Covert A-scrambling in Tlingit [1]

Seth Cable
University of Massachusetts, Amherst

I argue that the grammar of Tlingit possesses a covert variant of the operation of A-scrambling, well-known from languages such as Hindi. I first present evidence that Tlingit possesses a configurational clausal structure, where subjects asymmetrically c-command objects. I then present data that seem to conflict with this evidence, and which appear to indicate that *objects* c-command subjects (even in SOV order). Finally, I show that these sets of data can be reconciled, if we assume that objects in Tlingit can covertly scramble to A-positions above subjects.

1 Introduction

The central claim of this paper is that the grammar of Tlingit (Na-Dene; Alaska, British Columbia, Yukon) includes a covert variant of the operation of 'A-scrambling,' well-known from languages such as Hindi (Mahajan 1990, 1997).

This central, overarching claim comprises the following more specific claims. First, I argue that Tlingit possesses a configurational clausal structure, where subjects (S) asymmetrically c-command objects (O) (*contra* Leer 1991). Next, however, I argue that despite the evidence indicating a configurational structure, Os in Tlingit display properties suggesting that they c-command into Ss, *even in canonical SOV order*. Finally, I argue that these two sets of data can be reconciled if we assume that objects in Tlingit can covertly scramble to A-positions above subjects.

---

[1] Special thanks are due first and foremost to David Katzeek (DK) and John Marks (JM), the Tlingit language consultants for this project. Their generosity, patience and energy are truly exceptional, and I thank them for all the time and help they have provided me in my study of their language. Most of the Tlingit data presented here were gathered from interviews conducted at the Sealaska Heritage Institute (SHI) in December 2007 and May 2008. Special thanks are owed to Richard Dauenhauer, Nora Marks Dauenhauer, Keri Edwards, Yarrow Vaara, Rosita Worl, and everyone else at SHI. *Aatlein gunalchéesh!* I would also like to thank Henry Davis and Lisa Matthewson, as well as audiences at both ICSNL 43 and the UBC Linguistics Research Seminar, for their helpful comments upon earlier versions of this work. Finally, I gratefully acknowledge the support of the Killam Trusts, as this research has been supported through a Killam Postdoctoral Research Fellowship.

In outline, the paper will proceed as follows. In Section 2, I provide some basic background on the Tlingit language and its grammar. Section 3 then presents evidence that the Tlingit clause is 'configurational,' in the sense that subjects appear to be hierarchically superior to objects. Following this, however, Section 4 presents some apparently contradictory evidence indicating that Tlingit objects can c-command into subjects, even under SOV order. In Section 5, I provide an analysis of these apparently incompatible data sets, one that appeals to an operation of 'covert A-scrambling'. Finally, Section 6 discusses certain residual issues stemming from the proposed analysis.

2 Basic background regarding the Tlingit language

The Tlingit language is the sole member of the Tlingit language family, and is grouped together with the Athabaskan and Eyak families into the Na-Dene (or Athabaskan-Eyak-Tlingit, or Tlina-Dene) Language Phylum. The original geographic extent of the language included all of Southeast Alaska, as well as portions of Northwest British Columbia and Southwest Yukon Territory. The language is currently spoken by perhaps at most 300 individuals, the youngest of whom are in their 50's.

Despite the language's considerable geographic spread, there is comparatively little dialectical diversity. While distinct dialects of the language are recognized, the differences between these varieties are principally phonetic or phonological, and all dialects are quite mutually intelligible. Nevertheless, it should be acknowledged here that all data in this paper were provided by speakers of the 'Greater Northern' dialect of the language (Leer 1991).

Regarding the structure of the language itself, its phonological inventory is notable for (i) being one of the few in the world to contain ejective fricatives, and (ii) contrasting between five different lateral phonemes, *none* of which is the voiced lateral liquid /l/. Morphologically, Tlingit is highly similar to the related Athabaskan and Eyak languages, as it possesses the complex, templatic verbal prefix string of its Athabaskan and Eyak relatives. It should be noted, however, that since this paper concerns the *syntax* of the language, I will be ignoring the highly complex morpho-syntactic structure of the Tlingit verb. That is, I will throughout gloss Tlingit verbs only with their 'lexical content', adding inflectional information only where it is relevant. Such glossing conventions are illustrated in example (1) below.

Similar to its Athabaskan and Eyak relatives, the syntax of Tlingit displays largely 'head-final' alignment. That is, the language possesses post-positions (rather than prepositions), verbal auxiliaries follow main verbs, and within the NP, both adjectives and possessors precede the head N. An additional indicator of 'head-final' alignment is the fact that there is a (slight) statistical tendency in texts for objects to precede verbs (Dryer 1985).

One feature of Tlingit syntax, however, will be particularly important for the discussion that follows. Unlike most Athabaskan languages (except for Hupa and Koyukon (Thompson 2000)), Tlingit has rather free word-order, and

freely permits the positioning of major constituents after the verb.[2] Generally speaking, any permutation of subject (S), verb (V), and object (O) is an allowable sentence of Tlingit, though there are of course discourse-pragmatic effects associated with particular orders (Leer 1991; Chapter 2). The following sentences illustrate.

(1) **Word Order Freedom in Tlingit** [3, 4]

a. SOV
Wé shaawátch xóots awsiteen.
that woman.ERG bear saw
'The woman saw the bear.'

b. SVO
Wé shaawátch wusiteen xóots.[5]
that woman.ERG saw bear
'The woman saw the bear.'

c. OVS
Xóots awsiteen wé shaawátch.
bear saw that woman.ERG
'The woman saw the bear.'

d. OSV
Xóots wé shaawátch wusiteen.
bear that woman.ERG saw
'The woman saw the bear.'

e. VSO
Awsiteen wé shaawátch xóots.
saw that woman.ERG bear
'The woman saw the bear.'

f. VOS
Awsiteen xóots wé shaawátch.
saw bear that woman.ERG
'The woman saw the bear.'

---

[2] Indeed, in some texts, (S)VO order slightly outnumbers (S)OV order. This is reported in Dryer (1985) and also conforms to my own experience.

[3] Keri Edwards (p.c.) reports that some speakers find the SVO and VSO orders in (1b,e) to be awkward, characterizing them as 'backwards' and only said in moments of great excitement.

[4] Thoughout this paper, I use the following abbreviations in my glosses of example sentences: ERG = ergative marker, ACC = accusative marker, DAT = dative marker, *pro* = phonologically empty pronoun, Q = indefinite/interrogative particle, IRR = irrealis.

[5] The reader may note that the verbal form in (1b) differs from that in (1a). This is due to a morpho-phonological rule that deletes 3rd obviative object agreement when the verb is directly preceded by an NP marked by the optional ergative post-position (Leer 1991). The effect of this rule appears in many of the examples throughout this paper.

