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Evidentiality, Logophoricity and tha Syntactic Representation of Pragmatic Features

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Abstract

Some languages have *evidential morphemes,* which mark the Speaker's source for the information being reported in the utterance. Some languages have *logophoric pronouns*, which refer to an individual whose point of view is being represented. Notions like "source of evidence" and "point of view" have generally been treated as pragmatic, with few interesting repercussions in syntax. In this paper, I examine constraints on the grammaticization of these notions. I argue that a uniform account of these constraints requires a framework in which there are syntactic projections bearing pragmatically-relevant features. In particular, the facts support the claim of Cinque (1999) that there are projections for Speech Act Mood, Evaluative Mood, Evidential Mood and Epistemological Mode.

keywords: evidential, logophor, mood

Evidentiality, Logophoricity and the Syntactic Representation of Pragmatic Features[1]

0. Introduction

This paper explores the mapping between syntax and pragmatic features in the domains of evidentiality and logophoricity. Although the constraints on both of these domains have generally been thought of as pragmatic and not directly represented in the syntax, (Chafe 1986; Chafe and Nichols 1986; Sells 1987; Culy 1994)(Chafe and Nichols 1986; Sells 1987; Culy 1994), I argue that they provide interesting evidence in favor of an analysis in which syntactic projections above IP above CP bear pragmatically-relevant features that must be checked (building on (Cinque 1999)(Cinque 1999).   The resulting model is one in which the syntactic representation is still built by means of a "'dumb' computational system", but syntactically-relevant pragmatic roles are configurationally represented.

1. Constraints on evidential morphemes[2]

A number of languages have a set of verbal affixes or particles that express the means by which the speaker acquired the information s/he is conveying. In some languages, these *evidential* morphemes are obligatory.[3]

(1) a.   wiki-caxa-***w***   'It's bad weather (directly exp.)'

——Makah

b.   wiki-caxa-***k'u***   'It was bad weather'

c.   wiki-caxa-k-***pid*** ____ ——'It looks like bad weather (inference from

physical -evidence)'

d.   wiki-caxa-k-***qad'i***   'It sounds like bad weather'

e.   wiki-caxa-k-***wa.d***   'I'm told there's bad weather'

f.   wiki-caxa-k-it-***wad***   'I'm told it was bad weather'

(2) a.   wañu-nqa-paq-***mi***   'It will die (I assert)'

——Quechua

b. wañu-nqa-paq-***shi***   'It will die (I was told)'

c. wañu-nqa-paq-***chi***   'It will die (perhaps)'

(3) a.   K'oŋ gis yi-ge bri-pa-***red***   ——'S/he wrote a letter (it seems)'

——Tibetan

s/he   ERG write-Perf-EVID

b.   K'oŋ gis yi-ge bri-pa-***soŋ***   'S/he wrote a letter (I saw it happen)'

s/he   ERG write-Perf-EVID

(4) a.   Nɔ-màq   àj ɔq-àŋ dì-**é**   ——'You(pl) will beat him'

Akha

you-PL he-OBL beat-NONSENSORIAL

b. Nɔ-màq   àj ɔq-àŋ dì-**ŋà**   'You(pl) will beat him (I see it now)'

   you-PL he-OBL beat-VISUAL

c. Nɔ-màq   àj ɔq-àŋ dì-**nja**   '—You(pl) will beat him (I guess from

   you-PL he-OBL beat-NONVISUAL   sound of beating)'
   ~~you-PL he-OBL beat-NONVISUAL   beating)'~~

It is generally assumed that the features expressed by such morphemes are pragmatic in nature: they reflect an evaluation of the source of evidence, which is made by the Speaker of a given discourse. Therefore, they have not been a focus of interest among formal syntacticians. However, the fact that such morphemes are obligatory in languages like Makah raises the question of how these obligatory features are to be represented in syntax. As we will see below, evidential features interact closely with inflectional features that are syntactically projected, such as ~~personand~~person and tense. Furthermore, many languages spell out evidential features with modal auxiliaries, adverbs or propositional attitude predicates, which have highly restricted syntactic and LF properties. Assuming that the fundamental properties of Logical Form are universal, we must ask to what extent evidential morphemes share syntactic and/or LF properties with these other means of expressing sources of evidence.

As a first step in an examination of the place of evidential morphemes in the computational system, consider the categories that such morphemes express. What is striking is that the set of possible evidential morphemes is much more restricted than one would expect if they simply expressed some range of pragmatically-determined sources of evidence. In a survey of 32 languages, Willett (1988)Willett(1988) found that languages distinguish three types of evidence from personal experience. When additional distinctions are found, they seem to be sub-types of these four basic categories, or manifestations of additional distinctions that arise from the interaction of evidentiality and tense or aspect[4].

(5)   **Basic categories of evidentiality** **((Willett 1988)Willett 1988:57)**:

personal experience

direct (sensory) evidence

indirect evidence

reported evidence (hearsay)

One can imagine many possible sources of information, and ways of classifying such sources. For example, the following categories are all plausible sources of evidence for a statement, and all of them might be considered quite salient in certain cultures. Yet none of these categories ever shows up grammaticized as an evidential morpheme.

(6) **Some conceivable sources of evidence that aren't grammaticized:**

experience reported by loved one

divine revelation

legal edict

parental advice ("Momism")

heartfelt intuition ("gut feeling")

learned through trial and error

teachings of prominent elder/authority

The fact that categories like these do not show up in evidential paradigms indicates that evidentiality has to do with some restricted system rather than with the expression of pragmatically salient sources of evidence. There is no obvious conceptual or pragmatic reason why indirect inference should be universally salient in some way that parental advice is not, or why hearsay should be salient in a way that a gut feeling is not. Evidence could in principle be classified into many categories (as we see when we look at the inventory of adverbs or propositional attitude predicates). Degrees of experience with a given situation could be infinite. Yet, only four categories out of this potentially infinite set are ever grammaticized in evidential paradigms.

A second clue has to do with the relationships among the four categories of evidentiality. (Oswalt 1986)Oswalt(1986) and Willett (1988)Willett(1988)

both point out that the categories of evidentiality lie in a hierarchy, corresponding to the degree to which the evidence directly involves the Speaker's own experience. At the top of the hierarchy is personal experience of the situation; next is inference from sensory evidence, which involves the Speaker's experience making the inference and also of perceiving the situation, but not direct experience of the situation itself. Inference from indirect evidence is next, as it involves the Speaker's experience of making the inference, but no other experience. With hearsay, the speaker has no experience at all with the reported situation, and so this category is at the bottom.[5]

(7)   Evidentiality hierarchy:

personal experience >> direct (eg. sensory) evidence>> indirect evidence >>

hearsay.

