiers are dense with information,

including orientation, location, and movement, expressing relationships such as

the cat sitting beside the fence or jumping over it is concise, relatively simple, and

visually clear. This analysis is important because of the difference it highlights

between locative constructions like the one above and those constructions

involving other types of verbs.

With verbs like BUY or SEE, the subject and object are indicated by word order and/or reference to previously established loci, as the following sentences show:

(15)

     a. MAN SEE FENCE

      'The man saw the fence.'

     b. MAN BUY FENCE

      'The man bought the fence.'

In locative constructions, however, spatial relationships between the classifiers represent spatial relationships between the objects represented by the classifiers. As explained in Chapter 3, the movement of a classifier reflects movement of the thing it represents, and that movement may or may not be in relation to another classifier. Verbs like BUY and SEE, though, indicate their object only "by being directed or oriented toward the grammatical locus of that object" (Liddell 1980b). (See also Meir 2001; 2002). Consequently, despite surface similarities, complex predicates such as locative constructions with two classifiers are not equivalent to constructions with transitive verbs. Word order of the former tends to be OSV, but in such constructions, the initial noun does not have the same relationship to the locative predicate as it does to another type of verb.

With this understanding of word order in ASL, as well as various constructions that influence it, we can now investigate focus types in the language.

4.4.2   Lambrecht's Focus Types

4.4.2.1 Predicate Focus

Predicate focus, the universally unmarked type, corresponds to the traditional notion of 'topic-comment' sentence structure, which occurs extremely frequently in ASL. In this sentence type, the presupposition contains the topic, while the predicate phrase contains a comment about the topic. Recall the examples in (3) repeated here as (16a – 16d) (Lambrecht 1994), and notice the similarity of the ASL example to English. In the ASL response, the focus constituent is underlined; for the current discussion, non-manual marking is not relevant but will be discussed later in this chapter:

(16)

    Q: What happened to your car?

    A:

      a. My car/It BROKE DOWN.   English

      b. (La mia macchina) si è ROTTA.   Italian

      c. (Ma voiture) elle est en PANNE.   French

      d. (Kuruma wa) KOSYOO-si-ta.   Japanese

      e. (MY C-A-R/INDEX$_i$), <u>BROKE-DOWN</u>.   ASL

The information structure of the ASL sentence corresponds to that of the English example presented earlier:

(17)

Sentence:	(MY CAR/INDEX*i*) <u>BROKE-DOWN</u>.
Presupposition:	'signer's car is available as a topic for comment *x*'
Assertion:	'*x* = BROKE-DOWN'
Focus:	'BROKE-DOWN'
Focus domain:	verb

As in the other examples, the presupposition is that the signer's car is the topic about which a comment is being made. Also, an NP functions as topic: like English and Italian, it is the subject NP. In the ASL response, this topic is optional, as it is in Italian and Japanese. The focus is the predicate BROKE-DOWN, while the focus domain is the core minus the subject-topic.

In ASL, BREAK-DOWN is a plain verb, uninflected for person or number. Possibly, agreement and spatial verbs would behave differently in predicate-focus, topic-comment constructions, which are common in ASL (Lillo-Martin 1986). Consider the following responses to the question *What happened to your book?*, one with an agreement verb (GIVE) and one with a spatial verb (PUT). In addition, unlike BREAK-DOWN, which is intransitive, GIVE and PUT are transitive.

(18)

	(a)	(b)
Sentence:	(BOOK,) $_1$<u>GIVE</u>$_i$ INDEX$_i$.	TABLE$_a$, INDEX$_1$ $_1$<u>PUT</u>$_a$.
	'I gave it to him.'	'I put it on the table.'
Presupposition:	'signer's book is available as a topic for comment x'	'signer's book is available as a topic for comment x'
Assertion:	'x = gave to him'	'x = put on table'
Focus:	'gave to him'	'put on table'
Focus Domain:	verb + argument	verb + argument

Notice that in (a) the topic, BOOK, is optional, since it represents known information. If it were signed, it would be articulated first and marked non-manually as a topic—not as subject. The indexical markings on plain and agreement verbs behave no differently from the separately signed indices of plain verbs, so the information structure of all three types of verbs is the same in a predicate-focus construction. While the **potential focus domain** of such constructions is the entire clause, the **actual focus domain** comprises the final element(s), which may include indices marking relevant arguments.

4.4.2.2 Sentence Focus

In a **sentence-focus** construction, the entire clause is within the focus domain so there is no topic. As in English, this type of structure is most often used in presentational situations in ASL, usually to introduce new participants or events in the discourse. Notice again that the signed response is similar to the spoken responses:

(19)

    Q: What happened?

    A:

       a. My CAR broke down.   English

       b. Mi si è rotta la MACCHINA.   Italian

       c. J'ai ma VOITURE qui est en panne.   French

       d. KURUMA ga KOSYOO-si-ta.   Japanese

       e. MY C-A-R BROKE-DOWN.   ASL

As in English, word order remains unchanged from the predicate- to the sentence-focus constructions. As in the other languages, the subject receives intonational prominence (through emphatic signing) in sentence-focus constructions, unlike predicate-focus constructions, in which the subject is optional or pronominalized. No pragmatic presuppositions are evoked by the ASL sentence-focus structure; in addition, the assertion and the focus coincide, as the information structure makes clear:

        Sentence: MY C-A-R BROKE-DOWN.

        Presupposition: None

        Assertion: 'signer's car broke down'

        Focus: 'signer's car broke down'

        Focus domain: clause

But putting emphasis on C-A-R, ASL, like the spoken languages discussed above, marks the subject as non-topic in order to distinguish between marked focus (narrow- and sentence-focus structure) and unmarked focus (predicate-focus structure).

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Next, we must determine whether agreement and spatial verbs behave differently in sentence focus constructions. Consider the following responses to the question *What happened?*, one with an agreement verb (SHOW) and one with a spatial verb (PUT), both of which are transitive:

(20)

	(a)	(b)
Sentence:	<u> br </u> BOOK, MAN$_i$ $_i$SHOW$_j$ WOMAN$_j$.	<u> br </u> BOOK, MAN$_i$ TABLE $_i$PUT-ON
	'The man showed the woman a book.'	'The man put the book on the table.'
Presupposition:	None.	None.
Assertion:	'the man showed the woman a book'	'the man put the book on the table'
Focus:	'the man showed the woman a book'	'the man put the book on the table'
Focus Domain:	clause	clause

In these examples, BOOK is topicalized, as indicated by the nonmanual marking, brow raise (br). Although topicalized elements often represent presupposed information, they sometimes establish the topic of all conversation that follows, as in the sentence above. Topicalization as a sentence-type will be explained in section 4.5. Again, the indexical markings on agreement and spatial verbs behave no differently from the separately signed indices of plain verbs, so the information structure of all three types of verbs is the same in a sentence-focus construction. These examples illustrate topicalized sentences, a common sentence type in ASL; here, the signer must first locate the man in the signing space, and then explain that he has a book before telling what the man did with the book. This sentence type will be described more fully below.

4.4.2.3 Narrow Focus

With **narrow focus**, the focus domain is only a single constituent, and there is a clear presupposition associated with the sentence:

(21)

Q: I heard your motorcycle broke down.

A:

a.	My CAR broke down.	English
b.	Si è rotta la mia MACCHINA. / È la mia MACCHINA che si è rotta.	Italian (literally, 'broke down my car'/ 'It's my car which broke down.')
c.	C'est ma VOITURE qui est en panne.	French ('It is my car which broke down.')
d.	KURUMA ga kosyoo-si-ta.	Japanese
e.	<u> t </u> <u> br </u> <u> hs </u> <u> hn</u> BROKE-DOWN, MOTORCYCLE, NEG C-A-R	ASL ('What broke down wasn't my motorcycle but my car.')

In the ASL example, BROKE-DOWN is the topic; as explained in the next section, such topics are marked non-manually with a particular facial expression. Next, the incorrect information, MOTORCYCLE, is presented as a true yes-no question and then denied with a headshake. Finally, the correct information is presented with an accompanying headnod, indicating that this is the focused information. In addition, the predicate BROKE-DOWN as well as the incorrect information, MOTORCYCLE, may be omitted since both represent active information. Although ASL allows cross-turn redundancy, signers usually avoid repetition unless it serves some purpose (Wilbur 1997). Usually, the incorrect information is included when making a correction as a means of contrast (Fischer, personal communication). Another possible response to the erroneous statement *I heard your motorcycle broke down* is a structure loosely translated as an *it*-cleft:

f.   br ‗ hn
    _____
NOT **MOTORCYCLE** BREAK DOWN, **CAR**

'It wasn't my motorcycle that broke down. It was my car.

In this example, again, only *car* is in focus; however, both *car* and *motorcycle* are stressed (with emphatic signing) to emphasize the contrastive (incorrect and correct) information. Primary stress goes to *car*, since it is also in focal position. Once again, the information structure of the ASL examples coincides with that of the English example:

(22)

Sentence:	MY **C-A-R** (BROKE-DOWN).
Presupposition:	'signer's *x* broke down'
Assertion:	x = CAR
Focus:	'CAR'
Focus domain:	NP

Unlike the example above, the one below involves an agreement verb, SEE. Contrast this error-correction paradigm (a), a response to *John saw Mary yesterday*, with the yes-no paradigm (b), which is a response to the question *Did John see Mary yesterday?*, in which *John$_a$* has already been established in the signing space, as indicated by the subscript. Other loci will be established as needed, then maintained for the duration of the discourse:

(23)

	(a)	(b)
Sentence:	(NOT, MARY$_b$.) INDEX$_a$ $_a$SEE JANE.	#NO, $_a$SEE JANE.
	'(Not Mary.) He saw Jane.'	'No, he saw Jane.'
Presupposition:	'John saw x yesterday.'	'John saw x yesterday.'
Assertion:	'x = Jane'	'x = Jane'
Focus:	'Jane'	'Jane'
Focus domain:	NP	NP

In (a), repeating the wrong information is optional and can be articulated at either the beginning or end of the utterance. Including the wrong information in (b), however, is infelicitous. As Lambrecht predicts, error correction and *wh*-question paradigms have similar information structure properties. In both, only the NP that corrects the error or answers the *wh*-question is required—at least, when the focal element is the object. Consider the following responses to *John saw Mary yesterday / Did John see Mary yesterday?* Again, the locations of *John$_a$* and *Mary$_b$* have already been established in the signing space.

(24)

(a)	Verb	#NO $_a$CALL$_b$.
		No, he called her.
(b)	Subject	? #NO, P-E-T-E-R$_c$ $_c$SEE$_b$.
		No, Peter saw her.
(c)	Subject + Verb	? #NO, PETER$_c$ CALL$_b$.
		'No, Peter called her.'
(d)	Verb + Object	* #NO $_a$CALL$_d$ $_d$S-U-S-A-N.
		No, he called Susan.

As before, the type of verb is irrelevant: If the focus material includes the verb, it will also require the indexed material, whether articulated as part of the verb or independently. So, object (23b) and the verb (24a) may be in narrow focus, with object also demanding repetition of the verb, perhaps because the verb includes the relevant indexical information—unlike the plain verb BREAK-DOWN. Focus on the subject (b) and on subject and verb (c) is infelicitous while focus on verb and object (d) is ungrammatical; therefore, nuclear focus is most acceptable in ASL. Next, consider the focus possibilities for a ditransitive verb:

(25)

$$\overline{\quad\quad}^{t} \quad \overline{\quad\quad\quad\quad}^{q}$$

Q: MARY$_a$, JOHN$_b$ $_b$GIVE$_a$ BOOK?

Did John give Mary the book?

(a) Subject	NO, M-A-R-K$_c$ $_c$GIVE$_b$.
	'No, Mark gave her the book.'
(b) Direct Object	NO, $_a$GIVE$_b$ PEN.
	'No, he gave her a pen.'
(c) Indirect Object	NO, $_a$GIVE$_d$ $_d$JOAN.
	'No, he gave Joan the book.'
(d) Verb	NO, INDEX$_a$ $_a$SELL$_b$ INDEX$_b$.
	'No, he sold it to her.'
(e) Subject + Verb	? NO, $_c$SELL$_b$.
	'No, Mark sold it to her.'
(f) Verb + Direct Object	? NO, $_a$SELL$_b$ PEN.
	'No, he sold her the pen.'
(g) Verb + Indirect Object	? NO, $_a$SOLD$_d$.
	'No, he sold Joan the book.'
(h) Direct Object +	* NO, $_a$GIVE$_d$ PEN.
Indirect Object	No, he gave Joan a pen.
(i) Subject, Verb, DO, IO	* NO, $_c$SELL$_d$ PEN.
	No, Mark sold Joan a pen.

As these examples make clear, narrow focus on any single element is acceptable;

beyond that, sentences are infelicitous or ungrammatical if either the subject or

the verb is focused in addition to one of the objects. While the **potential focus domain** in a narrow-focus construction is the entire clause, the **actual focus domain** is again the sentence final element(s), to include indexed material, if necessary. Narrow-focus on either subject or object demands repetition of the verb, in order to clarify the roles of indexed participants.

As it is in English, the unmarked focus position in ASL appears to be the final position in the core, which, as in many languages, may not be the final position in the clause. Although the Lambrechtian examples above indicate similarities between English and ASL, the two languages rely on different means of focusing items in a sentence. Unlike English, which has strict word order and free focus placement, ASL does not allow stress to move around within a sentence. Instead, ASL has a fixed position—the final position of the main clause—for focal elements. In sentence-focus constructions, the **actual focus domain** includes all items not topicalized, as in the examples above. In contrast, the **actual focus domain** of predicate-focus and narrow-focus constructions comprises the final element(s), which may include indices marking relevant arguments. Narrow focus on either the subject or object also demands repetition of the verb, to include indexed participants. With fixed stress, ASL relies on syntactic movement for focus constructions such as cleft and pseudocleft constructions, thereby achieving the same range of stress possibilities as a language like English. Like English, the basic word order of ASL is SVO, but the language employs different word orders to emphasize syntactic and pragmatic functions. In fact, as the discussion below will show, ASL is more like Italian and French in its reliance on cleft structures.

4.5   Topicalization in ASL

As mentioned in Chapter 1, topicalization comprises one sentence type in ASL. As usual, the topic is signed first, and the comment follows, but there are other components as well: (a) while signing the topic, the head is tilted, the brows are raised, and eye gaze is constant; (b) the last sign of the topic is held longer than usual, producing a pause; and (c) when the comment is signed, the head tilt, eyebrows, and eye gaze change, depending on the type of comment that follows (e.g. statement, yes/no question, command, etc.) (Baker-Shenk and Cokely 1980). This foregrounding structure is widespread in ASL, and serves to "set the scene" with the topic (Baker-Shenk and Cokely 1980):

(26)

Context   A group of people are talking about a particular movie and how emotional they became with they saw it. The signer saw that movie, but says:

(gaze lf) _____ t
    THAT-*lf* MOVIE-*lf*,

(gaze rt   )   (gaze lf)   (head back   )
WE-TWO-*rt* FRIEND-*rt*   *we*-GO-TO-*movie*,   LOOK-AT-*cntr*,
                                                                LOOK-AT-cntr,

(gaze rt) _____ t   _____ t
    FRIEND-*rt*,   CRY [cont],   INDEX₁,   FEEL NONE

Structure   'That movie, a friend and I went to it. We were watching it, and my friend cried continuously, but I felt nothing.'

Translation 'A friend and I went to see that movie. She cried through the whole thing, but I wasn't moved at all.'

In this example (21), the first scene, or topic, is 'that movie,' and the comment is that the signer and a friend went to see it. The second topic is the friend with the comment that she cried continuously. Finally, the signer (topic) felt nothing (comment). This example illustrates **broad focus**—specifically, **predicate focus**. The information structure of the second topic is represented below:

(27)

Sentence:	As for my friend, she cried continuously.
Presupposition:	'signer's friend is available as a topic for comment x'
Assertion:	'x = cried continuously'
Focus:	'cried continuously'
Focus domain:	V + Adv

Contrastive focalization, according to Aarons (1994) , is a type of topicalization involving left dislocation that allows for emphasis or contrastive focus on the topic in order to distinguish correct from incorrect information.

(28)

JOHN$_i$ NOT-LIKE JANE. MARY, INDEX$_i$ LOVE.[26]

John doesn't like Jane. It's Mary he loves.

Generally, signers 'chunk' information from larger to smaller scenes, and as in the example above, topics can be people, objects, events, and even times, depending on the context and goals of the communication (Baker-Shenk and

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[26] Although this construction is acceptable for my consultant, it may not be so for all signers. Another alternative would be to use a pseudocleft construction with appropriate non-manual marking: INDEX LOVE WHO? MARY. Pseudoclefts are discussed in section 4.6 below. Fischer (personal communication) notes that contrastive topics are possible for different structures:

M-A-R-Y HAVE SON 3; B-E-T-H HAVE DAUGHTER 4.
'Mary has three sons; Beth has four daughters.'

ROSE PINK, L-I-L-A-C PURPLE.   'Roses are pink, lilacs are purple.'

Cokely 1980). Sutton-Spence & Woll, in their analysis of British Sign Language

(BSL), identify three basic frameworks for the comment, or predication:

temporal, spatial, and nominal (1999). ASL employs similar frameworks. To

establish a temporal framework, someone might sign

(29)

      DURING FIVE YEAR YONDER GALLAUDET...

      During my five years at Gallaudet....

Until a new topic is established, the discourse will focus on the signer's time in

college. Likewise, a spatial framework might concern the signer's (i.e.

"speaker's") new office:

(30)

      BOSS$_a$ $_a$SHOW$_1$ POSS NEW OFFICE NOW^DAY. LOOK-AT, SMALL.

      My boss showed me my new office today. It's so small!

After establishing his office as the topic of conversation, the signer would then

describe the contents and arrangement of the office. Finally, a nominal

framework sets up and then elaborates the topic—here, the signer's sister and the

activities and obligations that occupy her time:

(31)

      POSS$_1$ SISTER$_a$ INDEX$_a$ BUSY!

      My sister is so busy!

      Sentence focus constructions are also possible in ASL, but as in English

and other spoken languages, they occur primarily with the purpose of introducing

new referents into the discourse. ASL lacks a specifically presentational

construction such as *Once upon a time*, although some signers might use LONG-

TIME-AGO, WH-THRILL 'A long time ago, what happened?' Following an opener

like "Hey, know what?" a signer might continue (Wilbur 1997):

(32)

$$\overline{\text{bf/md}^{27}}$$
TOMORROW GO WORK INDEX₁ NOT HAVE-TO, CAN STAY HOME

'Tomorrow I don't have to go to work, I can stay home.'

In the example below (Baker-Shenk and Cokely 1980), the signer is at a party and

tells his friend what just happened:

(33)

(gaze rt)t	(gaze rt	"lips smack"	)
('quizzical' look)			
GIRL INDEX-*rt,*	1-CL-*rt* 'walk up to me'	*girl*-KISS-*me*-ON-*nose*	

Structure: 'The girl there, she walked up to me and kissed me on the

                nose. Huh?'