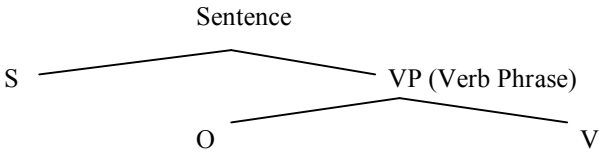
3 The configurational structure of the Tlingit clause

In this section, I will defend the claim that Tlingit possesses an underlyingly 'configurational' clausal structure. That is, I claim that the subject of a Tlingit sentence is initially generated (or merged) at a position that is hierarchically superior to that of the object. Such an analysis is illustrated under (2a) below.

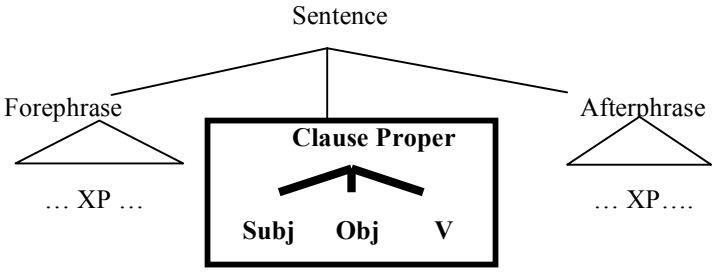
It should be noted, however, that such a configurational analysis runs counter to the analysis of Tlingit clausal structure developed by Leer (1991), the only other treatment of clausal syntax in this language.[6] One of the main claims of Leer's (1991) analysis, illustrated under (2b), is that there are *no* hierarchical asymmetries between subjects and objects in Tlingit. As Leer explains, '…there is no independent evidence for positing a VP in Tlingit' (Leer 1991; p. 27).

(2) **Possible Analyses Tlingit Sentence Structure**

a. A Configurational Analysis of Tlingit Sentence Structure



b. Leer's (1991) Analysis of Tlingit Sentence Structure



Thus, as illustrated above, Leer (1991) proposes that clauses in Tlingit possess a 'flat structure', one where the subject and the object are structurally parallel, and both c-command one another.

I will argue below, however, that contrary to the claim embodied by the analysis in (2b), there is some evidence that subjects in Tlingit occupy a structurally higher position than objects. That is, I will argue that the Tlingit clause does possess a VP.

---

[6] The main subject of Leer 1991, however, is the verbal morphology of Tlingit, which it documents in unprecedented and remarkable detail. Only seven pages of an introductory grammar sketch is given to clause-level syntax.

3.1 Evidence from Principle C effects

Some initial evidence that Tlingit possesses a configurational structure comes from the existence in the language of 'classic Principle C effects'. To begin, let us note that, as shown by (3), a pronoun within an object in Tlingit can co-refer with a name in subject position.

(3) **Permissible (Intra-Clausal) Anaphora** [7, 8]

Bill$_1$ [du$_1$ tláa] asix<u>á</u>n.
Bill his mother loves
'Bill$_1$ loves his$_1$ mother.'

Similarly, as shown in (4), a pronominal object can co-refer with a name inside the subject.

(4) **Permissible (Intra-Clausal) Anaphora** [9]

[Bill$_1$ tláach] ∅$_1$ six<u>á</u>n
Bill mother.ERG *pro* loves
'Bill$_1$'s mother loves him$_1$.'

However, as we see in (5), Tlingit does not allow a pronominal subject to co-refer with a name inside the object.

(5) **Principle C Effect in Tlingit (Intra-Clausal)**

* ∅$_1$ [Bill$_1$ tláa] asix<u>á</u>n.
pro Bill mother loves
* 'He$_1$ loves Bill$_1$'s mother.'
(speaker comment: 'it has to be somebody else that loves Bill's mom')

---

[7] The numeric subscripts in (3) (and other examples) represent co-reference; phrases sharing the same index are understood to co-refer. These indices do not represent any pronounced structure of the sentence, which would be more directly transcribed as 'Bill du tláa asix<u>á</u>n.'

[8] In order to test whether the sentences in (3)-(9) permit the targeted interpretations, I presented speakers with scenarios – described both verbally and pictorially – where only the targeted interpretation of the sentence was true. I then asked (i) how the situation could be described in Tlingit, and (ii) whether the situation could be described with the tested structure. The data in (3)-(5) represent the judgments of JM and DK, while the data in (6)-(9) represent only the judgments of JM (DK was not asked about those structures).

[9] The symbol '∅' in example (4) represents a phonologically null pronoun. It is not a pronounced structure of the original Tlingit sentence, which would be more directly transcribed as 'Bill tláach six<u>á</u>n.'

Of course, co-reference relationships like those in (5) are also disallowed in many languages (including English; *cf.* the free translation of (5)). The impossibility of such an interpretation is commonly referred to as a 'Principle C Effect'. It should also be noted that not *all* languages display such 'Principle C Effects'. For example, as reported by Davis *et al.* (2007), the Wakashan language Nuu-chah-nulth regularly permits co-reference relationships like those in (5).

At this point, however, one might rightly wonder whether the impossibility of the interpretation in (5) is simply due to a condition in Tlingit that a pronoun must linearly precede its antecedent. That is, the contrast between (5) and (3)-(4) might be taken to follow from a general ban on cataphora in the language. However, we can see from examples such as those in (6) that such a general ban does not actually hold in Tlingit. That is, (6) shows that it is in principle possible for a pronoun to linearly follow its antecedent.

(6) **Possibility of Cataphora in Tlingit**

a. Du_1 tláach sixán $Bill_1$.
his mother.ERG loves Bill
'His_1 mother loves $Bill_1$.'

b. Du_1 tláach yéi uwajée [Lindach Tom_1 asixáni].
his mother.ERG thinks Linda.ERG Tom loves
'His_1 mother thinks that Linda loves Tom_1.'

We find, then, that the pattern of data in (3)-(5) do not reflect a general ban on cataphora in Tlingit. However, such a pattern would be captured under the account in (7), which is a common analysis of this pattern in other languages of the world.

(7) **Configurational Theory of the Preceding Co-Reference Data**

a. A pronoun cannot be co-referent with an NP that it c-commands (Principle C)

b. Subjects c-command objects, *but not vice versa*.

Thus, the existence of classic Principle C effects in Tlingit provides one source of evidence that subjects in the language asymmetrically c-command objects.

Before we leave this section, it is worthwhile pausing to ask whether the condition in (7a) constrains co-reference across clauses. It has been found, for example, that some Salish languages – such as St'át'imcets (Matthewson *et al.* 1993) and Thomspson River Salish (Koch 2006) – allow pronouns to be co-referent with NPs they c-command, *just so long as the pronoun is in a separate clause*. However, we can see from the data in (8) and (9) that such a weakening of the condition in (7a) does not hold for Tlingit.