For Oswalt, this hierarchy constrains usage. A speaker will not use a morpheme that expresses redundant information about his/her experience (eg. that s/he perceived a situation that s/he experienced), so the morpheme used will be the highest possible on the hierarchy. It is also the case that personal experience is the most typologically unmarked category, in the sense that languages that mark any evidential distinctions will contrast those distinctions with personal experience. Also, languages may combine two adjacent categories, but not two nonadjacent ones. For example, Makah has a morpheme that marks direct

evidence or personal experience, as opposed to inference or hearsay, and Jaqi has a morpheme that marks direct or indirect evidence. However, no language has a morpheme that marks for example direct evidence and hearsay vs. personal experience, or personal experience and indirect evidence vs. direct evidence.
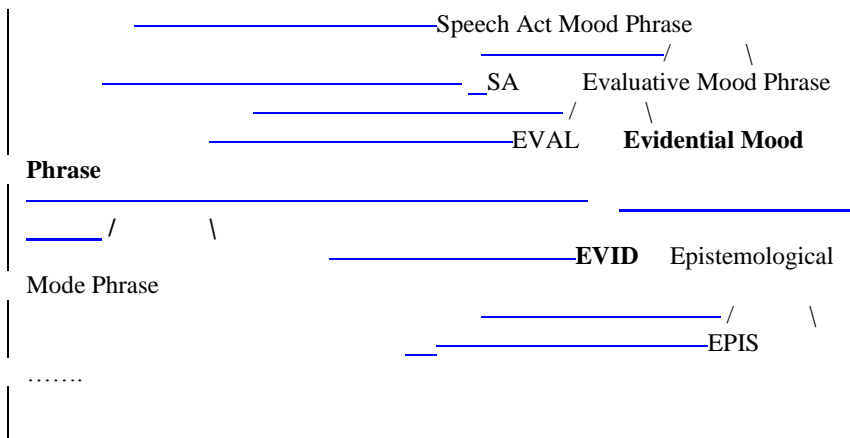
In sum, when a language morphologically marks the source of evidence for reported information, the categories marked are constrained in both number and organization. Evidential morphemes express not just any source of information, but those that have to do with degree of Speaker experience with the relevant evidence. Although the evidential system may interact with other systems, such as tense or person, evidential paradigms appear to be restricted to no more than four "degrees" of experience. Moreover, while the hierarchy given in (7) seems intuitively to be grounded in general knowledge about people's experiences and the inferences that can be reliably made from various types of evidence, the *restrictions* on categories of evidentiality don't have any obvious correlate in general conceptualization.

2. A syntactic Projection for Evidentiality: Cinque(1999)

In his recent study based on adverb position and morpheme order, Cinque (1999)Cinque (1999) has found that evidential morphemes show a crosslinguisticcrosslinguistic regularity in their position within a word: they occur closer to the verb stem than morphemes marking Speaker evaluations or

speech act type, but further from the verb stem than all other aspect/mood/tense morphemes. Cinque proposes that sentences include numerous projections "above" the sentence, including a projection for *Evidential Mood*. Evidential Mood is c-commanded by Evaluative Mood and Speech Act Mood, and it locally c-commands Epistemological Mode. A rough definition of these heads is given in (9).

(8) Cinque (1999)'s four highest projections:

```
                                        Speech Act Mood Phrase
                                                 /        \
                                      _SA       Evaluative Mood Phrase
                                                /        \
                                       EVAL    Evidential Mood
Phrase
       /          \
                                EVID    Epistemological
Mode Phrase
                                                 /          \
                                      EPIS
…….
```

(9)   Speech Act Mood: indicates the type of speech act (declarative,

interrogative, etc.)

Evaluative Mood: indicates speaker's evaluation of the reported

event or state as

– good, lucky, bad, surprising, etc.)

Evidential Mood: indicates the nature of speaker's evidence for truth of proposition

Epistemological Mode: indicates speaker's degree of certainty about the proposition

Cinque further argues that the pattern found in morpheme order recurs in the restrictions on adverb placement: an adverb generally may not precede another adverb that modifies a "higher" category. A few representative adverbs in English are given in (10). Cinque claims that adverbs expressing evidentiality occur between evaluative and epistemological adverbs.

(9)(10)   Representative Adverbs:

Speech Act Mood   ———frankly, confidentially

Evaluative Mood   ———unfortunately, luckily, surprisingly

Evidential Mood   ———allegedly, reportedly,

Epistemological Modality ———obviously, apparently

Thus, the morphological and syntactic realization of evidentiality is constrained so that the order of words and morphemes reflects scope, just as the morphological and syntactic realization of thematic structure is constrained by some version of the Mirror Principle (Baker 1988)(Baker 1988). This fact, along with the constraints discussed above on the notional categories that are

grammaticized in evidential paradigms, suggests a highly structured system. If the typology of evidential categories is purely a matter of pragmatics, it comes from a pragmatic system that shows a surprising degree of hierarchical organization. We are led to ask whether the pragmatic component is more like the syntactic component than has generally been assumed, or whether the syntactic component itself includes projections for a constrained set of pragmatically-interpreted features. Nothing that I have said so far helps us to choose between these two alternatives. The following section will explore another facet of the interface between pragmatics and syntax, logophoric systems. I will argue that such systems provide evidence that tips the scale in favor of the view that syntactic structures include projections of certain pragmatic features.

3. Evidentiality and Logophoricity

The evidential system has properties in common with another area in which syntax interfaces with the system of speaker attitudes and evaluation, namely, the logophoric system. Some languages have special *logophoric* pronouns, which are used to refer to an individual whose viewpoint, words or thoughts are being reported. For example, in Donno S the regular pronoun

wo/woň is used for simple pronominal co-reference ((11)a), while the logophoric

pronoun *inyemɛ/ inyemɛň* is used to refer to the person whose speech is being reported (-(11)b).

(11)   a. Oumar Anta ***woň***   waa be   gi   (Donno S, from

              Oumar Anta 3sg-ACC seen AUX said   Culy (1994:1056)

       'Oumar$_i$ said that Anta$_j$ had seen him$_k$'

       b. Oumar Anta ***inyemɛň***   waa be   gi

            Oumar Anta LOG-ACC seen AUX said

       'Oumar$_i$ said that Anta had seen him$_i$'

As we see in (12), the logophoric pronoun *inyemɛ* cannot be used to refer to someone who is not the person whose speech/thoughts/knowledge is being reported.