Translation: 'That girl walked right up to me and kissed me on the nose!

                I don't get it!'

4.6   Pseudocleft Constructions in ASL

        Another type of focus involves the mislabeled rhetorical question (RHQ)

structure, which Wilbur (1994a) stresses is neither rhetorical nor a question. In

fact, RHQ functions as a pseudocleft, its purpose being to focus a particular

constituent of the utterance. The structure resembles a *wh*-question—but its

nonmanual marking, as indicated in the example below, involves the raised

eyebrows typically associated <u>not</u> with *wh*-questions but with yes/no questions.

This combination of syntactic structure and non-manual marking "provide

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[27] Non-manual marker 'bf' = brows furrowed and 'md' = mouth down.

unambiguous marking to the pseudocleft, presumably so that the addressee

recognizes at once that this is not a request for information or action." The signer

does not expect an answer but provides it himself; in this way, the signer is able

to draw attention to the information he is going to provide. Syntactically,

pseudoclefts differ from *wh*-questions in a couple of ways: First, in the

pseudocleft, the *wh*-word uniformly occurs on the right of the *wh*-clause; it is

important to note, however, that a pseudocleft, *wh*-words serve as relatives, not

as interrogatives. Relative clauses will be discussed in Chapter 3. Second, in a

pseudocleft, the *wh*-word cannot be doubled. In addition, the relationship

between the *wh*-clause and the focus phrase in a pseudocleft is much more

constrained than that between the *wh*-question and its answer. In the

pseudocleft, the focused phrase must provide exactly the expected information.

Wh-questions, or content questions, will be discussed more thoroughly in

Chapter 4.

The pseudocleft is a single sentence (both syntactically and prosodically)

containing an open proposition and providing the missing information that

represents the variable. Unlike English, ASL does not allow sentence

prominence to occur at different places in a sentence; instead, ASL adjusts word

order so that the focal element is in final position. With this fixed prominence,

ASL employs word order variation and syntactic focus constructions to achieve

the desired effect (Wilbur 2000a):

(34)

(a)

<u>   br</u>
SELENA SEE MARITA PUT BOOK WHERE, TABLE

'The place where Selena saw Marita put the book was on the table.'

(b)

<u>   br</u>
SELENA SEE MARITA PUT-ON-TABLE WHAT, BOOK

'What Selena saw Marita put on the table was the book.'

(c)

<u>   br</u>
SELENA SEE BOOK PUT-ON-TABLE WHO, MARITA

'The person who Selena saw put the book on the table was Marita.'

(d)

<u>   br</u>
SEE MARITA BOOK PUT-ON-TABLE WHO, SELENA

'It was Selena who saw Marita put the book on the table.'

(e)

<u>   </u> <u>   br</u>
SELENA SEE MARITA #DO++[28], BOOK PUT-ON-TABLE

'What Selena saw Marita do was put the book on the table.'

(f)

<u>   br</u>
SELENA DO++, SEE MARITA BOOK PUT-ON-TABLE

'What Selena did was see Marita put the book on the table.'

(g)

<u>   br</u>
SELENA SEE MARITA DO++ WITH BOOK, PUT-ON-TABLE

'What Selena saw Marita do with the book was put it on the table.'

---

[28] The verb form DO+ in ASL contains an implied *wh*-word (Lillo-Martin and Fischer 1992), which allows the pseudocleft to focus verb phrases:

<u>   br</u>
[fs] SUE #DO+,   CHAIR PAINT
Sue   do-what [chair paint]-focus
'What Sue did was paint the chair.'

Examples (a) through (d) illustrate the use of **narrow focus** in ASL, while examples (e) through (g) are examples of **predicate focus**. The information structure of the ASL sentence represented in (a) above is—

(35)

Sentence	Selena saw Marita put the book on the table.
Presupposition:	Selena saw Marita put the book on x.
Assertion:	x = the table
Focus:	'table'
Focus domain:	NP

Doubling, which will be discussed in Chapter 4, is a process through which signers can add emphasis to certain elements of a sentence. Interestingly, as Wilbur (1994a) explains, "those constituents that can be emphasized by doubling appear to be mutually exclusive with those categories of constituents that can be focused by the pseudocleft: *wh*-words, modals, certain verbs, and pronouns can be doubled but not focused by the pseudocleft." Therefore, it is important to distinguish between stress and focus. In a doubled construction, as discussed by Petronio (1993) and Petronio & Lillo-Martin (1997), the sign to be emphasized— modal, negative, verb, or quantifier—appears both in its usual slot and again in the final slot (Wilbur 1994b). Consider the following sentences, which illustrate the use of doubling for emphasis:

(36)

    (a) Neutral

        TOMORROW CAN STAY HOME

        'Tomorrow I can stay home.'

    (b) Final

<u>   </u>br
        BUT STAY HOME ALL-DAY EVERY-DAY CAN'T

        'But I can't stay home all day every day.

    (c) Doubled

        DISCOVER INDEX$_1$ CAN'T STAY HOME CAN'T

        'I discovered that I really can't stay home.'

    (d) Pseudocleft

        DISCOVER WHAT, STAY HOME CAN'T

        'What I discovered is/was that I can't stay home.'

Given the constraint that the material in the focus constituent must provide the information corresponding to the variable in the open proposition, pseudoclefts are clearly more than question-answer sequences.

The ASL pseudocleft has a wider range of usage than the English pseudocleft, partly because English can use stress alone to signal focus without changing word order. Also, the English forward pseudocleft contains an overt *wh*-word 'what,' and usually can be used only when the focused phrase is inanimate. It is ungrammatical to say, 'who I saw was John' or 'where I went was Ohio' (although it is possible to say "whoever I saw" and "wherever I put it").[29]

---

[29] ASL uses WHO with 'indefinite' eyegaze to mean 'whoever' (Fischer, personal communication).

Other types of elements can be focused using an alternate structure with a generic head followed by a relative clause: animates ('the one who'), locatives ('the place where'), and temporals ('the time when'), for example. Because ASL does not have a corresponding [NP head + relative clause] construction, it employs the pseudocleft with animates, locatives, and temporals. Instead of 'the one who,' ASL uses simply 'WHO,' and instead of 'the place where,' simply WHERE, and so on, as the following examples illustrate (Wilbur 1994b):

(37)

(a)   _br_   _hn_
                CHAIR PAINT WHO, [fs]LEE

                'The one who painted the chair was Lee.'

(b)   _br_   _hn_
                SEE LIGHT FLASH WHO, [fs]ELLEN

                'The one who saw the light flash was Ellen.'

(c)   _br_
                [fs]DON CUT WHERE, GARAGE

                'Where Don cut something was in the garage.'

(d)   _br_
                [fs]DON CUT WHERE, [fs]FOOT

                'It was on his FOOT where Don got cut.'[30]

(e)   _br_
                [fs]MARY EXERCISE WHEN, TUESDAY, THURSDAY NIGHTS

                It's on Tuesday and Thursday nights when/that Mary exercises.'

---

[30] As discussed in Chapter 3, locative relations are often included in the verb. So, although FOOT is not a locative argument in English, it is in ASL. A detailed explanation can be found in Janis (1992).

(f)   _____br
        NURSE WASH CLOTHES CLEAN HOW, MUST ADD 1 CUP [fs]BLEACH

        'The way nurses get clothes clean is by adding 1 cup of bleach.'

(g)   _____t   __br ____br
        LATER POLICE EASY FIND MAN WHY, KNIFE HAVE POSSESSIVE

        STEAL+AGENT FINGERPRINTS ON KNIFE

        'Later it was easy for the police to find the man because the thief's

        fingerprints were on the knife.'

(h)   _____br
        BOB BUY SON [fs]PATCH-KIT FOR-FOR, FIX BIKE TIRE

        'The reason Bob bought his son a patch kit was to fix the bike tire.'

Examples (c) and (d) show that a focused locative phrase can be a verb adjunct or
an argument. The pseudocleft construction can also focus temporal verb
adjuncts and manner verb adjuncts, as in examples (e) and (f). To focus full
clauses, the *wh*-sentential adverbial WHY or the synonymous FOR-FOR 'what for,'
as in examples (g) and (h) can be used, although both may also serve as
conjunctions, as in (h). In fact, ASL often employs the *wh*-cleft when other
methods of focusing prove too cumbersome—just as English does:

(38)   _____br
        E-L-L-E-N WORK DO++ WHAT, [fs]CLEAN STERILIZE SURGEON$_a$

        POSS$_a$ T-O-O-L-S

        'What Ellen does for a living is sterilize surgeon's tools.'

In the following examples, (a) and (b) show a complete predicate nominal and
predicate adjective focused; then, in (c) and (d), only the nominal and adjective,
respectively, is focused.

(39)

(a)   <u>   br</u>

[fs]JOHN THINK WHAT, [fs]BILL THIEF

'What John thinks is that Bill is a thief.'

(b)   <u>   br</u>   <u> br</u> <u> br</u>

LAWYER ARGUE WHAT, THIEF INNOCENT

'What the lawyer argued is that the thief was innocent.' /

As for the lawyer, what he argued was that the thief was innocent.

(c)   <u>   br</u>

JUDGE DECIDE JOHN WHAT, THIEF

'The judge decided that John was a THIEF.'

(d)   <u>   br</u>

JUDGE DECIDE BUSINESSMAN WHAT, GUILTY

'The judge decided that the businessman was guilty.

Predicate nominals highlight another interesting difference between ASL and English. As a result of its preference for the stressed element to be in final position, ASL does not have the (b) forms of predicate nominals (40) and *wh*-clefts (41) as in these English examples of equational structures (Wilbur 1997):

(a)	(b)
(40) My sister is the doctor.	The doctor is my sister.
(41) Lee's tie is what I don't like.	What I don't like is Lee's tie.

The prohibition against stress shift in ASL means that the (b) forms of the predicate nominal and the plain *wh*-cleft, in which the focus is not in final position, do not occur; because my consultant found (42b) acceptable, it is marked as questionable.

(a)   (b)

(42)   <ins>   br   </ins>   <ins>   br   </ins>

    POSS$_1$ SISTER DOCTOR   ? DOCTOR$_a$, POSS$_1$ SISTER[31]

    'My sister is a doctor.'   'The doctor is my sister.'

(43)   <ins>   br   </ins>

                                        INDEX$_1$ DISLIKE WHAT, LEE POSS TIE

    *LEE POSS TIE WHAT INDEX$_1$ DISLIKE

                                        'What I don't like is Lee's tie.'

    'Lee's tie is what I dislike.'

The following examples illustrate the complexity and possibility available through the ASL pseudocleft construction. Here, a VP (HOMEWORK FINISHED) is focused without its (optional) verb adjunct (EARLY), which leaves the *wh*-clause with no overt verb:

(44)   <ins>   br   </ins>

    [fs]MARY EARLY WHAT, HOMEWORK INDEX$_3$ FINISH

    'What Mary did early was finish her homework.'

In the next example, the focused predicate SAME reflects agreement between two conjuncts in the *wh*-clause; here, SAME is unstressed, making a smooth movement:

(45)   <ins>   br   </ins>

    TEACHER MY HAND-INDEX$_a$ FIRST [fs]GRADE(HAND-INDEX$_b$

    <ins>   br   </ins>

    SECOND [fs]GRADE WHO, $_a$SAME$_b$[32]

    'My teacher was the SAME for first and second grade.'

Finally, topics and pseudoclefts can co-occur, with the direct object (BILL CHAIR) signed before the *wh*-clause:

---

[31] DOCTOR WHO? MY SISTER 'Who the doctor is, is my sister' is also acceptable (Fischer, personal communication).

[32] Some signers, with a predicate like SAME, might reject this sentence unless proper names were used (Fischer, personal communication).

(46) _____br _____br
       [fs]BILL CHAIR, [fs]JOHN DO+, PAINT RED

'As for Bill's chair, what John did was paint it red.'

All of the above examples, Wilbur argues, prove that the final position in the pseudocleft construction is the true focus slot because it joins focused material and prosodic prominence. The final position, however, is not necessarily the last available sign, since unstressed tags, clitic pronouns, and other signs may occur sentence-finally (1996a) in conjunction with the stressed item. ASL uses leftward movement (preposing) to put focus material in final position; in fact, Wilbur argues that although other foregrounding mechanisms, including topicalized sentences, exist in the language, only the pseudocleft serves a true focusing function.[33]

The type of referring expression selected to fill a variable position in LS depends on the focus structure and reflects the status of the referent named by the referring expression in the discourse. **Figure 4.5**, presented again below, shows that, in English, zero coding is the least marked coding for a topic referent, while an indefinite NP is the least marked coding for a focal referent. While topic referents can occasionally be realized as indefinite NPs, focal referents can never be realized as zero.

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[33] For a discussion of topicalization in ASL, and the controversy surrounding its interpretation, see Lillo-Martin (1991).

← Markedness of Occurrence as Focus

Zero	Clitic/Bound	Pronoun	Pronoun	Definite NP	Indefinite NP
	Pronoun	[-Stress]	[+Stress]		

→ Markedness of Occurrence as Topic in English
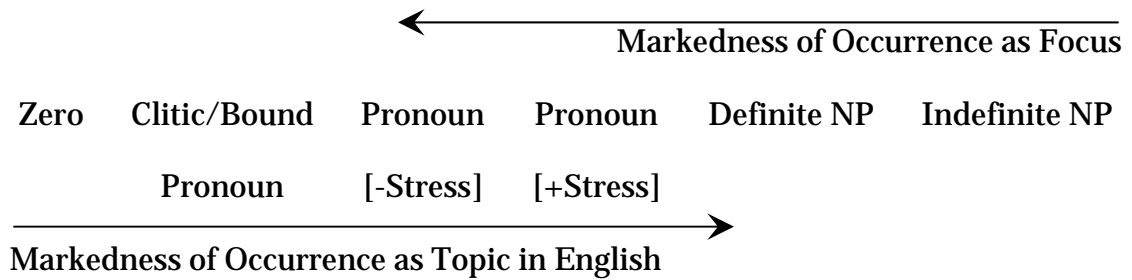
FIGURE 4.5. Coding of referents in terms of possible functions in English

In ASL, discourse topics are frequently marked as zero, the least marked occurrence as topic. Next, Padden argues that perhaps more than any other set of elements in signed languages, indexic segments—or pronouns, both bound and free—"exploit the spatial dimension and appear to do so in a way unmatched in oral languages" (Padden 1990). Affixes on agreement verbs (a) and pronoun clitics on plain verbs (b), then, are the least marked topic referents, as discussed in Chapter 2 and illustrated again briefly below:

(47)

      a. $_1$GIVE$_2$

        'I give you.'

      b. WOMAN $_a$WANT $_b$WANT $_c$WANT.

        'The women$_{a,b,c}$ are each wanting.' -OR-

        'The woman wants this$_a$, that$_b$, and that one$_c$, too.'

Pronoun clitics like those presented in (47b) are not restricted to plain verbs, but can also appear with nouns and adjectives.[34] Unstressed indexical pronouns also occur with plain verbs (Valli and Lucas 2000):

    c. INDEX₁ PUNISH INDEX₂.

        'I punish you.'

The stressed form of pronouns often occurs in a compound sign incorporating the reflexive, which translates as 'It's up to you' or 'That's his/her decision to make' (Baker-Shenk and Cokely 1980). ASL has a prohibition against indefinite NP topics, similar to English, which rarely realizes topics as indefinite NPs (Liddell 1980b). The markedness possibilities for ASL are represented in **Figure 4.6**:

Markedness of Occurrence as Focus ⟵

Agreement Affixes	Pronoun Clitics	Index [-Stress]	Index [+Stress]	Definite NP	Indefinite NP

Markedness of Occurrence as Topic in ASL ⟶
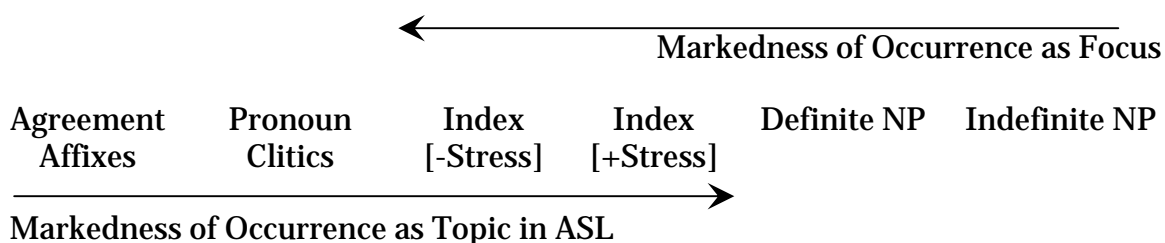
FIGURE 4.6. Coding of referents in terms of possible functions in ASL

Although the **potential focus domain** of an ASL sentence is the entire clause, in that focus may occur anywhere in the clause, the **actual focus domain** generally includes all elements that are not clefted or topicalized. Languages may have specific focus positions; in ASL, the focus position appears to be clause final (Petronio 1991). **Figure 4.7** shows the focus structure of an ASL sentence:

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[34] Fischer, as a collaborator, in argues in a footnote in Klima & Bellugi (1979)that agreement forms are ultimately derived from cliticized pronouns.

SENTENCE
CLAUSE
CORE

ARG NUC ARG ARG ARG ARG
NP V PRO NP PRO NP
___br
GIRLi JOHNj j GIVE i FLOWER
IU IU IU IU

Potential
focus domain
SPEECH ACT
Actual
focus domain
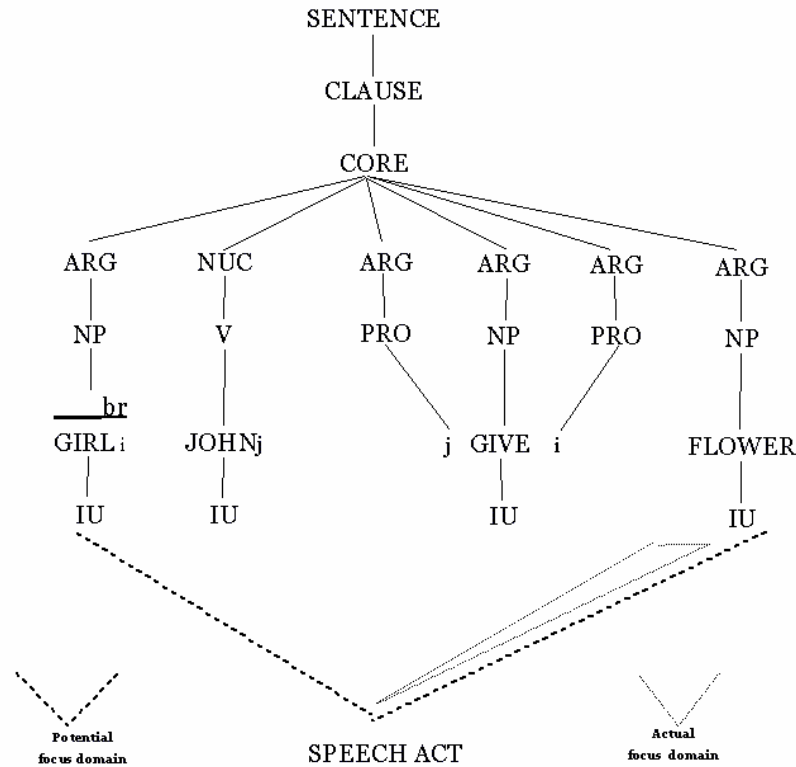
GIRLi JOHNj GIVE FLOWER.
John gave the girl flowers.