(8) **Principle C Effects in Tlingit (Cross-Clausal)**

a. Tom$_1$ yéi shkalneek [Linda ash$_1$ een aawal'ei<u>x</u>].
Tom said Linda him with danced
'Tom$_1$ said that Linda danced with him$_1$.'

b. * ∅$_1$ Yéi shkalneek [Linda Tom$_1$ een aawal'ei<u>x</u>].
pro said Linda Tom with danced
* 'He$_1$ said that Linda danced with Tom$_1$.'

(9) **Principle C Effects in Tlingit (Cross-Clausal)**

a. Tom Bill$_1$ yéi ayawsi<u>k</u>aa [Lindach ∅$_1$ si<u>x</u>án.]
Tom Bill told Linda.ERG *pro* loves
'Tom told Bill$_1$ that Linda loves him$_1$.'

b. * Tom ∅$_1$ yéi ayawsi<u>k</u>aa [Lindach Bill$_1$ asi<u>x</u>án].
Tom pro told Linda.ERG Bill loves
* 'Tom told him$_1$ that Linda loves Bill$_1$.'

Thus, unlike those Salish languages, Tlingit exhibits Principle C effects both intra-clausally and *cross*-clausally.

3.2 Evidence from Superiority effects in wh-questions

A second piece of evidence that Tlingit possesses a configurational structure comes from the existence in the language of so-called 'Superiority effects'. Although Tlingit in principle allows for OSV order (cf. (1d)), there is one interesting circumstance where it is ruled out. As discussed by Cable (2007), if both the subject and the object are wh-words in a multiple wh-question, *then the subject must precede the object.*

(10) **Superiority Effects in Tlingit Multiple Wh-Questions** [10]

a. Aa sá daa sá aawa<u>x</u>áa?
who Q what Q ate
'Who ate what?'

b. Daa sá aa sá aawa<u>x</u>áa?
what Q who Q ate
'What ate who / which person'
* 'Who ate what'

[10] Not all speakers of Tlingit accept multiple wh-questions like (10). However, Cable (2007) provides a 'naturally occurring' example of such a structure in an independently published Tlingit text. The sentences in (10) and (11) reflect only the judgments of JM.

(11) **Superiority Effects in Tlingit Multiple Wh-Questions**

a. Aa sá waa sá kuyawsikaa?
who Q how Q said
'Who said what?'

b. * Waa sá aa sá kuyawsikaa?
how Q who Q said

This same pattern is attested across many languages of the world, and is often referred to as a 'Superiority effect' (Kuno & Robinson 1972, Chomsky 1973, Pesetsky 1982, Aoun & Li 1993, Richards 1997). Time and space preclude discussion of the many numerous, conflicting theories of this phenomenon. Nevertheless, it is important to note that all existing accounts share the assumption that the phenomenon occurs (in part) because *subjects are structurally superior to objects*. Thus, the existence of this phenomenon in Tlingit provides some additional evidence for the configurational analysis (2a).

3.3 Evidence from scopal interactions with negation

A third piece of evidence that subjects in Tlingit occupy a distinct structural position from objects concerns the distribution of wh-words interpreted as Negative Polarity Items (NPIs). As described by Cable (2006), wh-words in Tlingit can receive an interpretation akin to NPI indefinites like English *anyone, anything, anywhere, etc.* Such an interpretation, however, requires that the wh-word be located within the scope of a licensing operator, like negation. This phenomenon is illustrated in sentences like (12a) and (13a) below.

Interestingly, it appears that a wh-object can, when it is post-verbal, still be construed as within the scope of negation. This is illustrated by the possibility of both the (a) and the (b) examples in (12) and (13).

(12) **Indefinite Object and Negation** [11, 12]

a. Tlél **daa sá** xwaxá.
not what Q I.ate
'I didn't eat anything.'

b. Tlél xwaxá **daa sá**.
not I.ate. what Q
'I didn't eat anything.'

---

[11] Not all speakers of Tlingit seem to accept post-verbal NPIs as in (12b) and (13b). The sentences in (12)-(16) reflect only the judgments of JM.

[12] For a theory regarding the nature of the 'indefinite/interrogative particle' *sá* in Tlingit – and especially its presence with wh-words interpreted as NPIs – I refer the reader to Cable (2007).

(13) **Indefinite Object and Negation**

a. Tlél **daa sá** xwatéen.
not what Q I.saw
'I didn't see anything.'

b. Tlél xwatéen **daa sá**.
not I.saw what Q
'I didn't see anything.'

In contrast, however, a post-verbal wh-subject *cannot* be construed as within the scope of the negation. This is shown by the impossibility of the (b)-examples in (14)-(16) below.

(14) **Indefinite Subject and Negation**

a. Tlél **aadóoch sá** awuxá.
not who.ERG Q ate
'Nobody ate it.'

b. * Tlél awuxá **aadóoch sá**.
not ate who.ERG Q

(15) **Indefinite Subject and Negation**

a. Hél **aa sá** wudaxwétl.
not who Q is.tired
'Nobody is tired.'

b. * Hél wudaxwétl **aa sá**.
not is.tired who Q

(16) **Indefinite Subject and Negation**

a. Tlél **aa sá** awul'eix.
not who Q danced
'Nobody danced.'

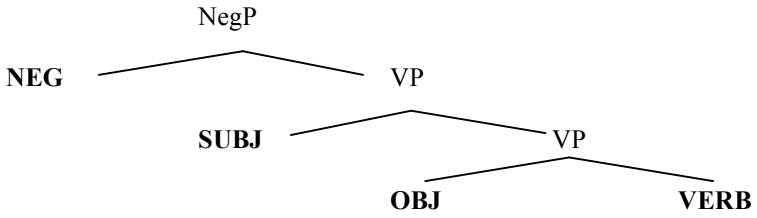
b. * Tlél awul'eix **aa sá**.
not danced who Q

Thus, it seems that post-verbal subjects must occupy a position *above* the scope of negation, whereas post-verbal objects *can* occupy a position *below* the scope of negation.

On its own, this fact seems to indicate that subjects generally occupy higher positions in the clause than objects. More importantly, however, it is

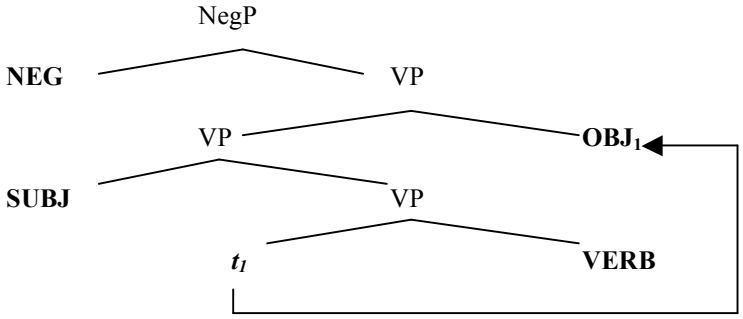
possible to understand the contrast between (12)-(13) and (14)-(16) within a theory where subjects in Tlingit are generated in a position that is structurally superior to objects. Let us assume the following picture regarding the clausal structure of Tlingit: (a) negation dominates the VP projection, (b) subjects are generated (initially merged) as specifiers of VP, and (c) objects are generated (initially merged) as complements of V. This picture is sketched in (17) below.