(10)(12)   a. Anta ***wo*** wa   Fransi boojɛ   g   egaa be

              Anta 3sg SUBJ France go.fut-3sg COMP heard AUX

       'Anta$_i$ heard that she$_{i/j}$ will go to France'

       b. *Anta ***inyemɛ*** wa Fransi Boojɛ g egaa be

              Anta LOG SUBJ France go.fut-3sg COMP heard AUX

       'Anta$_i$ heard that she$_i$ will go to France'

The term *logophoric* has also been used for certain types of reflexives that are not locally bound. (Reinhart and Reuland 1993) use the term to refer to long distance

anaphors in languages like Japanese, and anaphors that lack a linguistic antecedent, such as those in (13). However, Culy (1994) shows that such constructions do not have the same properties as true logophoric pronouns. Moreover, he points out that languages with true logophoric pronouns generally also have reflexive words or morphemes. Therefore, I will set aside examples like (13).

(13)   The paper was written by Ann and *myself.*

        Languages vary in the type of referent that a logophoric pronoun may have. Sells (1987)(Sells 1987) arguesshows that the referent of a logophoric pronoun may bear one of the three different pragmatic roles shown in (14). (13).

(13)(14)   SOURCE: the one who makes the report

        SELF: the one whose "mind" is being reported

        PIVOT: the one from whose physical point of view the report is

                made

We can see all three of these roles illustrated iIn an English sentence like (15)(15)(15).. In this sentence, the speaker of the sentence is the SOURCE, Mary is the SELF, because it is her desires that are being reported, and John (or whoever is the party-giverperhaps Mary) is the PIVOT, since the use of the verb *come* indicates that the point of view of the party-giver is being taken.

(14)(15)   Mary wants me to come to John's party.

According to Sells, these roles fall into the hierarchy shown in (16)(16)(15). Sells' hierarchy represents the fact that some languages allow logophoric pronouns to refer only to a SOURCE, others allow them to refer to SOURCE or SELF, and others allow them to refer to SOURCE, SELF or PIVOT. Languages seem not to allow logophoric pronouns to refer to SOURCE and PIVOT but not SELF, or SELF and PIVOT but not SOURCE, etc.

(15)(16)   SOURCE >> SELF >> PIVOT

A similar hierarchy governs the predicates whose complement can contain a logophoric pronoun. According to In some languages, according to Culy (1994)(Culy 1994), there are some languages in which a logophoric pronouns can occur only in the complement of a verb of speech, and the antecedent of the logophoric pronoun must be the subjectSubject of the verb of speech. Other languages allow logophoric pronouns to occur in the complements of verbs of knowledge, thought or perception. Culy uses the term "logophoric context" to refer to a clause in which a logophoric pronoun may occur. His study of 32 languages reveals that the typology of logophoric contexts is constrained by the a hierarchy shown in (1). A logophoric context is a constituent in which a logophoric pronoun can occur. Some languages allow logophoric pronouns only in the complement of verbs of speech, whereas others are more liberal in which predicates trigger logophoric contexts. Culy found that the predicates whose complements are logophoric contexts fall into the hierarchy shown in (11), with

~~predicates of speech being highest and predicates of direct perception being~~

~~lowest.~~ If a language treats the complements of direct perception predicates as logophoric contexts, then complements of all of the other categories will be logophoric contexts as well. If the complements of knowledge predicates are logophoric contexts, then those of thought and speech must be as well. In other words, if ~~treats~~ the complement of a given category of predicate is ~~a lower~~ ~~category as~~ a logophoric context, the complements of all "higher" categories are also logophoric contexts. We call those categories whose complements may host a logophoric context *logophoric predicates*.~~it will also treat all higher categories~~ ~~as logophoric contexts.~~

~~(16)~~ logophoric predicate hierarchy:

(17)   —— (Culy 1994:1062)

speech >> thought > > knowledge >> direct perception. ~~(Culy~~ ~~1994:1062)~~

Culy considers this hierarchy to reflect the interaction of three variables of "reliability": whether the speaker directly perceived the event or state denoted by the matrix predicate (=reliability of SITUATION), whether the truth of the report is presupposed~~-~~. ~~(~~i.e., whether the matrix predicate is FACTIVE~~)~~ (=reliability of REPORT 1) and whether the Subject has direct evidence about the report (=reliability of REPORT2). The chart in (18)~~(18)(12)~~ illustrates how these properties interact.

	Reliability of Situation: ——Perceivable	Reliability of Report 1: —— Factive	Reliability of Report 2: Mary's direct evidence
Mary **said** that p	+	-	-
Mary **thinks** that p	-	-	-
Mary **knows** that p	-	+	-

Mary saw/heard that p	-	+	+

A statement with a predicate of **speech** expresses a reliable *situation,* because a report of someone's speech is a report of something that the reporter may have heard directly. For example, if I tell you that Mary said that her cat is intelligent, it's possible for me to have actually heard Mary say it. On the other hand, the *report* corresponding (roughly) to the embedded sentence is not reliable, because I don't know whether Mary's statement was true and there is nothing in my report indicating whether Mary has any direct evidence for her claim.

A statement with a predicate of **thought** is not a reliable *situation*, because the Speaker can't directly perceive someone else's thoughts. It also does not express a reliable *report,* because it entails no claim that the Subject's thoughts are true and it entails nothing about whether the Subject has direct evidence for the thought.

Predicates of **knowledge** and **direct experience** do not introduce reliable *situations*, because the Speaker cannot directly perceive another's knowledge or experience. They both introduce reliable *reports*, in that the matrix sentence presupposes the truth of the complement sentence. Reports introduced by predicates of knowledge are unreliable, since they entail nothing about whether

the Subject has direct evidence for the knowledge. Reports introduced by predicates of direct perception are reliable, because they do entail that the Subject has direct evidence for the truth of the embedded sentence. Culy claims that logophoric contexts arise when the situation is maximally reliable and the report is minimally reliable. The further a predicate deviates from this, the less likely it is to induce a logophoric context.

The first thing to observe is that the factors determining logophoric domains involve reliability of evidence and degree of personal experience, which are apparently the same factors constraining categories of evidentiality. Secondly, although logophoric pronouns are generally said to refer to the individual whose point of view is being taken in the embedded sentence, Culy's study makes it clear that this is not quite right. We should expect that a report of someone's direct perception is a report of that person's point of view, yet direct perception predicates are the least likely to be logophoric. Third, Culy's study suggests that the logophoric system should instead be stated in terms of a *relation* between the Speaker and ~~personwho~~person who has evidence for the reported information. Reliability of situation has to do with the Speaker's personal experience, while reliability of report has to do with the Subject's experience.