**Figure 4.7 Focus Structure Projection of
ASL Narrow-Focus Sentence**

4.7   Other Focusers

4.7.1   THAT and SELF

Although topicalized sentences and pseudocleft constructions are the most

common means of focusing information in ASL, the language does have other

options, including one that corresponds to the English *it*-cleft (Fischer, personal

communication). This construction uses the ASL sign THAT or, for some dialects,

THAT-ONE.   The focused item precedes THAT; the structure THAT NP, in contrast,

is merely demonstrative, not focused. In the following example, assume that Kay

was driving her Dad's new sports car and ran it into a tree:

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(48)   Q: WHO was driving the car?

  A: (English) Kay was.

    A: (a) (ASL) KAY THAT.

    A: (b) (ASL) *KAY SELF.

Response (b) is unacceptable because no other drivers have been mentioned, making this an example of completive focus. The use of SELF in a focusing construction is used to highlight one NP from a set, and is therefore an example of contrastive focus. Response (b) to *Who was driving the car?* is acceptable if other driver(s) were possible from the discourse. THAT and SELF may be in complementary distribution, but more research is needed on the many uses of SELF.

4.7.2   Focus Particles

ASL has several lexical focusers, including ONLY-ONE 'only,' SAME (Y) 'even,' and TRUE 'really' (Wilbur 1994a). Unlike SELF and THAT, focus particles may precede or follow the focus constituents, or focus associates. If the particle follows the focus associate, then a brow raise is required on the associate but not on the particle (Wilbur 2000a). Like SELF and THAT, however, these particles assign stress to part or all of the constituent that they focus; in addition, these particles "are the only signs that can follow the focus constituent in the same stress assignment phrase" (Wilbur 1994a). As for non-manual marking, if the focused constituent is fronted, then the particle may occur with the brow raise. More investigation is needed to understand the various combinations and meanings, but focus particles may also occur with furrowed brow, head back, or chin tuck; in addition, the focus particles may also involve a head nod during or

immediately following the focused construction. In the following examples, translated into ASL from scripted English, non-manuals have been omitted because the restrictions on their use are not yet fully understood:

(49)

(a)   #ALL KNOW-THAT *SAME* BILL$_a$ INDEX$_a$, TEST$_b$ INDEX$_b$ GET-A.

‘Everybody knows that even Bill got an *A*.’

KNOW-THAT ALL BILL$_a$ *SAME$_a$* INDEX$_a$ GET-A.

‘Everybody knows that even Bill got an *A*.’

(b)   #ALL KNOW KIM *ONLY-ONE* GET-A.

‘Everybody knows that only Kim got an *A*.’

‘Everybody knows that Kim was the only one who got an A.’

KNOW WHAT? *ONLY-ONE* KIM GET-A.

Know what? Only Kim got an *A*.’

(c)   *TRUE* BILL$_a$ INDEX$_a$ GET-A, ANDY$_b$ INDEX$_b$ NOT.

You mean Bill got an *A*, not Andy!’

C’MON! *TRUE* 4-YEAR-OLD CAN MORE FAST YOU-PLURAL.

Disbelief! Even a four-year-old could have done that job faster!’

(d)   JAW-DROP! TRUE++ YOU *KNOW-THAT* WORK FASTER CAN 4-YEAR-OLD CAN.

Disbelief! Even a four-year-old could have done that job faster!’

(e)   SALLY *THAT(-ONE)*, LEE TATTLE.

‘It was Sally that Lee tattled on.’

4.8   Summary

Focus marking is widespread in ASL through a diversity of means: ASL manipulates word order so that the focused item is in final position. The language also employs syntactic constructions, like topicalized sentences, and lexical markers, to include a variety of particles. Finally, prosodic marking is evident and significant, although further research is still needed.

CHAPTER 5: QUESTIONS IN AMERICAN SIGN LANGUAGE

5.1   Polar Questions[35]

A polar, or yes-no, question is one which solicits an answer of affirmation or negation: *Is Lisa home? Did you eat dinner? Are you going to the movie?* Unlike English yes-no questions, which usually place the auxiliary before the subject, ASL yes-no questions do not have a distinct word order, although Fischer notes a greater frequency of postposed subjects, especially pronominal or indexical subjects; this mechanism is not unique to questions in ASL, though, as illustrated below. In these examples, nonmanual marking is omitted but will be discussed below:

(1)   LIKE CHOCOLATE, INDEX$_2$?

'Do you like chocolate?'

(2)   DON'T-WANT MARRY, INDEX$_1$

'I don't want to get married.'

Sentence (1) is a yes-no question with a postposed subject, while sentence (2) presents a simple, declarative sentence with a postposed subject.

Just as English yes-no questions require a rising intonation, ASL yes-no questions have distinct nonmanual marking to distinguish them from the corresponding declarative sentences. This nonmanual marking includes raising the eyebrows and widening the eyes; optionally, the hands will be raised higher at the end of the question, the head or body will be tilted forward, and the chin will be tucked. Frequently, these nonmanual signals provide the only indication that

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[35] Unless otherwise indicated, the information in these first two sections is summarized from Fischer (2003a).

the utterance is a yes-no question, as the sentences below illustrate (Baker-Shenk and Cokely 1980):

(3)

Context	At the end of a meeting, someone sees John storm out of the meeting room and then asks the Signer if John is upset. The signer replies:	

(a)
<u>(frown   )   hn</u>
J-O-H-N BECOME-ANGRY

Structure 'Yes, John has really become angry.'

Translation 'Yes, John is really angry.'

Context The Signer is surprised to see John storm out of the meeting and asks:

<u>Q   </u>
(b)   J-O-H-N BECOME-ANGRY

Structure 'John has become angry?'

Translation 'Is John angry?'

In examples (3a) and (3b), the manual signs are the same, but the nonmanual signals are different; consequently, (3a) is a statement and (3b) is a question. In addition, the last sign of a question is frequently held longer than in an assertion, while the Signer waits for the addressee to respond; sometimes, this last sign is repeated and, because the fingers often appear to be wiggling in the repetition of the sign ('*wg*'). Nonmanual marking (labeled '*Q*') extends over the entire question, except for any topicalized material, as in (5) (Fischer 2003a):

(4)   Q‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾
      INDEX₂ WANT GO MOVIE?

      'Do you want to go to a movie?'

(5)   t‾‾‾ Q‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾
      CAT, INDEXₐ ALLERGIC?

      'As for cats, is s/he allergic to them?'

Yes-no questions with the focus of the question in an embedded clause are

possible but will most often involve topicalization, as in (6) below (Fischer,

personal communication):

(6)   ‾‾‾‾t, Q‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾
      BILLᵢ, JOHN THINK MARY LIKEᵢ?

      Bill, John think Mary like-him?

      'As for Bill, does John think that Mary likes HIM?'

                  'No, Mike.'

As explained in Chapter 3, this structure is a type of contrastive focalization,

which allows for emphasis or contrastive focus on the topic in order to

distinguish correct from incorrect information (Aarons 1994).

5.2 Alternative Questions

      ASL has a number of ways to ask alternative questions, one of which uses

the sign WHICH (Fischer 2003a), as discussed in Chapter 1:

(7)   INDEXₐ MARRY DOCTOR LAWYER WHICH?
      'Was it a doctor or a lawyer that s/he married?

Especially among older signers, WHICH can occur between the two alternatives:

(8)   INDEXₐ MARRY DOCTOR WHICH LAWYER?
      'Did she marry a doctor or a lawyer?'

In either case, when WHICH is used in an alternative question, it is interpreted as having an exclusive 'or,' and for older signers, WHICH specifically means "which of two." Signers may also simply fingerspell O-R between the alternatives:

(9)   INDEX$_a$ FAVORITE CHOCOLATE O-R VANILLA?

'Does s/he prefer chocolate or vanilla?'

This is preferred over the less common sign THEN, historically derived from counting one-two in Old French Sign Language.

For exclusive questions, the nonmanual marking is more similar to that for a *wh*-question, probably because an answer with semantic content is expected. For inclusive questions that offer an alternative, to which the answer may be a *yes* plus one's preference, the nonmanual marking is that of a polar question. In this type of question, however, WHICH is not used:

(10)   Q‾‾‾‾‾‾‾‾‾‾‾‾‾‾
        WANT COFFEE, TEA?

'Would you like coffee or tea [or something else]?'

Although the speaker can indicate his preference, question (10) is, in fact, a polar question, not an alternative question.

5.3   Content Questions

Content questions, those that request new information rather than merely a *yes* or *no* answer, usually, but not always, contain an overt *wh*-word such as WHO, WHAT, HOW, WHEN, and WHERE. Many of these words can be fingerspelled for emphasis.

5.3.1 General Interrogative

Although the gloss is "what," the sign WHAT actually has a more general interrogative sense[36], one that implies an open-ended rather than forced-choice question:

(11)

    a. <u>   whq</u>
        WHAT NUMBER JACKPOT?

        'What number hit the jackpot?'

    b. <u>   whq</u>
        USE WHAT BOOK THAT CLASS?

        'What book do you use for that class?'

Depending on the context, WHAT when used alone can be interpreted as 'what,' 'when,' 'where,' 'why,' etc. In addition, WHAT can be used at the end of a sentence that has another *wh*-phrase, overt or covert, earlier; this, in particular, supports the interpretation of WHAT as a general interrogative (Lillo-Martin and Fischer 1992):

(12)

    a. <u>   whq</u>
        DAD LEAVE WHAT?

        'What's up about Dad leaving—why, where when...?'

    b. <u>   t   whq</u>
        PARTY TONIGHT, WHAT?

        'As for the party tonight—where is it, who's invited...?'

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[36] Fischer (personal communication) glosses the general interrogative as WELL, as in (12c) below.

c. _____whq
    WH-THRILL TOMORROW, WELL?

    'What's happening tomorrow, huh?'

5.3.2   Simple *Wh*-Questions

There is no case marking in ASL, and so *wh*-words are likewise unmarked for case; instead, subjects and objects are indicated by their position in the sentence. Furthermore, *wh*-words are not marked for number, but plurality is indicated through nonmanual signals such as head movement and eye gaze as well as through plural indexation.   In root clauses, the *wh*-word may occur initially (after any topicalized material), finally, or in situ; frequently, however, it is difficult to distinguish between in situ and sentence-final placement, and sometimes the sentence-final *wh*-word is doubled from an earlier occurrence for emphasis. The examples below illustrate the variety of allowable surface forms in ASL (Lillo-Martin 2000):

(13)   Subject Questions

  a.   WHO BUY CAR?   (in situ)

  b.   ? BUY CAR WHO?   (final)

  c.   WHO BUY CAR WHO?   (double)

  'Who bought the car?'

(14)   Object Questions

  a.   ANN BUY WHAT?   (in situ)

  b.   ? WHAT ANN BUY?   (initial)

  c.   WHAT ANN BUY WHAT?   (double)

  'What did Ann buy?'

(15)   Adjunct Questions

    a. BUY COFFEE WHERE?   (final)

    b. WHERE BUY COFFEE?   (initial)

    c. WHERE BUY COFFEE WHERE?   (double)

    'Where did you buy the coffee?'

Some controversy surrounds the grammaticality status of subject questions with only a sentence final *wh*-phrase (13b) and object questions with only a sentence-initial *wh*-phrase (14b); hence, both sentences are marked as questionable. For both sentence types, acceptability judgments of adults often relate to different discourse contexts and strategies. Adjunct questions, however, are more flexible, allowing the *wh*-word both finally and initially. Sentence-final *wh*-subjects are often a result of topicalization, discussed in section 4.5; in addition, utterances that were formerly assumed to have sentence-final *wh*-subjects often have been more accurately interpreted as single-word sentences that are part of a multi-sentence discourse, discussed in section 5.5. Sentence-initial *wh*-objects will be discussed in section 5.7. This construction is more often acceptable only with a sentence-final *wh*-double, discussed in section 5.6. Henceforth, both sentence types will be marked as questionable.

In sentences with *wh*-subjects, as in (13) above, only *wh*-words—not *wh*-phrases—can occur sentence-finally (Petronio and Lillo-Martin 1997). In fact, *wh*-subject phrases always occur in situ; otherwise, the utterance is ungrammatical.

In examples in (13) and (14) above, the (a) sentences are uncontroversial, while the (b) sentences are debated and the (c) sentences are emphatic; this is an argument that the (a) sentences, with the *wh*-word in situ, reflect the basic pattern of the language. **Figure 5.1a** below depicts the Layered Structure of the Clause (LSC) of the most common structure for simple, direct questions with an in situ *wh*-subject and no topicalization—that is, with the *wh*-phrase represented as part of the core. **Figure 5.1b** represents the LSC for a displaced *wh*-subject— that is, a non-doubled, non-in situ *wh*-subject.
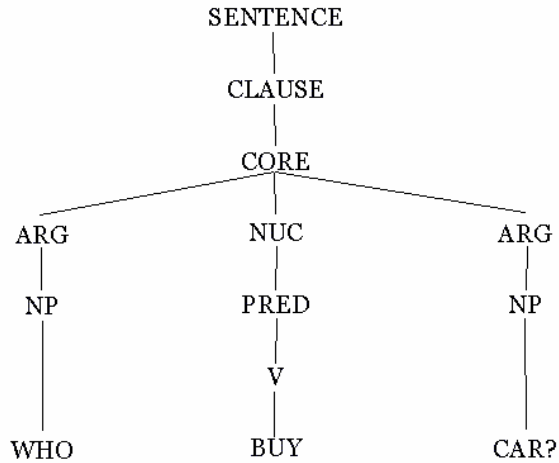
WHO BUY CAR?

Who bought the car?

Figure 5.1a LCS with In situ *Wh*-Subject
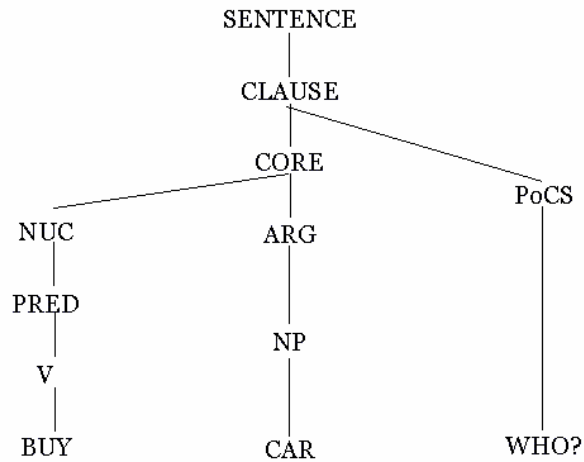
BUY CAR WHO?

Who bought the car?

Figure 5.1b LCS with Displaced *Wh*-Subject

Next, **Figure 5.2a** reflects the LSC for an in situ *wh*-object, also the most common position for a *wh*-object. **Figure 5.2b** depicts the LSC for a displaced *wh*-object.

SENTENCE

CLAUSE

CORE

ARG   NUC   ARG

NP   PRED   NP

V

ANN   BUY   WHAT?

whq
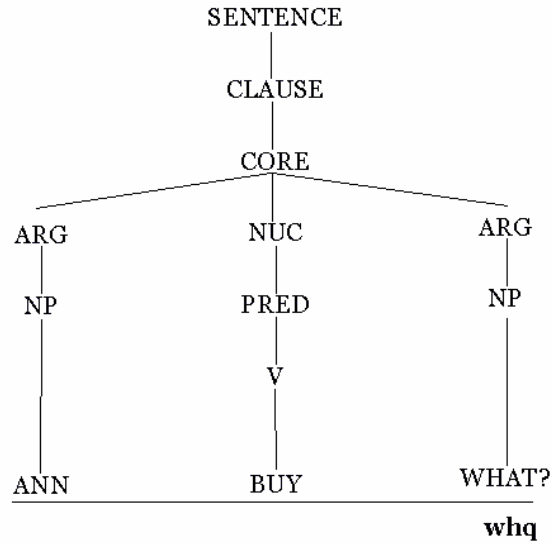
ANN BUY WHAT?

What did Ann buy?

Figure 5.2a LCS with In stitu *Wh*-Object

SENTENCE

CLAUSE

PrCS

CORE

ARG   NUC

PRED

NP

V

WHAT   ANN   BUY?

whq
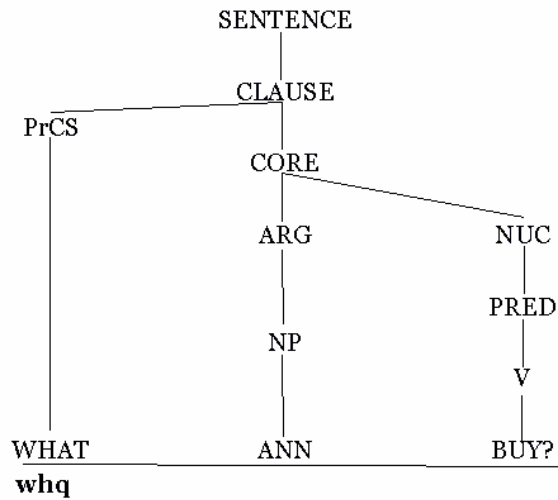
ANN BUY WHAT?

What did Ann buy?

Figure 5.2b LCS with Displaced *Wh*-Object

The approach for establishing that final *wh*-objects are NPs in the core and not part of the PrCS involves peripheral adverbs. If the *wh*-word is in situ, then a peripheral adverb should follow it, as part of the core, as in (a) below; if, however,

the *wh*-word belongs in the PoCS, then the adverb will precede it. Consider the

following sentences:

(17)

    a.   <u>   whq</u>
         ANN BUY WHAT YESTERDAY?

    b.   <u>   whq</u>
         *ANN BUY YESTERDAY WHAT?

         'What did Ann buy yesterday?'

With the adverb intervening between the verb and its object, as in (b), the

sentence is ungrammatical, proving that final *wh*-objects are in situ. This same

test can be used to show why *wh*-phrases must occur in situ:

(18)

    a.   <u>   whq</u>
         ANN BUY WHICH CAR YESTERDAY?

    b.   <u>   whq</u>
         *ANN BUY YESTERDAY WHICH CAR

         'Which car did Ann buy yesterday?'

Again, the ungrammaticality of the intervening adverb proves that the *wh*-phrase

must occur in situ as part of the core. Note, however, that sentence (b) above can

be grammatical if topicalization is employed:

(19)   <u>   t</u> <u>   whq</u>
      ANN BUY YESTERDAY, WHAT CAR?