(17) **The Underlying Positions of Subject, Object, Verb and Negation**



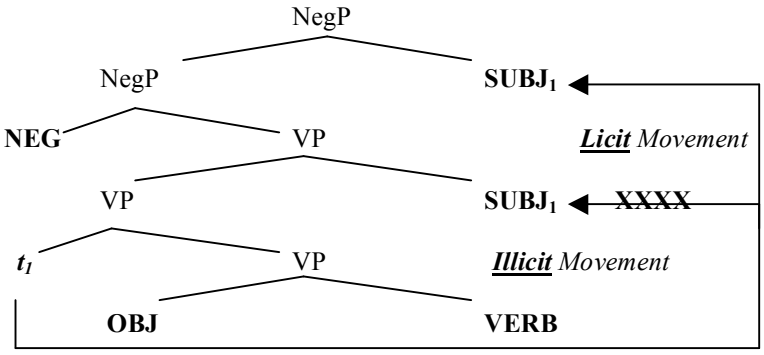
Because the analysis in (17) assumes that objects are initially merged as complements, no principles would prevent a Tlingit object from undergoing movement to a rightward specifier of VP. Such movement, illustrated below, would place the object in a post-verbal position that is within the scope of negation.

(18) **Licit Rightward Movement of Object to Position Below Negation**



On the other hand, because (17) assumes that the subject *underlyingly* occupies a specifier of VP, general locality principles (Grohmann 2003) would prevent the subject from moving to a higher specifier within the same VP. Consequently, any movement of the subject to a post-verbal position would necessarily place the subject in a position that is higher than – and so outside the scope of – negation. This is illustrated below in (19).

(19) **Licit and Illicit Rightward Movement of Subject**



We find, then, that it is possible to account for the contrast between (12)-(13) and (14)-(16) if one assumes that subjects in Tlingit occupy a position that is hierarchically superior to objects in the language. Thus, the data in (12)-(16) provide some indirect support for the configurational structure in (2a).

3.4 Evidence from coordination

A fourth and rather striking argument in support of a VP in Tlingit concerns the language's coordination structures. To begin, consider the coordinated structure in (20).

(20) **VP-Coordination in Tlingit**

Tlél	aadóoch	sá	kóox	awuxá	ka ch'u	cháayu	awdaná .
not	who.ERG	Q	rice	ate.IRR	or	tea	drank.IRR

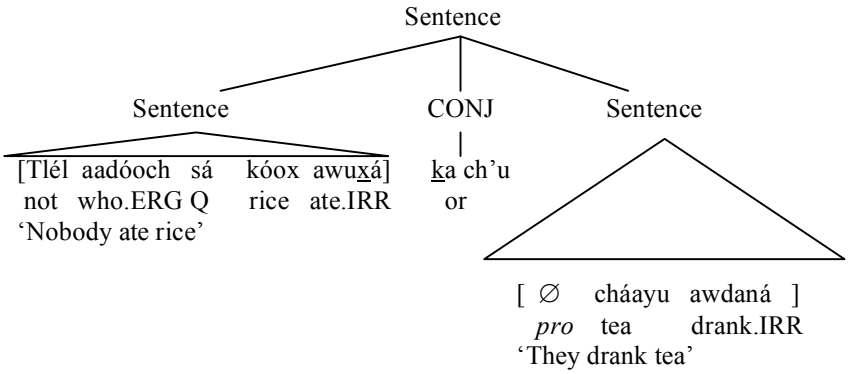
'Nobody ate rice or drank tea.'

Speakers confirm that this sentence, like its English translation, describes a scenario where there are no rice-eaters *and* no tea-drinkers.[13]

Let us ask, then, what could the disjunction *ka ch'u* 'or' in sentence (20) be co-ordinating? Clearly, it is conjoining a structure larger than a word (*i.e.*, it is not understood here to be conjoining the verb *awuxá* 'ate.IRR' with the noun *cháayu* 'tea'). Given that Tlingit possesses null anaphora, one initial possibility might be that *ka ch'u* 'or' in (20) is conjoining two full sentences. This analysis is sketched in (21) below.

[13] This judgment was shared both by JM and DK.

(21) **The Sentence in (20) as Clausal Coordination**



However, there are several facts which indicate that (21) does not correctly represent the structure of (20). The first is that, under the simplest assumptions regarding compositional semantics, the structure in (21) could *never* be assigned the meaning that (20) is reported to have. That is, the very meaning of (20) requires that the (negative) indefinite subject have scope over the second VP, as well as over the disjunction *ka ch'u* 'or'. To illustrate, note that the English sentence under (22b) can never receive the same meaning as the sentence under (22a).

(22) **The Semantics of (20) are Inconsistent with Clausal Coordination**

a. Nobody [$_{VP}$ [$_{VP}$ ate rice] or [$_{VP}$ drank tea]].

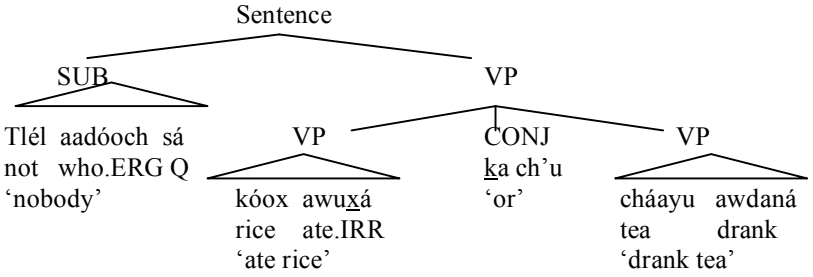
b. [$_{S}$ [$_{S}$ Nobody ate rice] or [$_{S}$ they drank tea]].

The second issue with the structure in (21) is somewhat Tlingit-specific. Note that the verb in the second VP under (20) (*awdaná* 'drink') bears 'irrealis' morphology.[14] In Tlingit, however, such irrealis morphology is only licensed if the verb is within the scope of negation or a related operator (Leer 1991). Thus, the presence of irrealis morphology on the second verb in (20) indicates that this verb is within the scope of the negation that precedes the indefinite subject. Under the analysis in (21), however, such a scopal relation does not hold.

With these facts in mind, consider the analysis of (20) sketched below in (23).