The categories of evidentiality are thus parallel to the logophoric categories; the difference is that with evidentiality all of the degrees of evidence pertain to the *Speaker's* experience, while with logophoricity the degrees have to

do with a relation between the experience of the Speaker and that of the Subject.
Suppose that we express the primitives of logophoricity in terms of the primitives
of personal experience and inference from the domain of evidentiality. If we add
the distinction between Speaker and Subject, we can re-word Culy's classification
in the following way:

(18)(19)　　　Categories of Logophoricity, revisited

	Speaker has personal experience evidence for matrix pred.	Subject infers embedded proposition from indirect evidence	Subject infers embedded proposition from direct evidence	Subject has personal experience with embedded proposition
Mary **said** that p	+	-	-	-
Mary **thinks** that p	-	+	-	-
Mary **knows** that p	-	-	+	-

Mary **saw/heard** that p	-	-	-	+

Categories of Evidentiality

	Speaker has evidence only for some speech act	Speaker infers embedded proposition from indirect evidence	Speaker infers embedded proposition from direct evidence	Speaker has personal experience with embedded proposition
hearsay	+	-	-	-
indirect evidence	-	+	-	-

direct evidence	-	-	+	-
personal experience	-	-	-	+

Looking at these two charts, we see that the two hierarchies are inversely correlated: the more likely a predicate is to induce a logophoric context, the less likely it is to be a category in the evidential paradigm: *say* is the predicate that is most likely to be logophoric; hearsay is the category that is least likely to be a part of an evidential paradigm. Thus, we might think of evidential morphemes as syntactically reduced logophoric (propositional attitude) predicates, or ofas logophoric predicates as fully verbal evidential markers . But to stop there would beg various questions, including why evidential morphemes interact with other inflections in the ways to be described below, why special properties of pronouns arise with the fully verbal predicates, and why the typological hierarchies are inversely correlated.

4. Pragmatic Projections

As mentioned in Section 2, Cinque (1999) proposed that there are a number of abstract functional projections above the level of IP. In fact, he proposes up to 32 functional projections in the sentence. In his theory, adverbs occupy the specifiers of these functional projections, which are invariantly

ordered. As diagrammed in (8) above, the highest four projections are Speech Act Mood, Evaluative Mood, Evidential Mood and Epistemological Mode.

We have seen above that parallel hierarchies seem to govern categories of evidentiality and categories of logophoric predicates. Looking at Cinque's projections, we also note a parallel between the logophoric and evidentiality hierarchies and the four highest projections:

(20)(21)	Cinque's projection——	evidential hierarchy

——logophoric hierarchy

speech act	———say	——hearsay

evaluative	——think	——indirect/less valuable

-evidence

evidential	——know	——direct evidence

epistemological	——perceive	——	——experiential/ unquestionable evidence
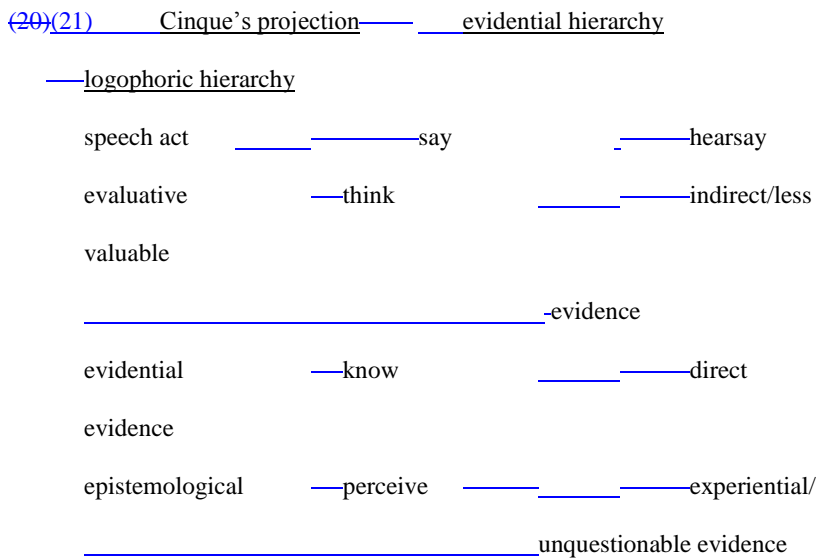
Cinque's topmost projection has to do with speech acts, as do the hearsay and speech-verb categories of the other two hierarchies. Evaluative Mood has to do with an assessment of the value of the event or situation, just as inferences from indirect evidence have to do with an assessment of data relating to the event or situation, and verbs of thought predicate of the Subject an assessment that there is

convincing but not conclusive evidence for the embedded proposition. Evidential

Mood is clearly parallel to the direct evidence category, and verbs of knowledge

predicate a view of the Subject that is based on apparently incontrovertible

evidence. Finally, Epistemological Mood has to do with the Speaker's degree of

certainty, and personal experience and direct perception are the most reliable

types of evidence.

The presence of such parallels suggests that the evidential and logophoric

hierarchies should be accounted for in terms of the same primitives. Looking first

at the typology of evidential morphemes, our first impulse might be to say that the

four head positions of Cinque correspond to the four types of evidential

morphemes. However, in some languages evidential morphemes co-occur with

morphemes marking Speech Act Mood, Evaluative Mood and/or Epistemological

Mode. Furthermore, we do not find languages that allow sequences of evidential

morphemes. Thus, it seems clear that evidential morphemes occupy just the head

of Evidential Phrase.

Given the central role of the Speaker or Subject in defining the categories

of logophoricity and evidentiality, I suggest that each functional category is

associated with an implicit argument, which is in effect the Subject of that phrase.

Following (Hale and Keyser 1993)Hale and Keyser's (1993) treatment of

thematic roles as configurationally-defined rather than primitive, these implicit

Subjects bear pragmatic roles defined in terms of the phrase with which they are

associated. I will represent these Subjects as *pro*, although the precise similarities

between these implicit arguments and Case-marked null pronouns remain to be

seen. I'll also place these arguments in the specifier of the relevant functional

projection, although if Cinque is right, it may be more accurate to place them in a

locally c-commanding "DP-related" projection.

(21)(22)

POSITION	MNEMONIC ROLE NAME	ROLE DESCRIPTION
Spec,SAPSpeech Act Phrase	SPEAKER	the utterer of the sentence

Spec,~~EvalP~~Evaluative Phrase	EVALUATOR	the one responsible for judgments of quality or value of the situation
Spec, ~~EvidP~~Evidential Phrase	WITNESS	the one who has the evidence regarding the truth of the proposition
Spec, ~~EpisP~~Epistemological Phrase	PERCEIVER	the one whose degree of experience with the event determines how likely proposition is to be true.