Only non-manual marking distinguishes (19b) and (20), the scope of the facial

expression is crucial. As explained in Chapter 3, topicalization is a sentence-type

that results in focus on the "comment," or the non-topicalized elements of the

sentence. Likewise, Fischer (personal communication) argues that the *wh*-word alone can be focused through topicalization:

(20)   _____t
         CAR ANN BUY YESTERDAY, WHAT?

These examples could alternately be considered multi-sentence discourses, described below.

Sentences with *wh*-doubles will require either the Pre- or Post-Core Slot, and will be discussed in section 5.6. More complex sentences and various discourse strategies that affect the surface appearance of the *wh*-word, as well as the corresponding LSC projections, will be discussed later in this chapter.

5.4   Nonmanual Marking

Clearly, a variety of surface forms is available to signers, and like polar questions, content questions require specific nonmanual marking, labeled as '*whq*': the brows are squinted and the head is tilted; often, the body is shifted forward, and sometimes the shoulders are raised. When a *wh*-phrase appears in situ, the *wh*-word must be marked nonmanually, by the *wh*-question facial expression (whqfe). Whether or not the nonmanual marking <u>must</u> spread over the entire domain of the question is still under debate. The controversy centers on a determination about whether material that is not being questioned must be topicalized in order to block the spread of nonmanual marking. Consider (22) below (Lillo-Martin and Fischer 1992):

(21)

        a.   _whq_
            * STEPHANIE LOVE WHO?   (object, in situ)

        b.   _____ ___whq
            ? WHO STEPHANIE LOVE?   (object, initial)

        c.   _____ ____whq
            STEPHANIE LOVE WHO?   (object, in situ)

          'Who does Stephanie love?'

Lillo-Martin & Fischer (1992) argue that, when the *wh*-element is in situ, nonmanual marking must spread unless it is blocked by topicalization or other nonmanual marking, as in (21). Sentence (a) is ungrammatical because the *wh*-object occurs in situ, but the whqfe does not spread, as it does in the grammatical (c) [37]. Sentence (b) is controversial, as mentioned earlier, because not all speakers accept sentence-initial *wh*-objects. From an RRG perspective, the spread of nonmanual marking, which indicates illocutionary force, is important to the determination of focus domains and was discussed in section 4.4. **Figures 5.3** show the LCS with operator projection for the sentences presented in Figures 5.1 and 5.2 above.

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[37] Only Aarons et al (1992) claims that sentences like the one below are grammatical. Other sign linguists, however, have been unable to duplicate their findings.
              ___wh
         BOY LIKE WHO?

```
                        SENTENCE
                            |
                         CLAUSE
                            |
                          CORE
                    ┌───────┼───────┐
                   ARG     NUC     ARG
                    |       |       |
                   NP      PRED     NP
                    |       |       |
                    |       V       |
                    |       |       |
                  WHO      BUY     CAR?
              ─────────────────────────────
               whq         |
                           |
                           V
                           |
                          NUC
                           |
                          CORE
                           |
          IF ------------> CLAUSE
                           |
                        SENTENCE
```

WHO BUY CAR?

Who bought the car?

Figure 5.3a LCS with Operator Projector

```
                    SENTENCE
                       |
                    CLAUSE
                       |
                     CORE
              _____/|_____
             /         |         \
          ARG         NUC         ARG
           |           |           |
           NP         PRED         NP
           |           |           |
           |           V           |
           |           |           |
          ANN         BUY        WHAT?
          _____
                               whq
                       |
                       V
                       |
                      NUC
                       |
                      CORE
                       |
                    CLAUSE  <------ IF
                       |
                    SENTENCE
```

<p align="center">ANN BUY WHAT?
What did Ann buy?
Figure 5.3b LCS with Operator Projector</p>

Contrast the examples above with (22 a – d) below with a *wh*-subject:

(22)

    a.   <u>whq</u>
       *WHO LOVE STEPHANIE?   (subject, in situ)

    b.   <u>   whq</u>
       WHO LOVE STEPHANIE?   (subject, in situ)

    c.   <u>   t   whq</u>
       STEPHANIE, WHO LOVE?   (subject, in situ)

    d.   <u>   whq</u>
       WHO LOVE STEPHANIE WHO?   (subject, doubled)

       'Who loves Stephanie?'

Sentence (a) is ungrammatical because the question word WHO functions as subject and, therefore, the whqfe must mark the scope of the entire question, as in (b). When the *wh*-word or –phrase is sentence-initial, this nonmanual marking must spread over the entire domain of the question, excluding any topicalized elements, as in (c). (Depending on context, however, sentence (c) is potentially ambiguious, with an alternate reading of 'Who does Stephanie love?') In fact, my consultant consistently preferred the topicalized sentences when presented with examples such as those above. According to Petronio & Lillo-Martin (1997), topicalization is such a prevalent discourse strategy that, like my consultant, many signers reject the underlying SVO order of declarative sentences in favor of topicalized sentences. In root questions, this marking is obligatory, but it does not occur in embedded questions, as will be shown in section 5.9. In (d), the *wh*-word occurs finally as a double of the sentence-initial question word. The phenomenon of doubling will be discussed in section 5.6.

5.5   Multi-Sentence Discourses

As (23c) above illustrates, **topicalization** can also be used with *wh*-questions. In these cases, the *wh*-facial expression occurs only with a rightward *wh*-subject (Petronio and Lillo-Martin 1997):

(23)

      a.   <u>   t</u> <u>whq</u>
          BUY CAR, WHO?

          'As for buying the car, who bought it?'

b. _____t _____whq
PASS TEST, WHICH STUDENT?

'As for passing the test, which student was it?'

In these examples, a sentence-initial VP functions as topic, while the *wh*-subject

occurs in sentence-final position. As mentioned in Chapter 3, topicalization is a

prevalent discourse strategy in ASL, employed not only with individual sentences

but also with entire dialogues. Often, a signer will present a presupposition, and

then ask a question about it. For example, an ASL translation of the English

question "Who does John like?" often involves a multi-sentence discourse, such

as (24a) and (24b):

(24)

a. _____ _____ _____hn _____whq
INDEX$_1$ HEAR GOSSIP JOHN LIKE $_a$SOMEONE WHO $_a$INDEX?

'I heard a rumor that John likes someone. Who is it?'

b. _____t _____hn _____whq
WOMAN $_a$INDEX, JOHN LIKE WHO $_a$INDEX?

'There is a woman that John likes. Who is she?'

In (24a), the presupposed information is presented first, in the declarative

sentence, and then followed by the simple question, 'Who is it?' In (24b), the

topicalized constituent represents the presupposed information, that a woman

exists, and the identity of this woman is questioned by the second sentence. The

examples below present counterparts to the sentences in (24), now without the

INDEX:

(25)

    a.   _____hn _whq

        I HEAR GOSSIP JOHN LIKE ₐSOMEONE WHO?

        'I heard a rumor that John likes someone. Who?'

    b.   _____t _____hn _whq

        WOMAN ₐINDEX, JOHN LIKE WHO?

        'There is a woman that John likes. Who?'

Because the meaning of the question is still 'Who is it?,' Petronio & Lillo-Martin argue that, in both sets of examples, the *wh*-question is a separate sentence, even though the predicate is unexpressed in set (25), resulting in a single-word *wh*-question. Such single-word *wh*-questions also occur in English: *I heard you like someone. Who?* In all of these examples, the question word is not an argument of the first sentence but questions something presented there. Petronio & Lillo-Martin (1997) label this a type of sluicing, a phenomenon first identified by Ross (1969), in which recoverable parts of an utterance may be omitted. Consider the following examples, in which the nonmanual marker *hn* indicates a head nod, used for emphasis (1997):

(26)

       a.   <u>   hn</u> <u> whq</u>
          JOHN BUY SOMETHING WHAT?

          'John did buy something. What?'

       b.   <u> whq</u>
          JOHN BUY SOMETHING WHAT?

          'John bought something. What?'

       c.   <u>   hn</u> <u> whq</u>
          JOHN BUY WHAT?

          'John did buy something. What?'

(27)

       a.   <u>   _   hn</u> <u> whq</u>
          SOMEONE BUY CAR WHO?

          'Someone did buy a car. Who?'

       b.   <u> whq</u>
          SOMEONE BUY CAR WHO?

          'Someone did buy a car. Who?'

       c.   <u>   hn</u> <u> whq</u>
          BUY CAR WHO?

          'Someone did buy a car. Who?'

In all of the examples in both (26) and (27), there are two sentences. As in the (b)

examples, the first sentence may or may not have the affirmative head nod,

resulting in a slight change in the emphatic nature of the sentence. The (c)

examples are also acceptable in the appropriate context. In these two-sentence

discourses, the second sentence is a single-word *wh*-question[38] referring back to the elided pronoun of the first sentence.

　　Wh-words may also occur as the first of a multi-sentence discourse. In the examples below, there are three sentences: the first is a single-word *wh*-question directed to the addressee; the second provides the presupposition the signer is pondering; and the final can be considered either a direction question repeated to the addressee or a continuation of the self-talk (Petronio and Lillo-Martin 1997):

(28)

   a. <u>　whq　</u><u>　　　　　　　　</u>ponder <u>　whq　</u>
     WHO JOHN LIKE SOMEONE WHO?

     'Who? John likes someone. Who?'

   b. <u>　whq　</u><u>　　　　　　　　</u>ponder <u>　whq　</u>
     WHO SOMEONE LIKE JOHN WHO?

     'Who? Someone likes John. Who?'

In the example below, a topic co-occurs with a *wh*-question:

(29) <u>　　　　　t　</u><u>　　　　　　　　</u>whq
   COFFEE, WHERE BUY?

  'As for the coffee, where did [you] buy it?'

In contrast, elements analyzed here as the second sentence—that is, the presupposition—cannot be topicalized over the initial *wh*-element in a discourse like (29), as shown below:

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[38] For more details about the availability of and restrictions on null arguments in ASL, see Lillo-Martin (1986) and (1990).

(30)

    a.   <u>   t </u> <u>whq</u> <u>   ponder </u><u> whq</u>
        *JOHN, WHO LIKE SOMEONE WHO?

    b.   <u>   t </u> <u>whq</u> <u>   ponder </u><u> whq</u>
        *JOHN, WHO SOMEONE LIKE WHO?

Because such multi-sentences discourses can contain the whqfe over only a single

wh-element, Petronio and Lillo-Martin interpret such utterances as single-sign

sentences.

       The constituent projection of the multi-sentence discourse of example

(26a) is presented in **Figure 5.4**. The resumptive element SOMETHING lends

further support to Petronio & Lillo-Martin's claim that this discourse consists of

two distinct utterances. The second utterance, the single word WHAT, is

attached with the first utterance to a TEXT node, reflecting the fact that both

utterances are part of the same discourse act; however, the two clauses have

different Illocutionary Force markers. The first clause is an assertion, while the

second is a question. This type of linkage is called a **sentential juncture**, and

because there is no conjunction joining the two utterances, the discourse reflects

paratactic coordination.

```
                                      TEXT
                         _____
                        |                        |
                    SENTENCE                  SENTENCE
                        |                        |
                    CLAUSE                    CLAUSE
                        |                        |
                     CORE                     CORE
                 _____|_____             ____|____
                |      |      |            |         |
              ARG    NUC    ARG           NP        NUC
                |      |      |            |          |
                |    PRED     |            |          |
                |      |      |            |          |
               NP      V     NP          WHAT?        |
                |      |      |           whq         |
              JOHN   BUY   SOMETHING                  |
               hn     |                               |
                      V                               |
                      |                               |
                    PRED                            CORE
                      |                               |
                    NUC                               |
                      |                               |
                    CORE                              |
                      |                               |
      IF---------> CLAUSE         IF--------------> CLAUSE
```

JOHN BUY SOMETHING WHAT?
John did buy something. What?
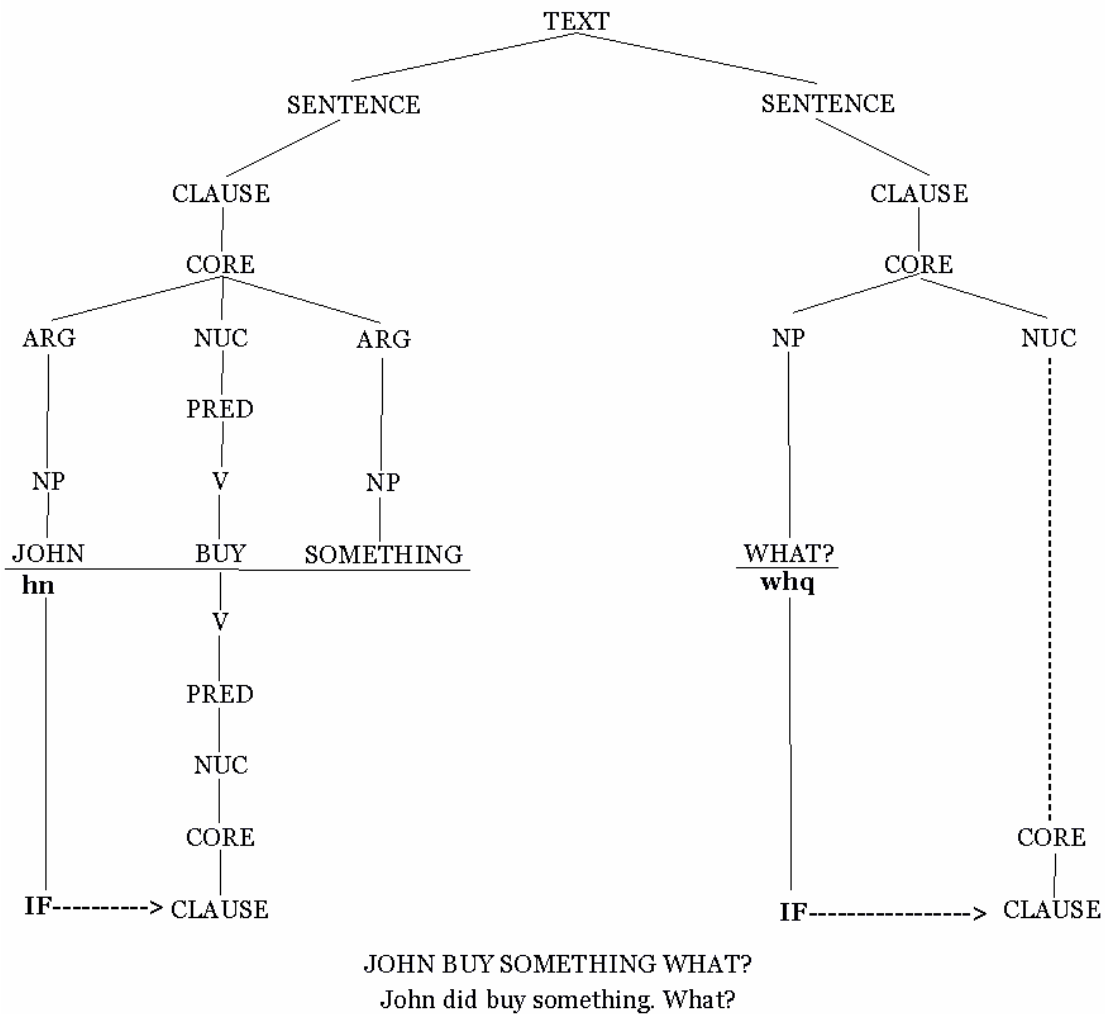
Figure 5.4 LCS of Multi-Sentence Discourse

5.6   *Wh*-Doubles

As discussed in Chapter 3, ASL often employs a double construction as a focusing mechanism. Modals, quantifiers, and verbs can be emphasized in this way; likewise, single-word *wh*-elements can also be doubled. The sentences in (31) below illustrate a doubled *wh*-subject (a), *wh*-object (b), and *wh*-adjunct (c), as well as a type of alternative question (discussed below) (Petronio and Lillo-Martin 1997):

(31)

a.   <u>   whq</u>
WHO BUY C-A-R WHO?

'Who bought the car?'

b.   <u>   whq</u>
WHAT JOHN BUY WHAT?

'What did John buy?'

c.   <u>   whq</u>
WHY STUDY LINGUISTICS WHY?

'Why do you study linguistics?'

d.   <u>   whq</u>
WHICH COMPUTER INDEX$_2$ WANT WHICH?

'Which computer do you want?'

Both adjunct and argument *wh*-elements can be doubled. The one restriction on all doubles is that the final, doubled element cannot be a phrase; rather, it must be a head, as demonstrated in the (b) sentences below:

(32)

a.   <u>   whq</u>
WHO CAR BREAK-DOWN WHO?

'Whose car broke down?'

b.   <u>   whq</u>
*WHO CAR BREAK-DOWN WHO CAR?

(33)

    a. $\overline{\hspace{8cm}\text{whq}}$
       WHICH COMPUTER JOHN BUY WHICH?

       'Which computer did John buy?

    b. $\overline{\hspace{9cm}\text{whq}}$
       * WHICH COMPUTER JOHN BUY WHICH COMPUTER?

    c. $\overline{\hspace{7cm}\text{whq}}$
       * WHICH JOHN BUY WHICH COMPUTER?

Likewise, (33c) is also ungrammatical, again because of the prohibition against

sentence-final *wh*-phrases.

In such sentences, the *wh*-element that does not appear in situ will be

attached to either the Pre-Core Slot (PrCS) or the Post-Core Slot (PoCS). These

slots, which are inside of the clause but outside of the core, are distinct from the

core-initial slot of the subject or the argument slots of objects. Unlike the Left-

Detached Position used for topicalized elements in ASL, elements of the PrCS and

PoCS are not set off by pauses or intonation breaks. Elements of the core are

universal and semantically motivated, while elements of the clause and sentence

are pragmatically motivated and, therefore, linearly defined. In the

representation below, the first occurrence of WHO is in situ and the second is the

PoCS.