[14] This can be seen from the fact that the verb is *awdaná* rather than *awdinaa.*

(23) **The Sentence in (20) as VP-Coordination**



Under this analysis, the disjunction *ka ch'u* 'or' is coordinating – not two full clauses – but two Verb Phrases (VPs). Thus, the analysis above would assign to the Tlingit sentence in (20) a structure nearly identical to its English translation. In so doing, the account would straightforwardly predict that (20) should allow an interpretation equivalent to its English translation, one where the (negative) indefinite subject takes scope above both the second VP and the disjunction *ka ch'u* 'or'. Furthermore, under the analysis in (23), the second verb *awdaná* is correctly placed within the scope of the negation *tlél* 'not', and so the account correctly predicts the presence of irrealis morphology on *awdaná*.

For these reasons, I conclude that (23) – and not (21) – accurately represents the structure of sentence (20). If we accept the analysis in (23), it would follow that it is possible in Tlingit for a verb to group together with the object to form a phrase. Such a phrase is *by definition* a 'verb phrase' (VP). Thus, coordination structures like (20) provide rather striking evidence that (*contra* Leer 1991) Tlingit does possess a VP.

In summary, I have presented four arguments that Tlingit possesses the configurational clausal structure in (2a), a structure where (i) the verb groups together with the object to form a phrase that excludes the subject, and so (ii) the subject occupies a position in the sentence that is hierarchically superior to the object. The following summarizes the four arguments presented above.

(24) **Evidence that Tlingit has a Configurational Clausal Structure**

- Classic Principle C effects
- Classic Superiority effects in multiple wh-questions
- Only post-verbal objects, and not post-verbal subjects, can occupy a position within the scope of negation.
- Co-ordination reveals that the object and the verb can together form a constituent (to the exclusion of the subject)

4 Some surprising parallels between subjects and objects in Tlingit

The preceding section presented data that univocally point to a structural asymmetry between subjects and objects in Tlingit. In this section, however, we will see that there are nevertheless several phenomena in the language where subjects and objects behave as if they were structurally *parallel*.[15] These phenomena appear to challenge a configurational analysis like (2a), and to actually support the 'flat', *non*-configurational structure in (2b).[16]

After these puzzling cases are presented, I will propose in Section 5 an analysis that can reconcile them with the data from Section 3.

4.1 Binding of pronouns

The first puzzling case of subject-object symmetry in Tlingit concerns the quantificational binding of pronouns. As would be expected under any imaginable analysis, subjects in Tlingit can bind pronouns inside of objects.

(25) **Subject can Bind Pronoun inside of Object**

Ch'a ldakát$_1$ [has du$_1$ tláa] has asix̲án.
just all their mother love
'Everyone$_1$ loves their$_1$ mom.'

More surprisingly, however, objects in Tlingit are also able to bind pronouns inside of subjects, *even in canonical SOV order*. Such unexpected structures are illustrated in (26) and (27) below.[17]

(26) **Object can Bind Pronoun inside of Subject, Even in SOV Sentences**

[Has du$_1$ tláach] ldakát$_1$ has asix̲án.
their mother.ERG everyone love
'Everybody$_1$'s mother loves them$_1$.'
(*Literally:* 'Their$_1$ mother loves everbody$_1$.')

---

[15] The remaining Tlingit data in this paper reflect only the judgments of JM (DK was not asked about these structures).

[16] These phenomena are not discussed by Leer (1991), who bases his adoption of the flat structure in (2b) purely on the lack of any known arguments for a VP in Tlingit.

[17] It should be noted, though, that such structures were never offered by JM himself, and I know of no textually attested instances of them. Nevertheless, these structures have been consistently accepted by JM (even after several months had elapsed between meetings), while other binding structures have been rejected (*cf.* Section 3.1 and 3.3). For this reason, I conclude that these data (as well as the parallel examples with reciprocals in Section 4.2) should be captured by our theory of Tlingit grammar. (Note, also, that these data are *prima facie* evidence *against* the configurational analysis in (2a), and so any skepticism towards them simply bolsters the case for that analysis).

(27) **Object can Bind Pronoun inside of Subject, Even in SOV Sentences**

[Du_1 éeshch] tléil at k'átsk'u awustín.
his father.ERG not boy saw
'No boy_1's father saw him_1.'
(*Literally:* 'His_1 father saw [no $boy]_1$.')

The data in (26) and (27) are particularly surprising in light of certain standard assumptions regarding quantificational binding, stated below in (28).

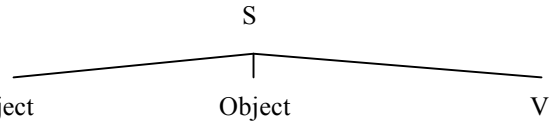
(28) **Standard Assumption Regarding Binding**

A phrase X can bind a pronoun/reciprocal Y *if and only if* X c-commands Y.

Under the assumption above, the facts in (26) and (27) are entirely unexpected by a configurational analysis like (2a). After all, under such an analysis, the object (in an SOV sentence) *doesn't* c-command the subject, and so *shouldn't* be able to bind any pronouns inside of the subject.

Interestingly, however, the data in (26) and (27) *would* follow from the *non*-configurational, flat structure in (2b) (given the assumption in (28)). As illustrated below, under such a flat structure, the object and the subject c-command *each other*. Thus, the assumption in (28) would predict that the object in Tlingit should be able to bind pronouns inside of the subject.

(29) **C-Command Relations Predicted by Flat Structure**



(a) Subject c-commands Object

(b) Object c-commands Subject

We see, then, that the ability for the sentences in (26) and (27) to receive the reported interpretations provides evidence for the flat, non-configurational account in (2b) over the configurational account in (2a).

4.2 Binding of reciprocals

A second puzzling subject-object symmetry in Tlingit is rather similar to the quantificational binding data just presented, and concerns the distribution of reciprocal pronouns.

First, as would be expected under any imaginable account, subjects in Tlingit can bind reciprocal pronouns inside of objects.

(30) **Subject can Bind Reciprocal inside of Object** [18]

a. [Tom ka Lindach]$_1$ [wooch$_1$ shagóoni] has asixán.
Tom and Linda.ERG each.other parents love
'Tom and Linda love each other's parents.'

b. [Tom ka Lindach]$_1$ [wooch$_1$ shagóoni] has awsiteen.
Tom and Linda.ERG each.other parents saw
'Tom and Linda saw each other's parents.'

More surprisingly, however, objects in Tlingit are also able to bind reciprocal pronouns inside of subjects, *even in canonical SOV order*. Such unexpected structures are illustrated in (31) below.