Now, assume that these implicit arguments are subject to binding. By general principles, binding must be local. This means that there are only four possible binding configurations:

~~(22)~~(23)   a. Witness is bound by Evaluator, and binds Perceiver:

personal ~~experience~~

(Speaker is Evaluator, Witness and Perceiver)   *experience*

[***pro*_i** SAP [***pro*_i** EvalP [***pro*_i** EvidP [***pro*_i** EpisP …]]]]

personal experience

b. Witness is bound by Evaluator, but does not bind Perceiver: ~~direct evidence~~

(Speaker is Evaluator and Witness, but someone else is Perceiver)

[***pro*_i** SAP [***pro*_i** EvalP [***pro*_i** EvidP [*pro*_j EpisP …]]]]

direct evidence

c. Witness is not bound by Evaluator, but binds Perceiver: ~~indirect evidence~~

(Speaker is Evaluator but someone else is Witness and Perceiver

[***pro*_i** SAP [***pro*_i** EvalP [*pro*_j EvidP [*pro*_j EpisP …]]]]

indirect evidence

b. Witness is bound by Evaluator and controls Perceiver, but ~~no evidence (hearsay)~~

Evaluator is not bound by Speaker

(Someone other than Speaker is Evaluator, Witness and Perceiver)[6]

[***pro*_i** SAP [*pro*_j EvalP [*pro*_j EvidP [*pro*_j EpisP …]]]]

no evidence (hearsay)

Hearsay would be distinguished from a quote in the identification of the Subject of ~~SAP~~Speech Act Phrase. If the Subject is disjoint from the Speaker of the sentence, then the sentence is a quote.

~~(23)~~(24)   Quote: [*pro*$_j$ SAP [*pro*$_j$ EvalP [*pro*$_j$ EvidP [*pro*$_j$ EpisP …]]]]

Thus, by considering evidential morphemes to involve not just type of evidence but relation of Witness to Speaker and other roles, we predict just four basic types of evidentiality.   Furthermore, we predict the evidentiality hierarchy if we assume that consistent indexing is the unmarked case; each indexing disjoint from speaker has an additional cost.

Turning now to logophoric contexts, I would follow (Koopman and Sportiche 1989)~~Koopman and Sportische (1989)~~ in taking a logophoric pronoun to be a variable that must be bound by a pragmatic Point of View operator, which, if embedded, is controlled by the matrix Subject.

~~(24)~~(25)   A logophoric pronoun must be A' bound by a POV operator.

                                        (Koopman and ~~Sportische~~Sportiche 1989)

I propose that the typology of logophoric predicates can be derived from general subcategorization and a parametric difference in which pragmatically-related functional head can check the features of this operator. The first part of the proposal is that the differences among the potentially logophoric predicates

are due to differences in their subcategorization requirements: *say* takes a~~n~~

~~SAP~~Speech Act Phrase complement, *think* takes an ~~EvalP~~Evaluative Phrase

complement, *know* takes an ~~EvidP~~Evidential Phrase complement and *hear/see* etc.

take an ~~EpisP~~Epistemological Phrase complement.

~~(25)~~(26)   *say*   [____ ~~SAP~~Speech Act Phrase]

    think   [____ EvalP]

    know   [____EvidP]

    see   [____ EpisP]

In other words, the complement of *say* is something that the Subject said; the

complement of think is a proposition that the Subject can evaluate, but isn't

something that someone said; the complement of know is a proposition for which

the Subject has evidence of some sort, and the complement of see/hear is a

proposition that the Subject knows about due to personal sensory experience.

The second part of my proposal is that Koopman and

~~Sportische~~Sportiche's Point of View feature can occur on any of the above four

heads, which I will call *POV heads*. This POV feature must be checked by a POV

operator. Just as strong person features within IP serve to identify *pro*, strong

POV features can identify the implicit argument in the specifier of the projection

that it occupies. Languages with logophoric pronouns are those languages in

which the POV feature is strong. Such languages differ from each other in which of the heads bears the strong POV feature.

Consider first a language in which *SA* is the head that bears the POV feature. In such a language, only ~~SAP~~Speech Act Phrase can contain the operator that binds a logophoric pronoun. Since the complements of *say* predicates contain the head SA but the complements of *think, know,* or *hear/see* predicates do not, only *say* predicates can trigger logophoric contexts.

(26)(27)   a. –[$_{VP}$ *say*——[$_{SAP}$ –OP$_i$ –[SA$_{[+POV]i}$ –[$_{EvalP}$ [Eval–[$_{EvidP}$ [Evid [$_{EpisP}$ [◄

Epis –[**LOG$_i$**…]]]]]]]]]

b. *[$_{VP}$ *think* —— [$_{EvalP}$ [Eval[$_{EvidP}$ [Evid [$_{EpisP}$[Epis [**LOG$_i$**…]]]]]]]]

c. *[$_{VP}$ *know*—— [$_{EvidP}$ [Evid [$_{EpisP}$[Epis [**LOG$_i$**…]]]]]]

d. *[$_{VP}$ *perceive* [$_{EpisP}$[Epis[**LOG$_i$**…]]]]]]

In a language in which *Eval* bears the strong POV feature, the complements of both *say* and *think* predicates can contain the logophoric operator, so only these two types of predicates will trigger a logophoric context.

(28)   a. –[$_{VP}$ –*say* ——[$_{SAP}$ [SA [$_{EvalP}$ **OP$_i$** [**Eval$_{[+POV]i}$** [$_{EvidP}$ –[Evid

[$_{EpisP}$[–Epis –[–**LOG$_i$**……]]]]]]]]]]]

b. [$_{VP}$ *think*   [$_{EvalP}$ **OPi** [**Eval$_{[+POV]i}$** [$_{EvidP}$ [Evid

[$_{EpisP}$[Epis [**LOG$_i$**…]]]]]]]]

c. *[$_{VP}$ *know*   [$_{EvidP}$ [Evid [$_{EpisP}$[Epis [**LOG$_i$**…]]]]]]

d. *[$_{VP}$ *perceive* [$_{EpisP}$ [Epis [**LOG$_i$**…]]]

In a language in which *Evid* bears a strong POV feature, the complements of *say, think* and *know* predicates can contain the POV operator, so these three will trigger a logophoric context:

(29)   a. [$_{VP}$ *say*——— [$_{SAP}$ [SA [$_{EvalP}$ [Eval [$_{EvidP}$ **OP$_i$** [**Evid$_{[+POV]i}$**

[$_{EpisP}$[Epis [**LOG$_i$**…]]]]]]]]]]

b. [$_{VP}$ *think*   [$_{EvalP}$ OPi [Eval [$_{EvidP}$ **OPi** [**Evid$_{[+POV]i}$**