As mentioned in Chapter 4, doubling is regarded as a general focusing

construction whereby focused elements occur sentence-finally, usually for

emphasis. Interrogative words are inherently focused, so a *wh*-double may also

occur in the sentence-final position. As stated earlier, in situ is the only position

for a *wh*-element that is uncontroversial; therefore, the non- in situ occurrence is

logically the double.   An RRG approach, then, shows that, in the sentence above, for example, the first (in situ) occurrence is the necessary one while the second is the doubled, or emphatic, one. Contrast **Figure 5.5** with **Figure 5.6**, in which the first *wh*-element is the double. This analysis differs from that of most other sign linguists, who argue that the second occurrence of the *wh*-word, regardless of its position in the clauses, is always the "double."[39]
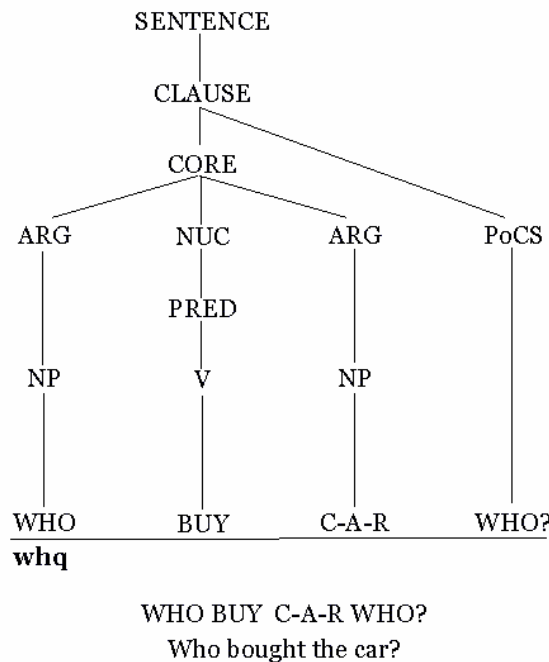
WHO BUY C-A-R WHO?
Who bought the car?
Figure 5.5 LCS of *Wh*-Subject Double

---

[39] Aarons et al (1992) argue for rightward movement of *wh*-elements, so the initial WHAT in a sentence like WHAT NANCY BUY WHAT is a base-generated topic; this view, however, is largely contested by other linguists, including Petronio & Lillo-Martin (1997) and Lillo-Martin & Fischer (1992), who argue that *wh*-words are never topics and, therefore, never take topic marking.

```
                        SENTENCE
                           |
                        CLAUSE
                          / |
                        CORE
                       / |  \
   PrCS      ARG      NUC       ARG
    |         |        |         |
    |         |       PRED       |
    |         |        |         |
    |         NP       V         NP
    |         |        |         |
  WHAT      JOHN      BUY      WHAT?
  _____
  whq
```
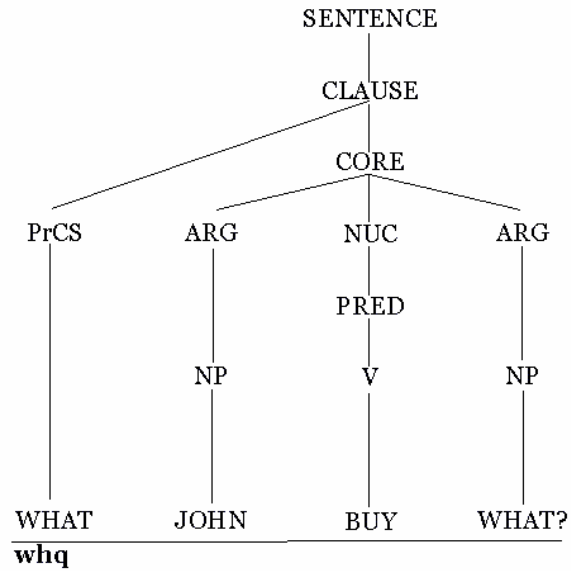
WHAT JOHN BUY WHAT?
What did John buy?
Figure 5.6 LCS of *Wh*-Object Double

In fact, doubling makes it possible in ASL for both the Pre- and Post-Core slots to be occupied. In example (31c) above, both occurrences of WHY would be outside the nucleus, as would most *wh*-adjuncts. As for *wh*-arguments, consider the following sentences:

(34)

    a. WHO SHOW-UP LATE WHO?

    b. YESTERDAY WHO SHOW-UP LATE WHO?

       'Yesterday, who showed up late?'

(35)

    a. WHAT JOHN BUY WHAT?

    b. WHAT JOHN BUY YESTERDAY WHAT?

       'What did John buy yesterday?'

The sentences in (34) have a *wh*-subject, while those in (36) have a *wh*-object.

Sentence (34a) is straightforward: The first occurrence of WHO is an in situ subject, so it appears as an NP argument of the core, and the second WHO is in the PoCS. In sentence (34b), YESTERDAY would be in the PrCS, while the second occurrence of WHO would be in the PoCS. Likewise, in (35a), the first occurrence of WHAT is the "double," so it appears in the PrCS, while the second WHAT is an in situ object, functioning as an NP in the core. In (35b), YESTERDAY displaces WHAT, moving it to the PoCS. Note that in situ *wh*-objects and doubled *wh*-subjects must occur sentence finally, even with an adverbial like YESTERDAY:

(36)

    a. *WHO SHOW UP LATE WHO YESTERDAY?

    b. *WHAT JOHN BUY WHAT YESTERDAY?

5.7   Initial *Wh*-Objects

Some signers reject sentences like (37) below (Petronio and Lillo-Martin 1997); in fact, sign linguists disagree about the grammaticality of sentences with initial *wh*-objects: Lillo-Martin (1990) and Lillo-Martin & Fischer (1992) report them as grammatical, and Petronio (1993) reports them to receive mixed judgments, and my consultant consistently judged them as ungrammatical:

(37)

    a.   <u>   whq</u>
    ? WHAT JOHN BUY?

    'What did John buy?'

    b.   <u>   whq</u>
    ? WHO INDEX$_2$LIKE?

    'Who do you like?'

Given these mixed judgments, sentences with sentence-initial *wh*-objects are
marked as questionable, although adjunct *wh*-object questions, such as HE
LEAVE WHEN? 'When did he leave?' and SHE LIVE WHERE? 'Where does she
live?' are, according to my consultant, significantly better. According to Petronio
& Lillo-Martin, signers who reject sentences like those in (37), however, accept
the same sequences when embedded under a matrix verb such as WONDER or
CURIOUS, as in (38) (Petronio and Lillo-Martin 1997). Indeed, my consultant
judged the sentences below acceptable:

(38)

    a.   <u>   ponder</u>
    INDEX$_1$ WONDER WHAT JOHN BUY

    'I wonder what John bought?'

    b.   <u>   hn</u>
    ANN CURIOUS WHO INDEX$_2$ LIKE

    'Ann is curious who you like.'

Petronio & Lillo-Martin speculate that, because the *wh*-word in indirect
questions such as those in (38) is not marked for focus, a single, leftward *wh*-
element tends to be acceptable. Some signers who reject the sentences in (37)
will accept them with either a final double of the *wh*-object (39) or a sentence-

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final subject pronominal copy (40) (1997). My consultant, however, consistently

rejects doubled constructions, attributing them primarily to older users of the

language:

(39)

     a.   <u>   whq</u>

        WHAT JOHN BUY WHAT?

        'What did John buy?'

     b.   <u>   whq</u>

        WHO $INDEX_2$ LIKE WHO?

        'Who do you like?'

(40)

     a.   <u>   whq</u>

        WHAT $_a$JOHN BUY $_a$HE?

        'What did John buy?'

     b.   <u>   whq</u>

        WHO $INDEX_2$ LIKE $INDEX_2$?

        'Who do you like?'

Although the interpretation of the (39a) and (40a) questions and the

interpretation of (39b) and (40b) questions are the same, their phrasing suggests

different presuppositions (and responses) in terms of Dik's focus types (Dik

1997). The questions in (39), with the emphasis on the *wh*-element, imply

completive focus; that is, the response will complete the signer's information gap.

The questions in (40), however, with the emphasis on the subject, imply

contrastive focus; that is, the structure highlights an item (JOHN and YOU,

respectively) from a set (of people who are either buying or liking). As mentioned

in Chapter 4, the focus particle THAT is usually used for completive focus while

SELF is used for contrastive focus, and both can be used in *wh*-questions in topic position; as shown above, though, doubling is another common focusing mechanism.

5.8 Covert Content Questions

A covert *wh*-question is one that does not include an overt question word but does employ the whqfe. There is a semi-productive set of question words that are comprised of a non-interrogative sign with a question facial expression. Included in this set are the signs translated WH-FOR, WH-OLD, and WH-MANY, commonly translated as FOR-FOR, HOW-OLD, AND HOW-MANY (Lillo-Martin and Fischer 1992):

(41)

    a. <u>   whq</u>

        JERRY LEAVE WH-FOR?

        'Why did Jerry leave?'

    b. <u>   t</u> <u>   whq</u>

        YOUR DAUGHTER, WH-OLD?

        'How old is your daughter?'

    c. <u>   whq</u>

        WH- MANY COPIES (INDEX$_2$) WANT?

        'How many copies do you want?'

Possibly, the *wh*-portion of the sign has been lexicalized, resulting in item-specific phonological changes. For example, WH-MANY cannot repeat the opening motion of the fingers, unlike MANY when signed independently. With a slight phonological alteration, two intransitive predicates, WRONG (a) and

HAPPEN (b), can take the nonmanual question marking to ask "What's wrong?"

and "What happened?" respectively (Fischer 2003a):

(42)

    (a)   (b)

    <u>   whq</u>   <u>   whq</u>
    WRONG?   HAPPEN?

    'What's wrong?'   'What happened?'

Other lexicalized phrases include WH-THRILL ('What's up?'), WH-#DO ('What

am I/are you going to do?'). Although the covert-*wh* is quite productive,

pragmatic restrictions determine when a covert-*wh* is appropriate, since the

omitted information must be recoverable from the context. Lillo-Martin &

Fischer (1992) cite the following attested examples, all of which were elicited in

proper context. When taken out of context, obviously, such utterances would be

unacceptable.

(43)   Subjects

        a.   <u>   whq</u>
            WH-CAR TOP?

            'What car was the best?'

        b.   <u>   whq</u>
            WH-DOG WIN?

            'What dog won?'

        c.   <u>   whq</u>
            WH-NUMBER JACKPOT?

            'What number hit the jackpot?'

(44)   Objects

   a. $\underline{\text{whq}}$
        ? WH-CLOTHES INDEX$_2$ USE?

   b. $\underline{\text{whq}}$
        INDEX$_2$ USE WH-CLOTHES?

        'What are you wearing?'[40]

   c. $\underline{\text{whq}}$
        ? WH-MOVIE SEE PAST-NIGHT?

   d. $\underline{\text{whq}}$
        SEE PAST-NIGHT WH-MOVIE?

        'What movie did they see last night?'

   e. $\underline{\text{whq}}$
        USE WH-BOOK THAT CLASS?

        'What book do you use for that class?'

(45)   Predicates

   a. $\underline{\text{whq}}$
        WH-COLOR HIS CAR?

        'What color is his car?'

   b. $\underline{\text{t}}$ $\underline{\text{whq}}$
        MOVIE SEE FINISH, WH-TITLE?

        'What is the name of the movie they saw?'

---

[40] Covert sentence-initial *wh*-objects, like their overt counterparts, are questionable and therefore marked as such. Sentences (35b) and (35d) represent the more accepted in situ variants.

(46) Adjuncts

 a. <u>   whq</u>
   WH-TIME GONE MALL?

   'What time are you going to the mall?'

 b. <u>   whq</u>
   WH-LONG INDEX$_2$ WAIT WH-LONG?

   'How long were you waiting?'

 c. <u>   whq</u>
   WH-REASON SHOOT-HEAD?

   'Why did he shoot himself?'

In general, a covert-*wh* can be used in the same contexts as an overt *wh*-phrase. In fact, given the proper context, covert *wh*- can be productive even with nothing more in the *wh*-phrase; however, strong pragmatic constraints apply to such utterances.

The examples below are all missing arguments, and the covert, generalized WHAT is interpreted as WHO (or WHERE or WHY, etc.) depending on its context (1992):

(47)

 a. <u>   t </u> <u>   whq</u>
   PARTY, SHOW-UP?

   'Who showed up for the party?'

 b. <u>   t </u> <u>   whq</u>
   EARRINGS, GIFT- INDEX$_2$?

   'Who gave you the earrings?'

 c. <u>   t </u> <u>   whq</u>
   HUSBAND, GIFT- INDEX$_2$?

   'What did your husband give to you?'

d.   _____ ____t   __whq
    BREAKFAST, EAT?

'What did (you) eat for breakfast?'

In these examples, the topicalized element helps to disambiguate potentially confusing interpretations since all of these sentences are missing arguments. Compare (b) and (c), for example: Because EARRINGS is topicalized in (b), it is unlikely that the signer would be asking what the gift was; likewise, in (c), because HUSBAND is topicalized, it is unlikely that the signer would be asking who gave the gift. Of course, the verb also aids the interpretation: Most likely, the signer in (a) wants to know who showed up at a party, not what or why.

5.8.1 Nonmanual Marking of Covert Questions

As previously mentioned, when the *wh*-element is in situ, nonmanual marking must spread unless it is blocked by topicalization or other nonmanual marking, so the same rules apply for ASL whqfe when the question is covert, as the examples below, repeated from (22) and (23) above, respectively, illustrate.

(48)

a.   __whq
    * STEPHANIE LOVE WHO?

b.   _____whq
    ? WHO STEPHANIE LOVE?

c.   _____whq
    STEPHANIE LOVE WHO?

'Who does Stephanie love?'

(49)

a.   <u> whq</u>
    *WHO LOVE STEPHANIE?

b.   <u>   whq</u>
    WHO LOVE STEPHANIE?

c.   <u>   t   whq</u>
    STEPHANIE, WHO LOVE?

'Who loves Stephanie?'

For covert questions, the same generalizations apply to the scope of the whqfe when there is overt material in the *wh*-phrase; that is, unless blocked by topicalization or some other NMM, the whqfe must spread over the entire question, regardless of its position (Lillo-Martin and Fischer 1992):

(50)

a.   <u>   whq</u>
    * INDEX$_2$ BUY WH-BOOK?

b.   <u>   whq</u>
    INDEX$_2$ BUY WH-BOOK?

c.   <u>   whq</u>
    ? WH-BOOK INDEX$_2$ BUY?

'What book did you buy?'

In the example below, the (a) and (b) sentences show that, when there is no overt material in the *wh*-phrase, the whqfe must indicate the scope of the question (1992):

(51)

      a.   <u>whq</u>
                *$_2$INDEX BUY   ?[41]

      b.   _____<u>whq</u>
             $_2$INDEX BUY?

      c.   <u>whq</u>
             *$_2$INDEX BUY?

      d.   _____t _<u>whq</u>
            $_2$INDEX, BUY?

      'What did s/he buy?'

In the (a) example, leaving the *wh*-phrase in situ is ungrammatical. With no overt material in the *wh*-phrase, perhaps the whqfe must mark the scope of the entire question because, like affixes, the whqfe must co-occur with some phonetic material. As the (c) indicates, the whqfe does not occur with just the verb; since the overt *wh*-argument is omitted in these sentences, the whqfe again must co-occur with the scope of the question. Lillo-Martin & Fischer propose that the whqfe is an overt manifestation of the scope operator. In RRG as well, the scope of the whqfe and the potential focus domain coincide. **Figure 5.7** presents the LCS of a covert *wh*-question.

---

[41] A similar structure is possible in Nihon Syuwa (Fischer and Osugi 1998).

```
                    SENTENCE
                       |
                    CLAUSE
                       |
                     CORE
            _____|_____
           |           |           |
          ARG         NUC         ARG
           |           |           |
           |          PRED         |
           |           |           |
          NP           |          NP
           |           V           |
           |           |           |
        INDEX2       BUY       Wh-BOOK?
        _____
                       |       whq
                       |        |
                       |        |
                       |        |
                   CLAUSE <---- IF
```
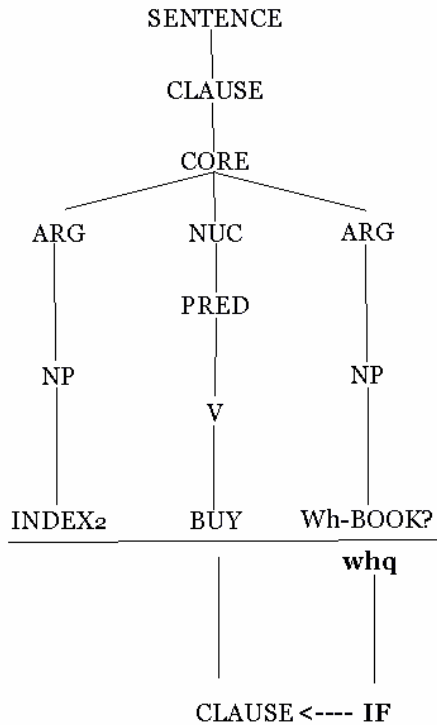
INDEX2 BUY WH-BOOK?
What book did you buy?
Figure 5.7 LCS of Covert Content Question

5.9   Indirect Questions vs Questions in Embedded Clauses

In simple sentences with *wh*-adjuncts, like (52), the *wh*-word can be fronted or in situ. In a multi-clause sentence like (53), however, an adjunct *wh*-word can be interpreted only as questioning the matrix; therefore, the whqfe extends over the entire clause. An interpretation with the *wh*-word fronted out of the embedded clause is ungrammatical (Lillo-Martin 1990).

(52)

    a.   ‾‾‾‾‾‾‾‾‾‾‾‾‾‾whq
        WHY ₐBILL ₐLEAVE?

    b.   ‾‾‾‾‾‾‾‾‾‾‾‾‾whq
        ₐBILL ₐLEAVE WHY?

(53)   ‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾whq
        WHY ₐBILL FEEL ᵦJOHN ᵦLEAVE?

        *'Why does Bill think [John left *why*]?'

        '[Why does Bill think *why*] John left?'

My consultant agreed that only one reading of (53) was possible. Sentence

(54) results in a reading in which the embedded clause is questioned:

(54)   ‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾whq
      BILL FEEL JOHN LEAVE WHY?

      'Why does Bill think [John left *why*]?'

Perhaps adjunct questions require the *wh*-element to occur in situ because of the

ambiguity that arises when the *wh*-word occurs elsewhere—unlike argument

questions, which do not usually result in such ambiguity, as will be shown below.

A comparison of the nonmanual marking of indirect questions and

questions in embedded clauses reveals scope differences between the two types of

sentences. Sentence (55a) is an embedded (indirect) question, while sentence

(55b) is a question in an embedded clause (Lillo-Martin 1990). Note that the

indirect question does not take the whqfe while the question in the embedded

clause does:

(55)

    a.   ____hn/ponder[42]

              JOHN ASK$_1$ WHO BUY BOOK.

              'John asked (me) who bought the book.'

    b.   whq

              BILL THINK WHO SEE MARY?

              'Who does Bill think saw Mary?'

My consultant was comfortable with both sentences. In the first sentence, the nonmanual marking has scope over only the lower clause, while in (b) it has scope over the entire sentence. **Figure 5.8** depicts the representation of an embedded question. In ASL, there is no precore slot in the embedded clause.