(31) **Object can Bind Reciprocal inside Subject, Even in SOV Sentences**

a. Wooch$_1$ shagóonich [Tom ka Linda]$_1$ has asixán
each.other parents.ERG Tom and Linda love
'Tom and Linda are loved by each other's parents.'
(*Literally:* 'Each other$_1$'s parents love [Tom and Linda]$_1$.')

b. Wooch$_1$ shagóonich tsú [Tom ka Linda]$_1$ has awsiteen.
each.other parents.ERG also Tom and Linda they.saw
'Tom and Linda were seen by each other's parents.'
(*Literally:* 'Each other$_1$'s parents saw [Tom and Linda]$_1$.')

As with the binding data in (26) and (27), the data in (31) are particularly surprising in light of the standard assumption, formulated in (28), that a reciprocal can only be bound by phrases that c-command it. Under such an assumption, the data in (31) would seem to show that *subjects* are c-commanded by *objects* in Tlingit SOV sentences. This fact, in turn, would argue against the configurational analysis in (2a), but *for* the flat, non-configurational analysis in (2b).

We find, then, that the acceptability of the sentences in (31) provides evidence for the flat, non-configurational account in (2b) over the configurational account in (2a).

[18] Under the description of Tlingit reciprocals by Leer (1991), one might expect the verbal forms in (30a) and (30b) to be *has awdzixán* and *has awdziteen*, respectively. I leave as a question for future research the nature of this apparent discrepancy.

4.3 Relative scope

The third and final subject-object symmetry in Tlingit concerns the interpretation of quantificational expressions. In many other predominantly head-final (OV) languages, quantificational objects cannot take scope over quantificational subjects in SOV sentences. Rather, in the SOV sentences of these languages, the quantificational subject necessarily takes scope over the object.

This pattern is illustrated for the language Hindi below.

(32) **Subject / Object Scope in Hindi SOV Sentences (Mahajan 1997)**

Sab tiin ciize khariide ge.
everyone three things will.buy
'Everyone will buy three things.'

a. For every person, there are three (possibly different) things that that person will buy.

b. * There are three things A, B, C, and every person will buy A, B, C.

The Hindi sentence in (32) is translatable into English as 'Everyone will buy three things.' Importantly, however, the English translation of (32) is ambiguous in a way that the original Hindi sentence is not. While the English translation can be interpreted either as in (32a) or as in (32b), the original Hindi sentence only permits the interpretation in (32a). Thus, the original SOV Hindi sentence in (32) only permits a reading where the subject has scope above the object.

If Hindi is assumed to possess a configurational structure as in (2a), the facts in (32) would follow from a slight expansion of the assumption in (28), stated below (*cf.* Mahajan 1990, 1997).

(33) **Standard Assumption Regarding Binding and Scope**

A phrase X can (i) bind a pronoun/reciprocal Y or (ii) take scope over a phrase Y *if and only if* X c-commands Y.

Under the configurational analysis in (2a), subjects c-command objects (in SOV sentences), but not *vice versa*. Thus the condition in (33) would correctly predict that SOV sentences in Hindi will only permit the subject to take scope over the object (and not *vice versa*.)

We see, then, that in many predominantly SOV languages, there exist 'scope asymmetries' between subjects and objects, and that these asymmetries are potential evidence in support of the configurational analysis in (2a) for those languages.

Interestingly, in contrast to the pattern seen in (32) for Hindi, Tlingit readily permits objects to take scope over subjects, *even in SOV sentences*. This is illustrated via the pattern of judgments below.

(34) **Scope in SOV Sentences of Tlingit** [19]

a. Ldakát a<u>x</u> <u>k</u>aa yátx'i déi<u>x</u> <u>x</u>áat has aawashaat.
all my sons two fish caught
'All my sons caught two fish.'

(i) All my sons each caught two (different) fish.
(ii) There were two fish, and my sons (together) caught them.

b. Ldakát a<u>x</u> <u>k</u>aa yátx'i déi<u>x</u> x'úx' s aawa.óo.
all my sons two book bought
'All my sons bought two books.'

(i) All my sons each bought two (different) books.
(ii) There were two books, and my sons (together) bought them.

Under the assumption regarding scope in (33) above, the pattern of scope judgments in (34) would not be predicted by a configurational analysis like (2a). If we accept the assumption in (33), then the possibility of the interpretations in (34aii) and (34bii) would seem to indicate that *subjects* are c-commanded by *objects* in Tlingit SOV sentences. This fact would again argue against the configurational analysis in (2a), but for the flat, non-configurational analysis in (2b).

5 Reconciling the data: covert A-scrambling in Tlingit

We appear to be confronted with two mutually incompatible sets of data regarding the clausal structure of the Tlingit language. Section 3 presented evidence in support of the configurational analysis in (2a), while Section 4 presented data that seem to clearly contradict the predictions of (2a), and to instead support the non-configurational analysis in (2b).

In this section, I will attempt to show that these seemingly conflicting data can, in fact, be captured under a single, univocal analysis. In outline, the view that I will build towards in this section runs as follows. First, I will assume that our conclusions regarding the data in Section 3 were correct; the subject of a Tlingit sentence *is* initially generated/merged in a position that is structurally superior to the object. That is, I will adhere throughout to the configurational

[19] In order to test whether the sentences in (34) permit the targeted interpretations, I presented the speaker (JM) with scenarios – described both verbally and pictorially – where only the targeted interpretation of the sentence was true. I then asked (i) how the situation could be described in Tlingit, and (ii) whether the situation could be described with the tested structure.

analysis of Tlingit sentence structure in (2a). However, I will also propose that the grammar of Tlingit includes a covert version of the so-called 'A-scrambling' operation seen in languages such as Hindi and Japanese (Mahajan 1990, 1997). Given the independently observable properties of this 'A-scrambling' operation, we can actually predict the initially puzzling data from Section 4, without sacrificing the data from Section 3 or the configurational analysis in (2a).

To properly present this account, however, I begin in the next section with a brief introduction to the phenomenon of 'A-scrambling'.

5.1 Overt A-scrambling (in Hindi)

In many predominantly head-final (OV) languages, it is possible for objects in declarative sentences to invert - or 'scramble' - to so-called 'A-positions' above the subject.[20] This phenomenon is illustrated for the OV language Hindi in (35) below.

(35) **Overt A-Scrambling in Hindi (Mahajan 1997)**

a. Canonical (non-scrambled) SOV Order
Sab tiin ciize khariide ge.
everyone three things will.buy
'Everyone will buy three things.'

b. Non-canonical (scrambled) OSV Order
Tiin ciize sab khariide ge.
three things everyone will.buy
'Everyone will buy three things.'

Since the 'scrambling' illustrated above moves the object to an 'A-position', this special (optional) movement operation receives the name 'A-scrambling'.

Interestingly, this operation of A-scrambling has a variety of grammatical effects beyond simply altering the order of the subject and the object.[21] One of the most important of these concerns the binding of pronouns and reciprocals: *an object that has undergone A-scrambling to a position above the subject is able to bind pronouns and reciprocals inside the subject.* To see this, let us first consider the pair of sentences in (36) below.