[$_{EpisP}$[Epis [*LOG$_i$*…]]]]]]]]

c. [$_{VP}$ *know*   [$_{EvidP}$ **OPi** [**Evid$_{[+POV]i}$** [$_{EpisP}$[Epis [**LOG$_i$**…]]]]]

d. *[$_{VP}$ *perceive* [$_{EpisP}$ [Epis [**LOG$_i$**…]]]

Finally, in a language in which *Epis* bears the strong POV feature, the complements of *say, think, know* and *perceive* can contain the POV operator, so all of these types can trigger a logophoric context:

(30)   a. [*say*   [$_{SAP}$ [SA [$_{EvalP}$ [Eval [$_{EvidP}$ [Evid [$_{EpisP}$ **OP$_i$** [Epis$_{[+POV]i}$

[**LOG$_i$**…]]]]]]]]]]]

b. [*think*   [$_{EvalP}$ [Eval [$_{EvidP}$ [Evid [$_{EpisP}$ **OPi** [Epis$_{[+POV]i}$ [

LOG$_i$…]]]]]]]]

c. [*know*   [$_{EvidP}$ [Evid [$_{EpisP}$ **OPi** [Epis$_{[+POV]i}$ [**LOG$_i$**…]]]]]

d. [*perceive* [$_{EpisP}$ **OPi** [**Epis$_{[+POV]i}$** [**LOG$_i$**…]]]

Thus, the typology of logophoric predicates follows from quite plausible differences in subcategorization. If this approach is on the right track, it provides evidence that the pragmatic features relevant to logophoricity and evidentiality can head projections in syntactic structure. Further, the hierarchies for both logophoricity and evidentiality follow from the assumption that Cinque is right about the inventory of pragmatically-relevant functional heads, along with general principles of ~~coindexing~~co indexing and subcategorization. The reason that the hierarchies are inversely correlated is that the predicates most likely to trigger logophoric contexts are those that select complements with the most projections, while the morphemes most likely to encode evidentiality are those that impose the fewest constraints on ~~coindexing~~co indexing. The logophoric predicates have their own Subjects, which can control a POV operator. Evidential morphemes attach to predicates/sentences, inducing certain indexing relations among implicit pragmatic arguments, but they do not take their own overt Subject.

4. Some Consequences of Pragmatic Projections

4.1 Interaction between POV features and other Inflectional Features

If the pragmatic features under discussion project syntactic phrases, then they ought to interact with other syntactically projected features. In this section, I report on some ways in which the pragmatic features interact with person, tense and negation.

4.1.1 POV features and Person

DeLancey (1986)~~Delancey (1986)~~ shows that evidentiality interacts with person in interesting ways in Tibetan.[7] Tibetan has two copular verbs, one predicative and one existential. The existential form is used for assertion of existence as well as for possession. Each of these copular verbs has two distinct forms, which, according to ~~Delancey~~DeLancey, are described in Tibetan textbooks as reflecting person agreement.

~~(30)~~(31)   Tibetan (~~Delancey~~DeLancey 1986)

"first person" predicative = *yin*	"non-first person" predicative = *red*
a. ŋa slab-gra-ba yin	b. k'oŋ slab-gra-ba red
I student am	——S/he student is
'I am a student'	'S/he is a student'
"first person" existential = *yod*	"non-first person" existential = *'dug*
c. ŋa la sa-mo yod	d. Dorje la sa-mo 'dug
I LOC hat exist	D LOC hat exist
'I have a hat'	'Dorje has a hat'

~~Delancey~~DeLancey shows that yin and yod cannot really be first person, because they can occur with non-first person Subjects, as in (32)~~(32)(26a)~~, and they may be absent when the Subject is first person, as in (33)~~(33)(27b)~~.

~~(31)~~(32)   a. Bod   la   gyag yod   b. Bod   la   gyag

'dug

Tibet LOC yak exist   Tibet LOC yak exist

'There are yaks in Tibet'   'There are yaks in Tibet'

                                 (spoken only by a

                                 non-

Tibetan)

(32)(33)   a. ŋa las-ka byed-gi-yod   b. ŋa na-gi-'dug

             I work do-IMPERF-yod   I sick-IMPERF-'dug

             'I am working'   'I am sick'

DeLanceyDeLancey claims that the difference between *yid/yod* and '*dug/red* has
to do with evidentiality: *yin/yod* express personal experience, while '*dug/red*
encode inferential evidentiality. In a sense, evidentiality is being used as a
substitute for person agreement; a verb encoding personal experience can only be
used when the Speaker is the one who had the experience. DeLanceyDeLancey
explains that the psychological predicate in (33)(33)(27b) is used with the
inferential copular because using the personal experience copula would be
redundant, like saying "My personal experience is that I am sick."

Tibetan illustrates that first person agreement is in some sense the same as
personal experience evidentiality marking. In Akah, we find another kind of
interaction between person marking and pragmatic projections. According to
Thurrugood (1986), person marking in Akha depends upon whether the sentence
is a statement or a question.

(33)(34)   Akha: (Thurrugood 1986)

a. ŋa nc-áŋ   dì-è   b. Nc-màq àjcq-àŋ dì-mÉ

   I   you-OBJ hit-è   you-PL he-OBJ   hit- mÉ

   'I hit you'   'You hit him'

c. ŋc   nà-áŋ   dì-è-ló

   you me-OBJ hit-è -Q

   'Will you beat me?'

The morpheme –*è* on the verb marks first person Subject in statements, but second person Subject in questions. Discussion of some other languages with this type of person marking can be found in (Maxwell 1999)Maxwell (1999). Dick Hudson comments in that discussion that these morphemes could be described as agreement with the source of information or authority, which is the Speaker in a statement and the Hearer in a question. In the framework I have adopted above, Akha agreement would be marking features of the Evaluator, while English agreement marks features of the Speaker. Without a syntactic representation of the Evaluator, we must impose a rather convoluted condition on the morphological realization of agreement. With such a representation, the conditions on agreement are simple and straightforward.

4.1.2 Evidentiality and Tense

(Woodbury 1986)Woodbury (1986) shows that the previously mysterious

evidential paradigm in Sherpa can be explained in terms of the way in which

evidentiality interacts with tense. Sherpa has been analyzed as marking the four categories of evidentiality shown in (35)(35)(29). What is mysterious is the morphological paradigm marking these distinctions. Under traditional descriptions, the fact that the Habitual Experiential uses the same evidential morpheme as the Past Inferential and Future Inferential is treated as accidental homophony. The paradigm is given in (35)(35)(29) and definitions for the various categories are given in (36)(36)(30).