BILL THINK WHO SEE MARY?
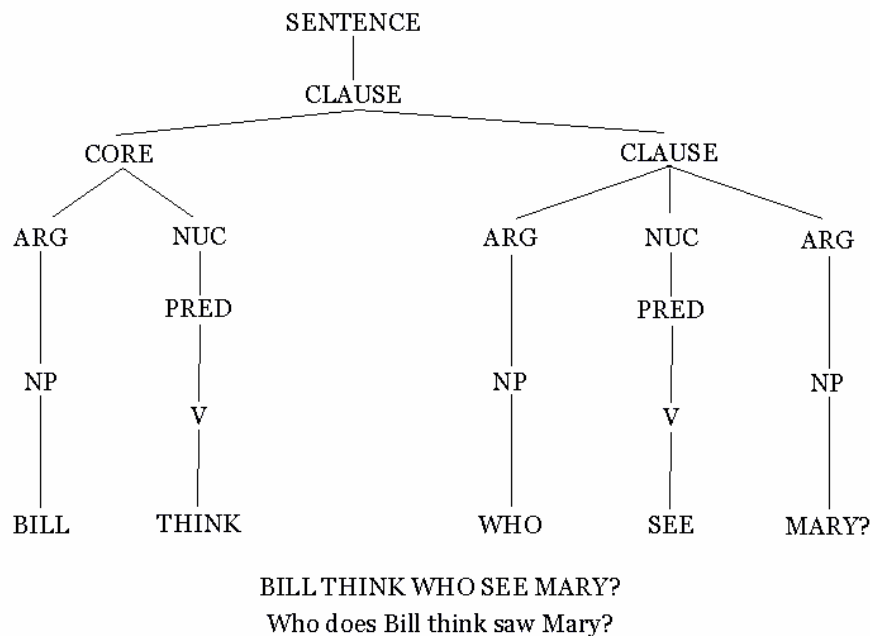Who does Bill think saw Mary?
Figure 5.8 LCS of Question in Embedded Clause

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[42] Petronio & Lillo-Martin (1997) revised the nonmanual marking for indirect questions from Lillo-Martin (1990). Depending on the predicate, indirect questions take a variety of nonmanual markings, to include headnod (hn), headshake (hs) and pondering (ponder). The example has been modified to reflect this change.

Because the complements of indirect questions are not marked for focus, they do not allow doubling. Questions in embedded clauses do allow doubling of the *wh*-element. Unlike embedded sentences, which permit a final double of the matrix subject, embedded questions allow the *wh*-element of the embedded clause to be doubled. This makes sense because the question in the embedded clause (WHO SEE MARY) has the characteristics of a matrix clause, including the nonmanual whqfe; as in (57b), the scope of WHO is the entire clause:

(56) $\underline{\hspace{6cm}\text{whq}}$
      BILL THINK WHO SEE MARY WHO?

      'Who does Bill think saw Mary?'

My consultant was comfortable with the complex sentences in (57) below, and replacing individual NPs with a *wh*-element was straightforward for both the core (58) and clausal (59) juncture constructions, with some stipulations, which will be explained below:

(57)

       a. $_1$FORCE$_i$ MAN $_i$GIVE$_j$ BOY $_j$POSS BOOK.

          'I forced the man to give the boy his book.'   (core juncture)

       b. INDEX$_1$ HOPE $_i$INDEX COME VISIT WILL.

          'I hope he will come to visit.'   (clausal juncture)

(58)

     a. $_a$FORCE$_i$ WHO$_i$ $_i$GIVE$_j$ BOY $_j$POSS BOOK?

        'She forced who to give the boy his book?'

     b. $_a$FORCE$_i$ MAN$_i$ $_i$GIVE$_j$ WHO$_j$ BOOK?

        'She forced the man to give who the book?'

     c. $_a$FORCE$_i$ MAN$_i$ $_i$GIVE$_j$ BOY$_j$ WHAT?

        'She forced the man to give the boy what?'

     d. * WHO$_i$ INDEX$_a$ $_a$FORCE$_i$ $_i$GIVE$_j$ BOY$_j$ $_j$POSS BOOK?

        'Who did she force to give the boy his book?'

     e. * WHO$_i$ INDEX$_a$ $_a$FORCE$_j$ MAN$_j$ $_j$GIVE$_i$ BOOK?

        'Who did she force the man to give the book to?'

     f. * WHAT INDEX$_a$ $_a$FORCE$_i$ MAN$_i$ $_i$GIVE$_j$ BOY$_j$?

        'What did she force the man to give to the boy?'

In the core juncture sentences in (58a – 58c), my consultant was comfortable with the *wh*-word in the 'embedded' or linked clause in situ. In sentence (b), it is possible to switch the order of the objects: GIVE BOOK WHO? When the *wh*-word of the embedded clause was fronted, however, he judged the sentences to be ungrammatical regardless of which element was questioned[43].

    In the clausal juncture of (59), substituting the NP in the linked clause with a *wh*-word was also straightforward; with this juncture type, however, the *wh*-word could remain in situ (a) or be fronted (b). Although my consultant judged both sentences acceptable, he preferred (a):

---

[43] Fischer (personal communication) notes, however, that some signers would accept (63f).

(59)

      a. INDEX$_a$ HOPE WHO COME VISIT WILL?

          'She hopes who will come to visit?'

      b. WHO INDEX$_a$ HOPE COME VISIT WILL?

          'Who does she hope will come visit?'

One possible explanation for the difference in front-ability between the core and clausal junctures could involve the number of referents that must be indexed and then incorporated in the linked verb GIVE (a ditransitive agreement verb) in (58). In sentence (d), for example, both WHO and SHE must be established in space before the verb FORCE can be articulated; next, the verb GIVE requires movement from WHO to BOY, also indexed. The embedded verb VISIT in (59) is a monotransitive verb of limited directionality.

To test this hypothesis, I asked my consultant to evaluate more parallel sentences—a core juncture with the monotransitive verb (60) and a clausal juncture with the ditransitive verb (61), this time eliminating the possessive NP. The declarative (a) sentences are presented for reference:

(60)

      a. SUE$_a$ $_a$FORCE$_b$ MARK$_b$ VISIT JEFF.

          'Sue forced Mark to visit Jeff.'

      b. WHO$_a$ $_a$FORCE$_b$ MARK$_b$ VISIT JEFF?

          'Who forced Mark to visit Jeff?'

      c. SUE FORCE WHO VISIT JEFF?

          'Sue forced who to visit Jeff?'

d. * WHO$_a$ SUE$_b$ $_b$FORCE$_a$ VISIT JEFF?

   'Who did Sue force to visit Jeff?'   (linked subject, fronted)

e. SUE FORCE MARK VISIT WHO?

   'Sue forced Mark to visit who?'

f. * WHO$_a$ SUE$_b$ $_b$FORCE$_c$ MARK$_c$ VISIT?

   'Who did Sue force Mark to visit?'   (linked object, fronted)

(61)

a. SUE HOPE JEFF$_a$ $_a$GIVE$_b$ MARK$_b$ BOOK.

   'Sue hopes Jeff gives Mark a book.'

b. WHO HOPE JEFF$_a$ $_a$GIVE$_b$ MARK$_b$ BOOK?

   'Who hopes Jeff gives Mark a book?'

c. SUE HOPE JEFF$_a$ $_a$GIVE$_b$ WHO$_b$ BOOK?

   'Sue hopes Jeff gives who a book?

d. * WHO$_a$ SUE HOPE JEFF$_b$ $_b$GIVE$_a$ BOOK?

   'Who does Sue hope Jeff gives a book (to)?

                                        (embedded object, fronted)

e. SUE HOPE JEFF$_a$ $_a$GIVE$_b$ BOOK WHO$_b$?

   'Sue hopes Jeff gives the book to whom?'

f. SUE HOPE WHO$_a$ $_a$GIVE$_b$ MARK$_b$ BOOK?

   'Sue hopes who gives Mark a book?'

                                        (embedded subject, fronted)

g. * WHO$_a$ SUE HOPE $_a$GIVE$_b$ MARK$_b$ BOOK?

   'Who does Sue hope gives Mark a book?'

                                        (embedded object, fronted)

h. * WHAT SUE HOPE JEFF$_a$ $_a$GIVE$_b$ MARK$_b$?

'What does Sue hope Jeff gives Mark?'

i. SUE HOPE JEFF$_a$ $_a$GIVE$_b$ MARK$_b$ WHAT?

'Sue hopes Jeff gives Mark what?'

Only the sentences with the *wh*-element in situ were acceptable to my consultant, regardless of the juncture type. Note that with the ditransitive verb, both objects (from the embedded clause) are acceptable as sentence-final *wh*-elements.

Next, I asked my consultant to evaluate the structure in (61) with complex *wh*-phrases:

(62)

a. WHICH WOMAN HOPE JEFF$_a$ $_a$GIVE$_b$ MARK$_b$ BOOK?

'Which woman hopes Jeff gives Mark a book?'

b. SUE HOPE JEFF$_a$ $_a$GIVE$_b$ WHICH MAN$_b$ BOOK?

'Sue hopes Jeff gives which man a book?'

c. *WHICH MAN SUE HOPE JEFF$_a$ $_a$GIVE$_b$ BOOK?

'Which man does Sue hope Jeff gives a book (to)?'

d. SUE HOPE JEFF$_a$ $_a$GIVE$_b$ BOOK WHICH MAN$_b$?

'Sue hopes Jeff gives a book to which man?'

e. SUE HOPE WHICH MAN$_a$ $_a$GIVE$_b$ MARK$_b$ BOOK?

'Sue hopes which man gives Mark a book?'

f. *WHICH MAN$_a$ SUE HOPE $_a$GIVE$_b$ MARK$_b$ BOOK?

'Which man does Sue hope gives Mark the book?'

g. *WHAT BOOK SUE HOPE JEFF$_a$ $_a$GIVE$_b$ MARK$_b$?

'What book does Sue hope Jeff gives Mark?'

h. SUE HOPE JEFF$_a$ $_a$GIVE$_b$ MARK$_b$ WHAT BOOK?

'Sue Hopes Jeff gives Mark what book?'

As with simple *wh*-elements, complex *wh*-elements were acceptable to my

consultant only in situ. More investigation into verb types and classes is

necessary, but these examples show that, in general, *wh*-elements in

linked/embedded clauses must remain in situ. While plain and directional verbs

exhibit some flexibility, agreement verbs do not, probably because of the indexing

required. Given the visual nature of ASL, sentences are simply easier to articulate

and process when the *wh*-word remains 'embedded.'

5.10 Multiple Questions

Multiple *wh*-questions in ASL are rare and, as Fischer notes, although it is

possible to elicit questions such as (63), they do not occur spontaneously.

Furthermore, only one *wh*-element can occur sentence-initially (2003a).

(63) WHO EAT WHAT?

'Who ate what?'

Likewise, *wh*-elements rarely co-occur with negation, and when they do, the

nonmanual marking of the negative is absent, as in (64):

(64)   <u>   whq</u>
NOT EAT WHAT?

'What *didn't* you eat?'

5.11   Constraints on Question Formation

In ASL, the *wh*-word in simple sentences can be mapped into the syntactic representation in either the normal position for an argument or adjunct (for in situ *wh*-elements) or in the Pre- or Post-Core slot (for displaced and doubled *wh*-elements). Complex sentences work a little differently, however. Consider the following examples from English (Van Valin and LaPolla 1997):

(65)

    a. Mulder believes that Scully hid the files.

    b. What does Mulder believe that Scully hid?

    c. Mulder believes the rumor that Scully hid the files.

    d. *What does Mulder believe the rumor that Scully hid?

    e. Those files Mulder believes Scully hid.

    f. *Those files Mulder believes the rumor that Scully hid.

    g. Scully interviewed the witness who saw the alien spacecraft.

    h. *What did Scully interview the witness who saw?

    i. The files which Mulder believes that Scully hid were actually in the trunk of his car.

    j. *The files which Mulder believes the rumor that Scully hid were actually in the trunk of his car.

In both NP complements and relative clauses, the subordinate clause is embedded within a complex NP with a lexical head noun. This property, Ross (1967[1986]) argued, blocks question formation; therefore, sentences (d) and (h) are ungrammatical, as are topicalized and relativized constructions (f) and (j). Ross proposed the Complex NP Constraint to describe these restrictions; that is,

an element cannot be moved out of a clause that is embedded under a lexical head noun. Chomsky later explained the phenomenon with the principle of subjacency: Basically, an element cannot cross more than one bounding node in a single movement; in English, the bounding nodes are NP and S (IP).

5.11.1 Subjacency Effects in American Sign Language

Lillo-Martin presents the following examples from ASL to show that, at least on some occasions, a *wh*-word can remain in situ in an island in syntax, as in (66) and (67) below (Lillo-Martin 1990). While Lillo-Martin claims the (b) sentences are grammatical, my consultant disagreed, so the (b) sentences are marked accordingly:

(66)

      a.   <u>   whq</u>
             * $_a$WHO$_i$ $_b$JOHN WONDER $_c$WHO LOVE?

      b.   <u>   whq</u>
             * $_a$JOHN WONDER $_b$WHO LOVE $_c$WHO?

             'Who does John wonder who loves?

(67)

      a.   <u>   whq</u>
             * $_a$WHO$_i$ $_b$JOHN $_b$KISS $_c$SALLY BEFORE $_a$LEFT?

      b.   <u>   whq</u>
             ? $_a$JOHN $_a$KISS$_b$ $_b$SALLY BEFORE $_c$WHO $_c$LEFT?

             'Who did John kiss Sally before left?'

The (a) sentences are ungrammatical because, as shown above, *wh*-subjects generally can not be fronted out of an embedded clause, particularly with verbs that require indexing, like KISS, a limited directional verb. In addition, sentences like those in (66) are generally unacceptable in ASL because of the prohibition

against multiple *wh*-words. My consultant preferred instead a topicalized sentence with a reciprocal construction, although (68a) has a different meaning than the one intended:

(68)

    a.   <u>   t, </u> <u>   ponder</u>
           INDEX$_a$ INDEX$_b$ LOVE, JOHN WONDER WHO$_{a,b}$?

           As for those two people who love each other, John wonders who they are.

    b.   <u>   t </u> <u>   whq</u>
           JOHN$_a$ SALLY$_b$ KISS$_{a,b}$ FINISH, WHO LEAVE?

           'John and Sally kissed each other before who left?'

The sentences in (69) below present a question out of an embedded clause in which the subject *wh*-word can occur in situ (a) or can be fronted (b). A comparison of the *wh*-adjunct sentences in (53) and (54) above with those in (69) below reflects a restriction on the position of *wh*-words. Certain structures allow the *wh*-word to be fronted out of an embedded clause while others require it to be in situ. Superficially, it appears that adjunct questions require the *wh*-word (and often subjects) to occur in situ, perhaps because of the ambiguity that arises when the *wh*-word occurs elsewhere, while argument *wh*-words allow for some flexibility. Agreement verbs, because of the indexing required, may have some visual processing limitations. More research is needed; however, when combined with a *wh*-argument, indexing makes clear who did what to whom and may, therefore, also allow for some flexibility. My consultant found both of the sentences below to be acceptable; however, he had a stronger preference for (a), with the *wh*-word in situ.

(69)

    a.   <u>   whq</u>
           BILL THINK WHO SEE MARY?

    b.   <u>   whq</u>
           WHO BILL THINK SEE MARY?

          'Who does Bill think saw Mary?'

Multiple interpretations are not possible with argument questions, as illustrated

with *wh*-subjects above in (69) and with *wh*-objects below in (70). As the (a)

examples in both (69) and (70) show, my consultant consistently preferred in situ

wh-elements, regardless of their function in the clause. Unlike the examples

presented earlier, the verbs in these sentences are plain, requiring no indexing,

which may account for the acceptability of the sentences like those in (69) above,

with the *wh*-subject fronted out of the embedded clause.

(70)

    a.   <u>   whq</u>
           BILL THINK MARY SEE WHO?

    b.   <u>   whq</u>
           WHO BILL THINK MARY SEE?

          'Who does Bill think Mary saw?'

This analysis contradicts Lillo-Martin, who claims that neither arguments nor

adjuncts can be fronted out of an embedded clause (1990). At least with some

verbs subject *wh*-words can be fronted out of an embedded clause. Like THINK,

WANT is a bridge verb, meaning it permits movement of a *wh*-word out of its

complement:

(71)

    a.   <u>   whq</u>
         BILL WANT WHO SEE MARY?

    b.   <u>   whq</u>
         WHO BILL WANT SEE MARY?

         'Who does Bill want to see Mary?'

(72)

    a.   <u>   whq</u>
         BILL WANT MARY SEE WHO?

    b.   <u>   whq</u>
         WHO BILL WANT MARY SEE?

         'Who does Bill want Mary to see?'

As in (69) and (70) above, my consultant was most comfortable with the *wh*-word in situ but judged the fronted *wh*-element to be acceptable as well.

5.11.1.1 Relative Clauses

    Subjacency effects are also evident in relative clauses:

(73)   <u>   rc</u>
     RECENTLY DOG CHASE CAT COME HOME

     'The dog which recently chased the cat came home.'

If the signer were asking whether the dog which had recently chased the cat had come home, the construction would still involve the relative clause marking:

(74)   <u>   rc</u> <u>   Q</u>
     RECENTLY DOG CHASE CAT COME HOME?

     'The dog which recently chased the cat, did it come home?'

As with topicalization, the relative marking blocks the spread of the *wh*-question marking. In addition, rather than the entire assertion being a question, an NP can also be replaced with a *wh*-element. Again, though, the signer would use a

<div align="center">243</div>

relative clause (or topicalization or a multi-sentence discourse) to establish the relationship between the participants, the cat and dog:

(75) ‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾r ‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾whq
DOG$_i$ COME HOME, RECENTLY $_i$CHASE WHAT?

'The dog that came home, recently it chased what?'

Finally, if the signer were to replace the NP CAT with the *wh*-word WHAT, and the nonmanual marking were changed appropriately, the result would be ungrammatical.

(76) ‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾whq
* RECENTLY DOG CHASE WHAT COME HOME?

'What did the dog which recently chased come home?'

5.12   Summary

The variety of examples presented in this chapter highlight the difference in ASL between normal complement structures and complex structures like adverbial clauses, question complements, and relative clauses. By comparing ASL to Chinese, Lillo-Martin (1990) claims that *wh*-words can be moved only out of matrix clauses, not embedded clauses. My research shows that the situation in ASL is not that simple, as the examples above show. In fact, long-distance *wh*-dependencies seem contingent upon a number of factors, the most important being the class of the verb in the embedded clause. Sentences with a *wh*-word fronted out of the embedded clause are occasionally acceptable, again depending on the verb type. In addition, adjunct *wh*-words are more amenable to fronting out of an embedded clause than argument *wh*-words. Unfortunately, a complete analysis of this problem is beyond the scope of this dissertation. One fact is clear,

however: *Wh*-displacement is a marked structure. The default and preferred
position of the *wh*-word, in both simple and complex sentences, is in situ.

5.13   Question Particle

ASL employs a question particle with both polar and content questions
either when someone is requesting permission to ask a question or when s/he
wants to reinforce that s/he is asking a question. This particle has two forms,
single and reduplicated, both with obligatory nonmanual marking. With the
single form, the index finger traces a question mark; with the reduplicated form,
the index finger bends repeatedly. In the first pragmatic situation, when
someone is requesting permission to ask a question, the particle (marked '*Q-M*')
occurs at the beginning of the question (Fischer 2003a):

(77) Q‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾
 Q-M, NOW NIGHT INDEX$_2$ GO-TO PARTY?

 'I'm asking, are you going to the party tonight?'