---

[20] Since it is not crucial for understanding the material that follows, I will not review here the distinction between so-called 'A-positions' and so-called 'A-bar positions'. The interested reader is referred to Mahajan (1990).

[21] The data and discussion that follow are all taken from Mahajan (1997).

(36) **A-Scrambling Allows Object to Bind Pronoun inside Subject**

a. * [Uske$_1$ bhaai-ne] [har ek aadmii-ko]$_1$ maaraa.
his brother-ERG every man-ACC hit
* 'His$_1$ brother hit everyone$_1$ '

b. [Har ek aadmii-ko]$_1$ [uske$_1$ bhaai-ne] maaraa.
every man-ACC his brother-ERG hit
'Everyone$_1$ was hit by his$_1$ brother.'
(*Literally:* 'His$_1$ brother hit everyone$_1$.')

In sentence (36a), the quantificational object *har ek aadmiiko* 'every man' occurs below the subject *uske bhaaine* 'his brother'. Consequently, the sentence does not permit an interpretation under which the object 'every man' is understood to *bind* the pronoun inside the subject. However, in sentence (36b), the quantificational object has undergone A-scrambling to a position above the subject. Consequently, the sentence now permits an interpretation where the object 'every man' *is* understood to bind the pronoun in the subject. Such an interpretation is equivalent in logical form to the English translation under (36b), 'Everyone was hit by his brother'.

Now let us consider the pair of sentences in (37) below.

(37) **A-Scrambling Allows Object to Bind Reciprocal inside Subject**

a. * [Ek duusre$_1$ ke parivaaro-ne] [Siita or Raam-ko]$_1$ khaane le liye
each other's parents-ERG Sita and Ram-ACC for.dinner
bulaayaa.
called
* 'Each other$_1$'s parents invited [Sita and Ram]$_1$ for dinner.'

b. [Siita or Raam-ko]$_1$ [ek duusre$_1$ ke parivaaro-ne] khaane le liye
Sita and Ram-ACC each other's parents-ERG for.dinner
bulaayaa.
called
'[Sita and Ram]$_1$ were invited for dinner by each other$_1$'s parents.'
(*Literally:* 'Each other$_1$'s parents invited [Sita and Ram]$_1$ for dinner.')

In sentence (37a), the plural object *Siita or Raamko* 'Sita and Ram' occurs below the subject *ek duusre ke parivaarone* 'each others parents'. Consequently, the sentence does not permit an interpretation under which the object 'Sita and Ram' is understood to *bind* the reciprocal inside the subject. However, in sentence (37b), the plural object has undergone A-scrambling to a position above the subject. Consequently, the sentence now permits an interpretation where the object *is* understood to bind the reciprocal in the

subject. Such an interpretation is equivalent to the English translation under (37b), 'Sita and Ram were invited for dinner by each other's parents'.

We find, then, that A-scrambling of the object to a position before the subject has the following grammatical effect: it allows the object to bind pronouns/reciprocals inside the subject. Moreover, another important consequence of such A-scrambling concerns quantificational scope. In brief, *a quantificational object that has undergone A-scrambling to a position above a quantificational subject is able to take scope over the quantificational subject.* To see this, let us consider the pair of sentences under (38) below.

(38) **A-Scrambling Allows Object to Have Scope Over Subject**

a. Sab tiin ciize khariide ge.
everyone three things will.buy
'Everyone will buy three things.'

(i) For every person, there are three (possibly different) things that that person will buy.

(ii) * There are three things, and every person will buy them.

b. Tiin ciize sab khariide ge.
three things everyone will.buy
'Everyone will buy three things.'

(i) For every person, there are three (possibly different) things that that person will buy.

(ii) There are three things, and every person will buy them.

In sentence (38a), the quantificational object occupies a position below the quantificational subject. Consequently, as reported in Section 4.3, the sentence does not permit the reading in (38aii), where the object is understood to take scope over the quantificational subject. However, in sentence (38b), the object has undergone A-scrambling to a position above the quantificational subject. As a result, the sentence in (38b) can receive the interpretation is (38bii), where the object takes scope over the subject.

In summary, then, we have been presented with the following facts. In predominantly head-final (OV) languages (like Tlingit), there often exists an operation of A-scrambling, which functions to place the object in an A-position higher than the subject. Moreover, objects which have undergone A-scrambling have the following properties: (i) they can bind pronouns/reciprocals inside the subject, (ii) they can take scope over the subject.

It is quite striking, then, that the properties which hold for overtly A-scrambled objects in languages like Hindi are *precisely* the properties that we observed in Section 4 to hold of *all* objects in Tlingit – even those which still

linearly follow the subject in the sentence. In the following section, I will put forth an account which explicitly connects the A-scrambling phenomena above to the puzzling subject-object symmetries we observed for Tlingit in Section 4.

5.2 Covert A-scrambling in Tlingit

The central idea behind the proposal put forth in this section is that the 'A-scrambling' operation seen above to take place in languages like Hindi *also* takes place in Tlingit, but does so 'covertly'. That is, I propose that Tlingit possesses a rule of A-scrambling nearly identical to that seen above for Hindi, but with the difference that Tlingit A-scrambling *needn't be pronounced*.

The notion that some movement operations are 'covert', in the sense that one doesn't overtly 'hear' their effects, has been familiar to linguists for quite some time (Chomsky 1981). One recent implementation of this notion makes use of the so-called 'copy theory of movement' (Chomsky 1995). According to the 'copy theory', movement operations serve to create additional copies of phrases within the sentence. Thus, the abstract structure of an English sentence like (39a) below is as in (39b), where the italicized phrases are the 'earlier' copies of the material that appears displaced in (39a).

(39) **The Copy Theory of Movement**

a. Who did Bill see?

b. Who [did [Bill *did* see *who*]] ?

c. Who [did [Bill ~~*did*~~ *see* ~~*who*~~]] ?

Of course, given the obvious differences between the abstract structure in (39b) and the pronounced form of the sentence in (39a), it follows that not *all* the copies of a given phrase are pronounced. Thus, it is typically assumed that there is some deletion process that occurs prior to pronunciation, and which functions to delete all but one copy of the moved phrase. Such deletion is illustrated in (39c).

Now, in (39c) the deletion operation deletes the *lower* copies of the moved phrases. Linguists have observed, however, that nothing in principle requires that deletion *must* target lower copies. Interestingly, if deletion were to target the *higher* copy of a moved phrase, as illustrated below in (40), then the movement operation in question would have no effect upon the pronunciation of the sentence. From a phonological point of view, it would be as if the movement never happened at all.

(40) **Covert Movement in the Copy Theory of Movement**

~~Who~~ [~~did~~ [Bill *did see who*] ?