(34)(35)　　　**Sherpa (Woodbury 1986)**

    a. ʻduŋ-gi-**nok**　　　　　　HABITUAL EXPERIENTIAL

     ʻ(someone) hits/is hitting (I perceive/have perceived)ʼ

    b. ʻdu-**nok**　　　　　　　　PAST INFERENTIAL

     ʻ(someone) hit (I infer)ʼ

    c. ʻduŋ-gum-**nok**　　　　　FUTURE INFERENTIAL

    ʻ(I) will hit (I can tell you)ʼ

---

    d. ʻduŋ-gu-**wi**　　　　　　GNOMIC

     ʻ(someone) hits/is hitting (It is known)ʼ

    e. ʻdu-**suŋ**　　　　　　　　PAST EXPERIENTIAL

     ʻ(someone) hit/was hitting (I experienced)ʼ

    f. ʻduŋ-**in**　　　　　　　　FUTURE FIRST PERSON

'(I) will hit (I think)'

HABITUAL EXPERIENTIAL: speaker purports to see or of have seen or otherwise perceived

present tense narrated event taking place

GNOMIC: speaker does not purport to have seen/perceived event

PAST EXPERIENTIAL: speaker purports to have seen or otherwise perceived the

narrated event taking place

PAST INFERENTIAL: speaker purports to base the truth of the narrated event on

indirect evidence obtained after the event

was completed.

Woodbury points out that the forms marked with –*nok* all have to do with the Speaker's *current* experience. One cannot currently be experiencing something that happened in the past or has not yet happened. Therefore, the combination of –*nok* and past tense must be inferential. Woodbury states the following generalization:

context.

(36)(37)   When the time reference of an evidential category is different from

that of the proposition with which it occurs, the resulting evidential value will

be nonexperiential.

Apparently in Sherpa the evidential category of personal experience

incorporates tense in some way. The Habitual Experiential, Past Inferential and

Future Inferential all involve *current* personal experience. Habitual Experiential

expresses either something the Speaker is experiencing now, or something about

which the Speaker now infers based on personal observation. The Past Inferential

expresses an inference that is currently being made, and the Future Inferential

expresses the Speaker's current view of what will happen in the future. On the

other hand, the Gnomic expresses someone else's experience, the Past

Experiential expresses something experienced in the past but not currently

experienced, and the Future First Person expresses the Speaker's prediction about

the future, which is not based on straightforward current experience. Thus, *-nok*

is an evidential morpheme which incorporates some sort of present tense.

(Examples from Woodbury 1986)

(37)(38)   a. 'ti 'gi –nok

   he   comes-HE

'He comes/is coming' (according to my current experience)

b. 'ti 'gi –wi

   he   comes-GN

'He comes/is coming/will come' (it is known)

c. daa saa-p   mi   ti yembur-laa   deki-nok

   rice eat-noun   man he Katmandu-DAT   say-HE

'The man who is eating rice lives in Katmandu' (I see, have seen)

d. daa saa-p   mi   ti yembur-laa   deki-wi

   rice eat-noun   man he Katmandu-DAT   say-GN

'The man who is eating rice lives in Katmandu'(It is known)

(39)   a.   e   'ti-laa   salaa   'sir-um-nok

~~1.a.   e   'ti-laa   salaa   'sir-um-nok~~

      I-erg   he-DAT tomorrow say-FI

    'I will say (it) to him tomorrow' (I can tell you right now…)

b.   e   'ti-laa   salaa   'sir-in

   I-erg   he-DAT tomorrow say-FF

'I will say (it) to him tomorrow' (I think…)

4.1.3 Evidentiality and Switch Reference

(Gordon 1986)Gordon (1986) shows that the system of switch-reference marking in Maricopa is intertwined with the system of evidential marking in a way that is difficult to explain if pragmatic roles are not represented syntactically. I will suggest in this section that the Maricopa data can receive a unified explanation if coindexingco indexing involving pragmatic roles is treated as part of the same system as coindexingco indexing among grammatical function.

According to Gordon, the Maricopa suffix –*k* has one use as a marker of Same Subject. In (40)(40)(33a), we see the Same Subject use: the verb in (40)(40)(33a) is marked with –*k*, and the Subjects of the two clauses are the same. In (40)(40)(33b), the first verb is marked with –*m*, and the Subjects of the two clauses are different.

(38)(40)   a. Kafe '-sish-k pastel '-mash-k

coffee 1-drink+dual-SS   1-eat+dual-ASP[8]

'We drank coffee and ate pie'

b. Kafe '-sish-m   pastel mash-k

coffee 1-drink+dual-SS pie eat+dual-ASP

'We drank coffee and they ate pie'   (Gordon 1986:80)

The suffix –*k* also shows up in conjunction with evidential markers. Gordon reports that the sensory evidential markers have two forms, one with –*k* and one without –*k*. The forms with –*k* are used when the Subject is first person,[9] as

shown in (41)(41)(34e), where the morpheme glossed as 'SEE=EV' is the sight evidential morpheme.

(39)(41)   a. M-iima-'yuu

        2-dance-SEE=EV

        'You danced (I know because I saw it)'

    b. Iima-'yuu

        dance-SEE=EV

        'He danced (I know because I saw it)'

    c. '-iima-**k**'yuu

         1-dance-1-SEE=EV

        'I danced (for sure, in the past)'

Gordon argues that this –*k* morpheme is in fact the Same Subject morpheme. In (41)(41)(34e), the Subject and the Witness are the same. Thus, the same morpheme is used when the Subjects of two clauses are the same, and when the Witness and Subject are the same. It appears that Maricopa morphology marks coreference between a pragmatic role and a grammatical function in the same way that it marks coreference between two grammatical functions.[10]

Based on the data shown so far, one might say either that –*k* is a first person agreement marker, which is homophonous with the Same Subject marker and which happens to show up in the evidential paradigm. Alternatively, one might say that –*k* indicates deixis to a prominent discourse referent. Sentences

like those in (42) (35) show that neither of these hypotheses is correct. These

sentences contain only one predicate, yet –*k* shows up, despite the fact that the

Subject is neither markedly prominent nor first person. In such cases, -*k* indicates

that "the speaker presents the information as fact, not as possibility, inference or

preference, and with no hint as to its source or any doubt as to its

veracity."(Gordon 1986:78)

(40)(42)   a. Mhay-ny-sh ny-ashham-**k**

            boy-DEM-SJ 3/1-beat-ASP

        'The boy beat me up' or 'The boy is beating me up'

        b. 'iipaa-ny-sh   puy-**k**

            man-DEM-SJ die-ASP

        'The man died'

    Gordon glosses this –*k* as a kind of Aspect, but her description makes it

sound like an evidential morpheme. It cannot be an evidential morpheme though,

because it co-occurs with other evidential morphemes, as we saw in (41)(41)(34).