In the second pragmatic situation, when someone wants to reinforce that s/he is
asking a question, Q-M, in single or reduplicated form, will occur at the end of
the question:

(78) Q‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾
 INDEX$_2$ THINK INDEX$_a$ GAY Q-M++

 'Do you think s/he's gay, huh?

Q-M can also be used as a repair when interpreters don't realize that a question is
being asked until it is too late to incorporate the proper nonmanual markings:

(79)

                                                Q___

INDEX$_a$ TRUE DOCTOR Q-M?

'She's really a doctor?'

If someone is asking a personal question, however, it is considered polite to introduce the question with a phrase like INDEX$_1$ CURIOUS, although the Q-M could also be used (Fischer 2003a):

(80)

                                                             whq

INDEX$_1$ CURIOUS, HOW-MANY INDEX$_2$ EARN?

'If you don't mind my asking, how much money do you make?'

Less frequently, a signer might use the following:

(81)

                                                             whq

INDEX$_1$ ASK-QUESTION HOW-MANY INDEX$_2$ EARN?

'I have a question for you: How much money do you make?'

5.14   Focus Structure of ASL Content Questions

Questions are a focus construction; not surprisingly, they may differ significantly in their placement of focus from their declarative counterparts. The focus of a content question coincides with the actual focus domain, which likewise must fall within the potential focus domain. Because the focus of the question is that single constituent represented by the *wh*-expression, content questions are usually narrow focus, as are their corresponding responses. As explained for declarative sentences in Chapter 4, the **potential focus domain** in any ASL construction is the entire clause, while the **actual focus domain** depends on the focus type of the utterance. For sentence-focus constructions, the actual focus domain includes all elements that are not topicalized. For predicate-

and narrow-focus constructions, the actual focus domain is the sentence final element(s), to include indexed material, if necessary. While the potential focus domain for questions is the entire clause, the **actual focus domain** is always the *wh*-expression.

In English, *wh*-words consistently occur clause-initially in the PreCore Slot (PrCS); in ASL, although a number of surface word orders are permissible in simple, direct questions, in situ *wh*-elements are part of the core; displaced and doubled *wh*-elements occur in the Pre- or Post-Core slot. Multiple questions are rare in ASL. Because the *wh*-word appears within the potential focus domain, determining the actual focus domain of a *wh*-word in situ is straightforward, and the representation is presented in **Figure 5.9**:
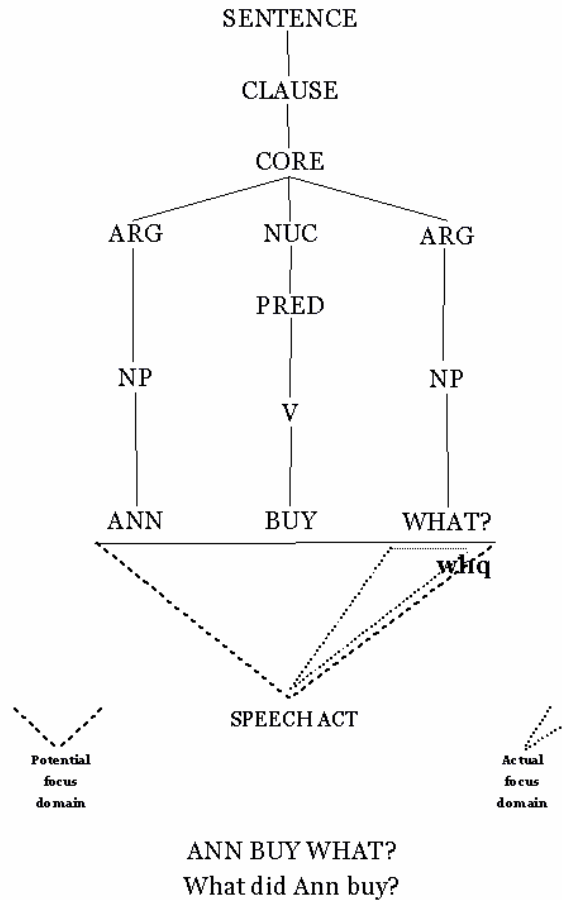
SENTENCE

CLAUSE

CORE

ARG   NUC   ARG

PRED

NP   NP

V

ANN   BUY   WHAT?

wHq

SPEECH ACT

Potential
focus
domain

Actual
focus
domain

ANN BUY WHAT?
What did Ann buy?

Figure 5.9 LSC with Focus Projection

Displaced *wh*-words always occur in either the Pre- or Post-Core slot, whether the displaced *wh*-word is doubled or not. This is depicted in the representation in **Figure 5.10**.
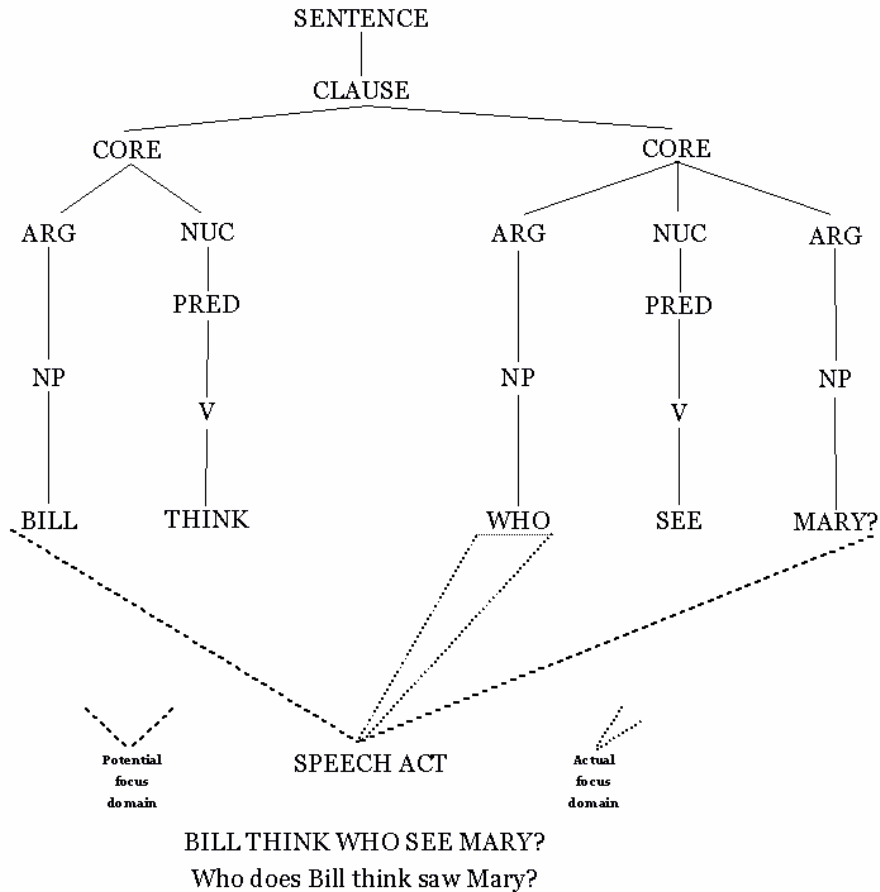
SENTENCE
|
CLAUSE
PrCS ———— CORE
ARG   NUC
| |
| PRED
NP |
| V
| |
WHAT   ANN   BUY?
whq

Potential
Focus Domain

Actual
Focus Domain

SPEECH ACT

WHAT ANN BUY
Wht did Ann buy?

Figure 5.10 LSC with Displaced *Wh*-Element

As stated earlier, indirect questions and questions in embedded clauses are superficially similar, but their nonmanual marking reveals scope differences between the two types of sentences. In an embedded clause, it has scope over the entire sentence, as in (82), copied from (58b) above. **Figure 5.11** is a representation of the LSC for an embedded clause.

(82) _____ whq

BILL THINK WHO SEE MARY?

'Who does Bill think saw Mary?'