However, it is possible that the sentences in (42)(42)(35) include a phonologically

null evidential marker. If Oswalt (1986) and Willett (1988) are right, any

language with an evidential paradigm must have a personal experience evidential.

Given that it's not unusual for personal experience to be the unmarked form, I

would speculate that Maricopa has a null personal experience evidential

morpheme. This is certainly consistent with the glosses of the sentences in

(42)(42)(35). If this is true, then the function of –*k* is to mark coreference between grammatical and pragmatic roles, and it can occur with any of the evidential morphemes. When it co-occurs with the phonologically null morpheme, it may seem to marking personal experience. But in fact, in sentences like those in (42)(42)(35), -*k* marks the fact that Speaker, Evaluator, Witness and Perceiver are the same person.

Gordon points out that Maricopa evidential morphemes are transparently related to full verbs of sensory perception and saying. She shows that the grammaticization process by which full verbs became evidential morphemes affected a whole class of verbs rather than just individual verbs. Especially interesting in the present context is the fact that the complements of verbs of saying bear the –*k* morpheme even when the Subjects of the matrix and embedded clauses are clearly different, as shown in (36) (43).

(41)(43)　　　Bonnie-sh chuy-**k** uu'ish-k

Bonnie-SJ marry-k say=PL-ASP

'They say Bonnie got married'

Although the Subjects of *chuy* ('marry') and *uu'ish* ('they-say') are not the same, the presence of the verb of saying entails that the speech act roles associated with the embedded predicate are assigned to the higher Subject. That is, the Subject of 'say' is linked to the Speaker and Evaluator[11] of the embedded proposition.

If there are no syntactic representations of pragmatic roles, then the distribution of –*k* would seem to be a matter of accidental homophony, and the generalization that it occurs when two roles are assigned to the same referent cannot be captured. If pragmatic roles are explicitly represented in syntax, then the distribution of –*k* may receive a unified treatment as a marker of role ~~coindexing~~co indexing.

4.2 Logophoricity and Control

Culy (1994) pointed out that logophoric domains and control domains are mutually exclusive. It would be tempting to treat this as a pragmatic fact, since both control and logophoricity involve coreference of embedded Subject and some higher argument. However, Culy shows that the restriction holds even in languages that have both control and logophoric pronouns. In such languages, a predicate can never take both control and logophoric complements; it must always take one or the other. This is unlike the situation in English, where coreference between Subjects with verbs like *want* can be expressed with either a controlled null pronoun or an overt reflexive.

~~(42)~~(44)   a. Mary$_i$ wants PRO$_i$ to win the race.

b. Mary$_i$ wants herself$_i$ to win the race.

Since coreference between Subjects can be expressed with any of these complement types, it is not clear why pragmatics would rule out a verb whose complement could have either a null ~~subject~~Subject or a logophoric pronoun.

I suggest that the reason a given predicate can never take both control and logophoric complements has to do with the subcategorization properties of the predicate, as proposed above. In order to select a control complement, a predicate must select a nonfinite clause with or without a Case-assigning complementizer. In order to select a logophoric domain, a predicate must select a higher pragmatic projection, and would not be in a position to select for finiteness.

5. Conclusion

The constructions that I have discussed in this paper provide evidence that there are syntactic projections that bear pragmatic features. In particular, they support the claim of Cinque (1999) that there are projections for Speech Act Mood, Evaluative Mood, Evidential Mood and Epistemological Mode at the "top" of the sentence. I have argued that if such a view is right, we get a uniform account of evidential paradigms and logophoricity. In that account, nothing new needs to be proposed, other than the four pragmatic projections. The typology of evidential paradigms and of logophoric predicates follows from general principles of binding and complement selection.

Some of the data that I have presented show that the four pragmatic categories are hierarchically organized with respect to each other, but don't necessarily provide evident of projections in syntax. For example, my observation that evidentiality and logophoricity are constrained by the same hierarchies might be considered a fact about semantic scope and the organization

of a distinct pragmatic component. However, I have shown that the typology of logophoric predicates appears to involve subcategorization for these four pragmatic projections, and variation in the syntactic position of an operator that binds the logophoric pronouns. It is hard to see how this result could be reproduced in a framework in which the relevant features are not syntactically ~~reporesented~~represented. Further, I have shown that evidentiality interacts closely with syntactically-represented features, including person, tense and switch-reference, and that previously mysterious facts about the mutual exclusivity of control and logophoricity follow immediately if we posit pragmatic projections. If there are no such projections, then we must find an alternative explanation of the observed interactions with standard syntactic features, and we must posit a pragmatic component whose principles mimic those of the syntactic component to a surprising extent.

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Endnotes

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2. An interesting overview of Evidentiality can be found in (Rooryck 2001)Rooryck, J. (2001). "Evidentiality: State of the Article." GLOT International 5(4).

3. Makah data are from (Jacobsen 1986) Jacobsen (1986:10); Quechua data are from (Weber 1986)Weber (1986:139); Tibetan data are from (DeLancey 1986)DeLancey (1986:210); Akah data are from ((Thurgood 1986)Thurgood (1986:214).

4 See the Appendix for a list of the categories found in the languages reported on in Chafe and Nichols (1986).

5. Oswalt's terminology was specific to his analysis of Kashaya. I've substituted terms that draw attention to the crosslinguistic similiarities. His hierarchy was : performative (i.e., uttered while performing action) << factual-visual << auditory << inferential << quotative. Willett classified hearsay evidence as a type of indirect evidence, and placed it on the hierarchy between direct evidence and

"inferring" indirect evidence. However, he cited no data to support this positioning, and examination of his survey data shows that some languages have a portmanteau morpheme for reported and inferring evidence, while none has a portmanteau for reported and direct evidence. I therefore follow Oswalt in placing hearsay at the bottom of the hierarchy.

6. There is a fifth possibility – where all four Subjects are disjoint from Speaker – this would be where the speaker is quoting someone else.

7. ~~Delancey~~DeLancey proposes a functional explanation for these facts.

8. Gordon glosses this sentence final k as Aspect, but below I will suggest a unified account of these various –k morphemes.

9. There are two classes of verbs, so in addition to being first person, the verb must be a 'k-verb'

10. Similarly, (Stirling 1993)~~Stirling (1993)~~ shows the importance of the "Validator" pragmatic role in switch-reference.

11. The Subject is also possibly Witness and Perceiver of the embedded clause.