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                         SENTENCE
                            |
                         CLAUSE
           ┌────────────────┴───────────────────────┐
         CORE                                      CORE
        ┌──┴──┐                           ┌──────────┼──────────┐
      ARG    NUC                        ARG        NUC        ARG
       |      |                          |          |          |
       |    PRED                         |        PRED         |
       |      |                          |          |          |
      NP      |                         NP          |         NP
       |      V                          |          V          |
       |      |                          |          |          |
     BILL   THINK                       WHO        SEE       MARY?
```

Potential   SPEECH ACT   Actual
focus   focus
domain   domain

BILL THINK WHO SEE MARY?
Who does Bill think saw Mary?
Figure 5.11 LSC for Embedded Clause

5.15 Conclusion

Despite the difference in modality, American Sign Language consistently conforms to the typological patterns established for spoken languages. The visual-gestural nature of ASL allows for some unusual surface forms, such as doubled *wh*-elements, but this chapter has shown that question formation and its corresponding focus structure are comparable to those of spoken languages.

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CHAPTER 6: TWO ANALYSES OF NONMANUAL MARKING IN ASL

6.1   Facial Expressions in Signed Languages Equivalent to

          Intonation in Spoken Languages

Sign language research began in earnest just over thirty years ago, when ASL was recognized as a complete and evolving means of communication among the deaf. Just over twenty years ago, the distinction between grammatical nonmanual facial marking and affective facial expressions was established (Baker and Padden 1978; Coulter 1978; Coulter 1979; Liddell 1978); since then, much research has been conducted on nonmanual marking. Wilbur (2000a), for example, has identified several features available to signers that make possible simultaneous production of more than one morpheme: onset and offset, number of productions, scope, place of articulation, and articulator. Nonmanual markers are spatially distributed across the face, head, and shoulders, all of which function as clear and independent information channels. The face, head, and shoulders can be further subdivided not only by the place of articulation but also by the type of movement. For example, the face can be divided into the upper face and the lower face. The head can be shaken, nodded, or thrust. Eyebrows can be raised or furrowed. Although much research needs to be done, the importance and variety of grammatical nonmanual marking cannot be doubted.

Only in the past ten to fifteen years has nonmanual marking in signed languages been compared to intonation in spoken languages (Reilly et al. 1990; Sandler 1999a; Sandler 1999b; Wilbur 1996b; Wilbur 1999b; Wilbur 2000a). In the most comprehensive study of nonmanual marking as intonation, Sandler's research on Israeli Sign Language (ISL) shows that, despite using a different

medium from spoken languages, signed languages have similar prosodic systems[44]. To describe the system in signed languages by which facial expressions correspond to intonation in spoken languages, Sandler coined the term "superarticulation." Just as spoken utterances are broken into constituents marked by prosodic patterns of rhythm, prominence, and intonation patterns, so too are signed utterances; likewise, in both types of languages, these prosodic patterns clarify the semantic properties and syntactic structure of utterances. Regardless of the medium, the prosody of an utterance is independent of but inseparable from the words or signs it accompanies. As in spoken languages, prosody in signed languages is also necessary and predictable. This section will offer a brief overview of Sandler's research on superarticulation; in the next section, I will propose a different analysis of nonmanual marking.

The inventory of forms in any spoken language includes not only syntactic structures, lexical items, and sounds but also intonational tunes—sequences of tones and pitches—with distinct meanings; consequently, these intonational tunes are sometimes considered morphemes. The meanings often correspond to sentence types (i.e. declarative VS interrogative), or may disambiguate grammatical function or add nuances of meaning. Within spoken languages, intonation carries a heavy linguistic load, so, as Sandler concludes, it would be surprising if signed languages did not also employ a similar method for expressing the same kinds of information.

There is no counterpart in signed languages to the phonetics of intonation in spoken language. In spoken languages, the glottis is used to produce the tones,

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[44] Unless otherwise noted, the information in this section is summarized from Sandler (1999a).

one at a time; for a language to have a variety of contrastive tones, complex sequences are required. That the same channel—the glottis—is also used to produce the lexical items must also impact the placement of intonational tunes, which must be synchronized with the word and the rhythmically marked constituents of an utterance. The facial articulations of signed languages, in contrast, constitute a number of channels, including the eyebrows, the eyelids, and the mouth, all of which may articulate more than one gesture. Because none is used to transmit lexical information, the articulations can be generated simultaneously rather than sequentially—with each other and with the signs. To avoid the vocal bias of the term 'intonation,' Sandler proposes 'superarticulation' to describe this level of structure in signed languages; instead of 'tunes,' she proposes 'arrays.'

As with intonational tunes in spoken languages, the arrays of facial expressions in signed languages are anchored to intonational and phonological phrases. Nespor & Sandler (1999) argue that three prominence markers prove the existence of phonological phrases: reduplication, hold at the end of the prominent sign, or pause after the last word in the phonological sign. A phonological process that occurs only within the phonological phrase domain provides further evidence for its existence. Consider the following sentence from Israeli Sign Language, which is divided into phonological phrases (P) and intonational phrases (I) (Sandler 1999):

(1)   Israeli Sign Language

       [[MALE CL-HUMAN THERE]_P]_I [[I PERSUADE STUDY]_P]_I

       man   there   I persuade   study

       'I persuaded him to study.'

The nondominant hand is not usually an independent articulator in signed

languages; instead, the nondominant hand is used in symmetrical two-handed

signs, reciprocal signs, and, as explained in Chapter 2, with classifier predicates.

In this sentence, the nondominant hand retains the handshape and location for

PERSUADE, a two-handed verb, while the dominant hand signs STUDY, a one-

handed sign. Within the domain of the phonological phrase, the nondominant

hand in a two-handed sign never spreads beyond the phrase boundary. The

example shows, Sandler argues, that the domain of spreading is important when

analyzing the phonological form of signs: the larger prosodic context must also

be considered.

       Just as boundary tones characterize phonological phrases in spoken

languages, facial articulations characterize them in signed languages. For

purposes of comparison, consider the English sentences below (Sandler 1999):

(2)   English

       a.   [Do you want an apple or banana cake]_P]_I (apple cake or banana cake)

                          L*   H*   <u>L</u>   L%

       b.   [[Do you want an apple]_P [or banana cake]_P]_I (fruit or cake)

                        H* <u>H</u>   H*   <u>L</u>   L%

Each sentence has two pitch accents, on 'apple' and 'banana.' In (2a), there is one

phonological phrase, bounded with a low tone (<u>L</u>) and followed by an

intonational phrase boundary tone (L%). In (2b), there are two phonological phrases, the first marked with a high boundary tone (H) and the second marked with a low boundary tone (L). In both sentences, the intonational phrase boundary tone (L%) has scope over the entire intonational phrase; in both sentences, the intonational phrase is the entire sentence.

To highlight the similarities between intonation in spoken languages and superarticulation in signed languages, the following sentence from ISL is divided into phonological and intonational phrases, and then formally coded according to Sandler's system, which will be explained below (1999):

	[[BOOK-THERE]$_P$	[INDEX$_a$ WRITE]$_P$]$_I$	[[INTERESTING]$_P$]$_I$
brows	up _____		down _____
eyes	squint _____		droop _____
mouth		'O' _____	down _____
tongue			
head	tilt _____		
mouthing	'book' _____		'interesting' _____
torso	lean _____		
hold	=		
reduplication	-1	x3	x4
pause			
speed			slow
size		big	big
TABLE 6.1. 'The book he wrote is interesting.'			

The brows are raised over the first intonational phrase BOOK-THERE INDEX$_a$ WRITE, which consists of two phonological phrases, BOOK-THERE and INDEX$_a$ WRITE, each with distinct superarticulatory arrays. The first phonological phrase, BOOK THERE, includes the eye squint, which roughly means 'information shared by signer and addressee.' The second phonological phrase, INDEX$_a$ WRITE, has an undefined 'O'-shaped mouth gesture. This pattern is common: one facial articulation (such as the brow raise) marks a whole intonational phrase, while another (such as a mouth gesture) marks only one of the two phonological phrases within the intonational phrase. Compare this with the English sentence (2b) above, which also contains two phonological phrases.

The change in head position accompanies nearly all intonational phrase boundaries, as does a change in all facial articulations. Next, BOOK THERE has a hold at the end of THERE, in the first phonological phrase. The word WRITE is repeated with three iterations, INTERESTING with four. BOOK is labeled -1 because it is formed in this sentence only once, but in its citation form is reduplicated with two iterations; in this utterance, BOOK is in a weak position, at the beginning. Details would differ among signed languages, but these generalities would still apply.

This elaborate coding highlights formal similarities between spoken and signed languages. Functional similarities are also apparent, however. As mentioned earlier, polar questions are distinguished from content questions by their superarticulatory arrays, just as they are distinguished by different intonational patterns in spoken languages such as English, Bengali, and Hebrew. Bengali (Hayes and Lahiri 1991) has unique sequences of tones for focus

constructions (L* H$_P$ L$_I$ H$_I$), declarative statements (H* L$_I$), polar questions (L* H$_I$ L$_I$), and content questions (L* H$_P$ L$_I$). Hebrew, as illustrated below, uses falling and rising intonation, respectively, to mark declarative and interrogative utterances. In informal registers of Hebrew (3), polar questions are distinguished only by the rising intonation—and this is the only function served by rising intonation. Of course, English has a similar distinction, as in (4), but the rising intonation in (b) signals not only an interrogative but also incredulity (Sandler 1999):

(3)   Hebrew

      a. yoni halaX laXanut

         Yoni went to-the-store

         'Yoni went to the store.'

      b. yoni halaX laXanut?

         Yoni went to-the-store

         'Did Yoni go to the store?'

(4)   English

      a. John went to the store.

      b. John went to the store?

In addition, superarticulatory arrays are componential: different superarticulations can occur independently or simultaneously, and still retain their individual meanings. An utterance meaning 'Where is that house we were talking about?' would include superarticulations for both content questions (furrowed brows, tilted head) and shared information (squinted eyes); similar compositionality of superarticulation also occurs with polar questions. An

example from ASL, which includes both a topic and a question, is presented below:

(5)   American Sign Language

        _____t _____whq
        COFFEE, WHERE BUY?

        'As for the coffee, where did [you] buy it?'

Just as the primitives of spoken language intonation are L and H tones plus accent, the primitives of signed language superarticulation are the different positions of the brows, eye, cheeks, mouth, and head, at a minimum. Although superarticulation interacts with syntax, as does intonation, it is independent of syntax.

Both spoken and signed languages have developed and imposed upon utterances a system that classifies semantic, pragmatic and syntactic structures, as well as conveys nuances and scope of meaning. Because of the differences in modality, this system is manifested differently in spoken and signed languages. Sandler's research, however, shows that comparing nonmanual markers in signed language to intonation in spoken languages is reasonable, but more research is needed to determine not the variety of superarticulations and arrays but also their interactions with syntax, semantics, and pragmatics. In the next section, I will propose another way of analyzing nonmanual markers, particularly those for content questions.

6.2 Non-Manual Marking of Questions in Signed Languages Equivalent to Particles in Spoken Languages

Although Sandler's research considered nonmanual marking as a general mechanism that functions throughout signed languages to mark scope, classify structures, and convey nuances, I will in this section propose a different way of analyzing nonmanual marking. My focus, however, will be on questions in signed languages, especially in ASL, although more research may show that analysis is applicable to all nonmanual marking. I will begin by distinguishing five types of spoken languages in regard to their use of question particles, as identified by Dryer (personal communication). Next, I will discuss signed languages, and then determine to which type ASL belongs. Finally, I will compare the arguments for considering nonmanual marking as a form of intonation with those for considering it a type of question particle.

6.2.1 Question Particles in Spoken Languages

As explained in the first chapter, a question particle is a morpheme added to a declarative sentence to indicate that it is a question; sometimes, the particle is an affix or a clitic. More languages than not use particles in polar questions. Among those languages that do employ a particle for polar questions, it can occur in initial, second, or final position, or in two of the three; in a few languages, the particle occurs in some other position. Because content questions are generally identified by the use of a question word in most spoken languages, most do not also employ particles to signal content questions. To classify languages typologically, Dryer proposes five types of languages with regard to question particles.

The first type of language does not use particles to mark either polar or content questions. The alternative methods for marking a polar question were discussed in detail in Chapter 1 but will be summarized briefly here. In lieu of a particle, a language may signal a polar question through word order, as in German. Example (6), shows a declarative sentence and its corresponding interrogative sentence:

(6)   German

    a. Der Lehrer trink-t das Wasser

       the teacher drink-3SG the water

       'The teacher is drinking the water.'

    b. Trink-t der Lehrer das Wasser?

       drink-3SG the teacher the water

       'Is the teacher drinking the water?'

A final way of indicating that an utterance is a polar question involves intonation. Some languages use intonation alone, while others use intonation in concord with one of the previously-mentioned methods.

The second type of language uses a question particle only with polar questions (but not with content questions). In Tamil, a Dravidian language of the Indian subcontinent, the primary marker for neutral polar questions is the interrogative particle −*aa*, and only this particle distinguishes the interrogative from the declarative utterance, as shown in (7) below. The unmarked position for the interrogative particle in Tamil is for it to be attached as a clitic to the last word of the sentence, usually a verb. For comparison purposes, the example in (7c) is a content question.

(7)   Tamil (Asher 1985)

   a. avan vantaan

       he come-PAST-3S-MASC

       'He came.'

   b. avan vantaanaa

       he come-PAST-3S-MASC-Q

       'Did he come?'

   c. mutal mantiri namma uurukku eppati varraaru

       first minister our (incl) village-dat how come-pres-3S-HON

       'How is the Chief Minister coming to our village?'

In Kannada, the question particle is an affix attached to the verb, as in (8):

(8)   Kannada (Sridhar 1990)

   a. nimma ta:yi   a:fit:sige   ho:gidda:re

       your   mother office-DAT go-PR-PERF-3H

       'Your mother has gone to the office."

   b. nimma ta:yi   a:fit:sige   ho:gidda:ra:?

       your   mother office-DAT go-PR-PERF-3H-Q

       'Has your mother gone to the office?'

In Marathi, the question word *kā(y)* 'what' at the end of the sentence, accompanied by rising intonation on the verb, signals a polar question, as in (9); with *kā(y)* in any other position, the sentence would be interpreted as a content question. In addition, rising intonation on the verb without *kā(y)* also signals a polar question. Example (9) is a content question, without a particle.

(9)   Marathi (Pandharipande 1997)

    a. to kāl   parat ālā

        he yesterday back   come-PAST-3S-MASC

        'He came back yesterday.'

    b. to kāl   parat ālā   kā(y)

        he yesterday back   come-PAST-3S-MASC Q

        'Did he come back yesterday?'

    c. kon gharī āla?

        who home-LOC come-PST-3S-NEUT

        'Who came home?'

In Koromfe, a Voltaic language of Burkina Faso, neutral polar questions are formed by adding the sentence-final question particle *bɪ*, as illustrated in (10):

(10)   Koromfe (Rennison 1997)

    a. a vɛŋa koŋ nẽnaa

        ART rain DET.NON-HUM.SG defecate+PROG

        'It is raining.' (*Lit.*: 'The rain is defecating/urinating.')

    b. a vɛŋa koŋ nẽnaa bɪ

        ART rain DET.NON-HUM.SG defecate+PROG Q

'Is it raining?'

Other languages which, either optionally or as one alternative, use a particle to distinguish a polar question from its corresponding declarative statement include Kashmiri, an Indo-Aryan language of India (Wali and Koul 1997), which in addition to adding the bound question marker *a:* to the predicate, optionally employs an additional question marker *k'a:* at the beginning of the sentence; Turkish (Kornfilt 1997), in which the particle *mi* is cliticized to either the predicate (with scope over the whole sentence) or to a single constituent (with only that constituent in its scope); and the Gipuzkera dialect of Basque, in which the particle *−al* is inserted immediately before synthetic verbs or between the main verb and auxiliary in periphrastic verbs (Saltarelli 1988).

The third type of language uses the same particle in both polar and content questions. In Evenki, a Tungusic language of Siberia, there are two categories of interrogative sentences, one of which includes some polar questions and all content questions; for these questions, one of the components (usually verbal) takes the interrogative affix *−gu/-ku/-ngu/-vu* 'if/whether,' as illustrated in (11) below; in some instances, the intonation of the utterance is also altered.

(11)   Evenki (Nedjalkov 1997)

    a. Er dukuvun-me   tang-cha-s-ku?

       this letter-ACC/DEF read-PAST-2SG-CLITIC

       'Did you read this letter?'

    b. si e-ja-val   tang-cha-s-ku,   e-che-s-ku?

       you anything-ACC-INDEF-CLT read-PST-2SG-CLT NEG.AUX-PAST-2SG-CLT

       'When will you send me a letter?'

In Japanese, both polar and content questions are formed by the optional addition of a question particle (usually *ka*) at the end of the sentence, optionally accompanied by rising intonation (Hinds 1986).

The fourth type of language uses a different particle in content questions from that used in polar questions. Karen, a Tibeto-Burman language of Myannmar, has three interrogative markers that occur at the end of the sentence accompanied by rising intonation: a general interrogative marker /há/ ~ /háʔ/ for polar questions; an interrogative marker /lɛ́ʔ/ used for content questions; and another interrogative marker /nɔ/ used for requests between intimates or by younger to older relatives (Jones 1961). Likewise, Lahu, another Tibeto-Burman language of Asia, uses the final particle *lâ* for polar questions, and the final particle *le* (in addition to a question word) for content questions (Matisoff 1973).

In the fifth type of language, only content questions are marked by a particle. In Kisi, a Niger-Congo language of Tanzania, polar questions are distinguished from their declarative counterparts by intonation. Content questions, in contrast, require a question word and an optional particle y. As (12) below illustrates, this particle can occur after the finite verb or auxiliary, as in (a) but can also follow the question word, as in (b); when there is no finite verb in the clause to which the question word belongs, the particle is omitted, as in (c):

(12)   Kisi (Childs 1995)

    a. wɛ̀ɛ́ lɛ́ɛ́lóɔ́ dímí yɛ́

        what time say PRT

        'What time is it?'

b. kùɛ̀ɛ́-nɛ́ cò yɛ̀ hóò

who-PRT is PRT this

'Who is this?'

c. wɛ̀ɛ́ cômndáŋ màlâŋ ŋ̀ fùùlùù lóŋ

how-PRT counts before you reach there

'How many numbers before you get there?'

Likewise, in Rapanui, an East Polynesian language of Easter Island, neutral polar questions differ from their declarative counterparts only by intonation. Content questions, however, have four basic forms, all of which involve interrogative pronouns in combination with either a particle or a specifier (Du Feu 1996)

6.2.2 Question Particles in Signed Languages

Just as particles in spoken languages are verbal utterances, particles in signed languages are manual signs, at least in the research so far conducted. In the only comprehensive study of interrogative constructions in signed languages, Zeshan defined a question particle as a sign that serves to indicate that an utterance is a question. In other words, particles in signed languages are *manual*, articulated with the hands.

Given this definition, question particles in signed languages commonly occur only in pragmatically constrained contexts but are void of any lexical meaning. The majority of signed languages do not use question particles and, therefore, are of the first type mentioned in the previous section. Instead, these languages distinguish questions with nonmanual marking. In ASL, the

nonmanual marking for polar questions includes raising the eyebrows and widening the eyes; optionally, the hands will be raised higher at the end of the question, the head or body will be tilted forward, and the chin will be tucked. Frequently, these nonmanual signals provide the only indication that the utterance is a yes-no question. Nonmanual marking (labeled '*Q*') extends over the entire question, except for any topicalized material. The nonmanual marking for content questions (labeled '*whq*') includes squinting the brows and tilting the head; often, the body is shifted forward, and sometimes the shoulders are raised. As with polar questions, the nonmanual marking must spread over the entire domain of the question unless blocked by topicalization.

Most signed languages that use question particles do so in polar questions only, as in the second type of language described above. The preferred position is clause-final, although particles may also occur in the clause-initial position or both. This fact correlates with the research on spoken languages, for which sentence-initial and sentence-final polar question particles were most common. When question particles in spoken languages occur at either the beginning or end of a sentence, these two types tend to correlate with the order of major constituents in the language: Initial particles are more prevalent in verb-initial languages, while final particles are common in OV languages. The following signed languages use particles for polar questions only: Hong Kong Sign Language, South Korean Sign Language, Spanish Sign Language, Taiwanese Sign Language, and Urubú Sign Language (Zeshan Unpublished). Unfortunately, comprehensive data about word order and verb types is unavailable for these

languages, and the information provided in examples (51) through (54) above is insufficient to allow for any generalizations.   However, the existence of a correlation between the order of major constituents and the position of question particles in signed languages is an interesting typological question for future research.

No signed language uses a separate particle for polar question and content questions, so the remaining languages are of the third type described in the previous section. Among the languages that use a particle for both polar and content questions (as in the third type of language described above) are Dansk Tegnsprok (Denmark), Finnish Sign Language, Kenyan Sign Language, Plains-Indians Sign Language, and Tanzania Sign Language (Zeshan Unpublished).

Zeshan's definition specifies that a question particle must be a sign; that is, it must be overt. However, the nonmanual marking of questions, both polar and content, serves the function of a question particle, that of marking an utterance as a question. In the absence of such marking for both types of questions, at least in ASL and most likely in other signed languages, an utterance would be interpreted as declarative, the unmarked sentence type. Sandler's claims about intonation apply equally well to particles: The meanings often correspond to sentence types (i.e. declarative vs interrogative), or may disambiguate grammatical function or add nuances of meaning.

When viewed as a form of intonation, nonmanual markers and the channels by which they are transmitted are considered devoid of lexical material—as are overt question particles. However, if nonmanual markers are viewed as non-manual, or covert, question particles, they do in fact convey

important information. This is most evident with covert *wh*-questions, which do not include an overt question word but do employ the whqfe, the only indication that the utterance is a question, as in the examples below, repeated from Chapter 4. Although pragmatic restrictions determine when it is appropriate, a covert-*wh* can usually be used in the same contexts as an overt *wh*-phrase.

(13)   Subjects

      d.   <u>   whq</u>
          WH-CAR TOP?

          'What car was the best?'

      e.   <u>   whq</u>
          WH-NUMBER JACKPOT?

          'What number hit the jackpot?'

(14)   Objects

      f.   <u>   whq</u>
          SEE PAST-NIGHT WH-MOVIE?

          'What movie did they see last night?'

      g.   <u>   whq</u>
          USE WH-BOOK THAT CLASS?

          'What book do you use for that class?'

(15)   Predicates

      c.   <u>   whq</u>
          WH-COLOR HIS CAR?

          'What color is his car?'

      d.   <u>   t</u>   <u>   whq</u>
          MOVIE SEE FINISH, WH-TITLE?

          'What is the name of the movie they saw?'

(16)   Adjuncts

d. <u>   whq</u>
WH-LONG INDEX$_2$ WAIT WH-LONG?

'How long were you waiting?'

e. <u>   whq</u>
WH-REASON SHOOT-HEAD?

'Why did he shoot himself?'

If the nonmanual marking of questions in signed languages is considered a nonmanual question particle, then signed languages would appear, superficially, to be a subtype of the fourth category described in the previous section: Polar questions are marked with a different "particle" from that used in content questions, and are not, therefore, typologically unusual. However, because the nonmanual marking of yes-no questions—specifically, the brow raise—is used to mark other constructions as well (including pseudocleft constructions, relative clauses, and conditional statements), it is more like intonation than a question particle. Consider rising-falling intonation in English, which can be used for statements, commands, content questions, and tag questions. The furrowed brow of content questions in ASL, however, serves no other purpose but to indicate a content question. Given this analysis, then, ASL and other signed languages would be a subtype of the fifth category described in the previous section: Only content questions are marked by a particle—making them typologically unique.

Sandler claims that the arrays of facial expressions in signed languages are anchored to intonational and phonological phrases, just like intonational tunes in spoken languages. Nonmanual activity aids in the identification of prosodic patterns, and prosody aids in identifying question particles in signed languages.

Using the prosodic hierarchy described by Sandler, Zeshan further defines a question particle as "occurring within the actual question in the same prosodic domain" (Zeshan 2004). An intonation break signals a tag question, not a question particle, as in the Auslan example below:

(17)   Auslan

$$\overline{\text{Q}\quad\quad}$$
CLASS CANCEL TODAY, RIGHT

'The class has been cancelled today, right?'

Therefore, the fact that nonmanual marking in ASL has scope over the signs with which it is associated does not in any way conflict with Zeshan's definition of a question particle. In fact, scope arguments apply to question particles in spoken languages as well. In Turkish, for example, the particle *mi*, when cliticized to the predicate, has scope over the whole sentence, but when cliticized to a single constituent, has only that constituent in its scope (Kornfilt 1997).

Currently, the distinction between nonmanual marking as intonation and nonmanual marking as particle is, in my opinion, one of semantics. Admittedly, more research needs to be done in both areas since the similarities between spoken and signed languages apply regardless of the approach to nonmanual marking. By examining nonmanual marking of questions from a different perspective, however, we ensure that our analysis of signed languages is not merely an artifact of research on spoken languages and prove, once again, that despite their different modality and medium, signed languages are not typologically different from spoken languages.

6.3   Conclusion

This dissertation has shown that ASL syntax is indeed similar to that of natural spoken languages in ways that go beyond its sentence structure to include the various predicate types and their interaction with verb classes and noun classifiers, the influence of operators and facial expressions/intonation on the interpretation of an utterance, the means of marking focus structure, and the constraints on question formation. Throughout this dissertation, wherever possible, comparisons were made to spoken languages to further establish ASL as typologically valid despite its different modality. Chapter 1 began with a review of Zeshan's (2004) typological survey of questions in signed language. Each strategy—for example, the use and positioning of interrogative particles—was compared to the similar strategy for spoken languages. Although the languages exhibit interesting variations, none of the signed languages is typologically unique in comparison to spoken languages.

Chapter 2 provides an overview of Role and Reference Grammar (RRG). I chose RRG as a theoretical framework for two reasons. First, the theory is typologically friendly. With its flexibility, RRG proved an ideal framework for the medium and multi-dimensionality of signed languages. Second, because RRG emphasizes the interaction of syntax, semantics, and pragmatics, a study of ASL from this perspective will provide a broader description of the major syntactic properties of the language, including information structure and content questions. Understanding the basics of RRG—the universal units of clause structure, the elements of the Layered Structure of the Clause, the means for

determining focus types, and the grammatical relations exhibited by a language—is crucial to understanding the analysis of American Sign Language that follows.

Chapter 3 introduced ASL predicates and predicate structure, beginning with an elaboration of ASL verb classes. An RRG analysis of verb classes in ASL, particularly the representations of the LSC, illuminated an obscure feature of the language, one which makes it typologically unique: indexing verbs are head-marking, while plain verbs are neither head- nor dependent-marking. This analysis also highlights a less-known difference between the languages, the impact of which requires further investigation: while the direct-indirect object dichotomy is important in English, primary and secondary objects are more relevant in ASL.

With the help of my consultant, I applied in Chapter 4 the same tests to ASL that Lambrecht had applied to English, Italian, French, and Japanese. These paradigms showed that, as in English, the unmarked focus position in ASL appears to be the final position in the core. With fixed focus, ASL relies on a combination of word order movement and syntactic focus constructions to achieve the same range of focus possibilities as a language like English; among these focus constructions are topicalization, pseudoclefts, and doubling. These tests also revealed the markedness possibilities in ASL: Affixes on agreement verbs and pronoun clitics on plain verbs are the least marked topic referents, while indefinite NPs are the least marked focal referents.

Chapter 5 focused on questions in ASL, particularly content questions. Among the most interesting of ASL question constructions are *wh*-doubles, also used as a focusing mechanism. By analyzing *wh*-double constructions in an RRG

framework, it becomes clear that the in situ *wh*-element is always necessary and the other *wh*-element, regardless of its position in the utterance, is the double. Although more research is needed, I speculate that the additional *wh*-element clarifies the presupposition in terms of Dik's (1997) focus types: In simplest terms, the *wh*-double serves to eliminate the signer's information gap. Facial expressions are grammatical in ASL, and both polar and content questions require specific nonmanual marking to accompany the manual signs. Also discussed in Chapter 5 are covert questions, those that do not include an overt question word but rely solely on the nonmanual marking to indicate the scope of the *wh*-question (Fischer 2003b; Lillo-Martin and Fischer 1992).

An analysis of complex sentences from an RRG perspective revealed important distinctions between indirect questions and questions in embedded clauses based on the juncture (nuclear, core, and clausal) types posited in the theory. More investigation into verb types and classes is necessary, but elicitations from my consultant indicate that, in general, *wh*-elements in linked/embedded clauses must remain in situ. Given the spatial and visual nature of ASL, sentences are simply easier to articulate and process when the *wh*-word remains 'embedded.' Long-distance *wh*-movement seems contingent upon a number of factors, the most important being the class of the verb in the embedded clause. Although a complete analysis of this problem is beyond the scope of this dissertation, one fact is clear: *wh*-displacement is a marked structure. The default and preferred position of the *wh*-word, in both simple and complex sentences, is in situ. Despite the difference in modality, ASL consistently conforms to the typological patterns established for spoken

languages. The visual-gestural nature of the language allows for some unusual surface forms, such as doubled *wh*-elements, but question formation and its corresponding focus structure are comparable to those of spoken languages.

In Chapter 6, I proposed a different way of analyzing nonmanual marking, with a focus on questions in signed languages. I began by identifying fives types of spoken languages, with examples, in regard to the use of question particles, as identified by Dryer (personal communication); then, I applied these types to signed languages. ASL is a subtype of the fourth category, in which polar questions are marked with a different particle (in this case, facial expression) than content questions and are not, therefore, typologically unusual. Finally, I compared the arguments for considering nonmanual marking as a form of intonation with those for considering it a type of question particle.

Admittedly, more research needs to be done since the similarities between spoken and signed languages apply regardless of one's theoretical approach. By examining them from a different perspective, however, we ensure that our analysis of signed languages is not merely an artifact of research on spoken languages and prove that, in many regards, despite their different modality and medium, signed languages are not typologically different from spoken languages.

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