In this sense, then, it is believed that there are cases where movement occurs but has no overt, phonological effect on the sentence. Such 'unpronounced movement' is often referred to as 'covert movement'.

With these theoretical assumptions as background, let us now consider the possibility that the grammar of Tlingit differs from that of Hindi in the following way. While both languages possess a rule of so-called 'A-scrambling', as illustrated in (41) below, the rule of A-scrambling in Tlingit is *covert*. That is, as illustrated in (41b), when A-scrambling takes place in Tlingit, the phonology deletes the *higher* copy of the scrambled phrase.

(41) **Overt A-Scrambling in Hindi vs. Covert A-Scrambling in Tlingit**

a. Hindi

Object [Subject [~~*Object*~~ Verb]] = "Object Subject Verb"

A-Scrambling

b. Tlingit

~~Object~~ [Subject [*Object* Verb]] = "Subject Object Verb"

A-Scrambling

As illustrated above, such 'covert A-scrambling' would entail that even in the SOV sentences of Tlingit, the object should be able to exhibit all the syntactic properties of overtly A-scrambled objects in Hindi. That is, SOV sentences in Tlingit should – despite their surface appearance – have the abstract syntactic properties of OSV sentences in Hindi.

Importantly, given the properties that we've seen hold of OSV sentences in Hindi, the postulation of such 'covert A-scrambling' in Tlingit predicts all the puzzling phenomena from Section 4. For example, let us first recall the fact that overt A-scrambling in Hindi permits an object to bind a pronoun inside of the subject (*cf.* (36b)).

(42) **Overt A-Scrambling in Hindi Allows Object to Bind into Subject**

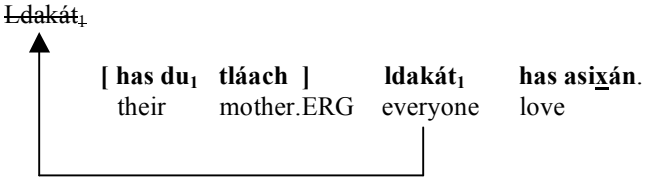
[Har ek aadmii-ko]$_1$
every man-ACC

[uske$_1$ bhaai-ne] ~~[har ek aadmii-ko]$_1$~~ **maaraa.**
his brother-ERG hit

If we assume that this same A-scrambling happens covertly in Tlingit, then we predict that even in canonical SOV sentences of the language, objects should be

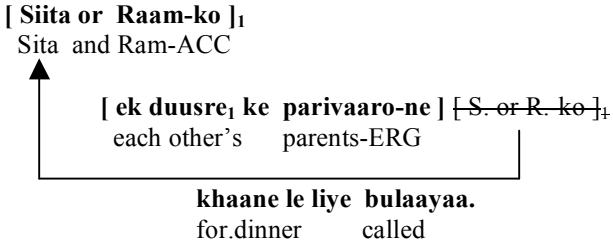
able to bind pronouns inside of subjects. Compare, for example, the Hindi structure in (42) to the analysis below of the Tlingit sentence in (26).

(43) **Covert A-Scrambling in Tlingit Allows Object to Bind into Subject**



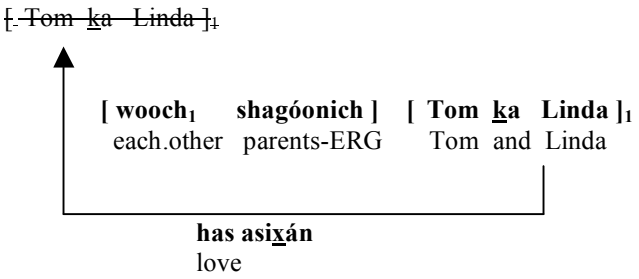
Similarly, recall that overt A-scrambling in Hindi allows an object to bind a reciprocal inside of the subject (*cf.* (37b)).

(44) **Overt A-Scrambling in Hindi Allows Objects to Bind into Subjects**



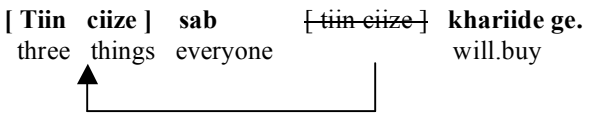
Again, if we assume that this same scrambling process can take place covertly in Tlingit, then we predict that even SOV sentences in Tlingit should permit the object to bind a reciprocal pronoun inside of the subject. Compare the Hindi structure in (44) to the analysis below of the Tlingit sentence in (31a).

(45) **Covert A-Scrambling in Tlingit Allows Object to Bind into Subject**



Finally, recall that overt A-scrambling in Hindi allows objects to take scope over subjects. The following structure illustrates this fact for the example in (38b).

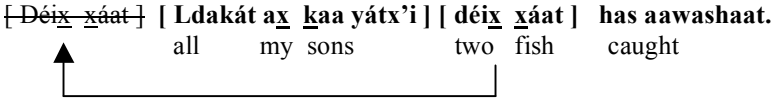
(46) **Overt A-Scrambling in Hindi Allows OBJ to Scope over SUB**



(i) For every person, there are three (possibly different) things that that person will buy.
(ii) There are three things, and every person will buy them.

It follows, then, that if this same A-scrambling operation occurs covertly in Tlingit, then even SOV sentences in the language should permit the object to take scope above the subject. Compare the Hindi structure in (46) to the analysis below of the Tlngit sentence in (34a).

(47) **Covert A-Scrambling in Tlingit Allows OBJ to Scope over SUB**



(i) All my sons each caught two (different) fish.
(ii) There were two fish, and my sons (together) caught them.

In summary, then, we have seen the following. By examining the operation of A-scrambling in languages like Hindi, we've observed that A-scrambled objects possess the following properties.

(48) **Properties of A-Scrambled Objects (in Hindi)**

Objects having undergone A-scrambling can:
a. bind pronouns inside of subjects
b. bind reciprocals inside of subjects
c. take scope over subjects

Therefore, we if assume that that this operation of A-scrambling can take place *covertly* in Tlingit (as diagrammed in (41b)), it would follow that, *even in canonical SOV sentences of the language*, objects in Tlingit should display the properties listed in (48). Thus, the 'covert A-scrambling' analysis in (41b) would predict all those *prima facie* surprising properties of Tlingit objects outlined in Section 4. Moreover, the account is able to capture those facts without sacrificing the configurational analysis of clausal structure in (2a).

In this way, the seemingly incompatible data from Sections 3 and 4 might be captured under a single, univocal analysis.

6 A potential problem: Principle C effects

In Section 4, we observed that direct objects in Tlingit exhibit properties that seem to support the 'flat', non-configurational account in (2b) over the configurational analysis in (2a). However, in the preceding section, we saw that those initially puzzling properties of Tlingit objects could be captured within a configurational system like (2a), *if* we assume that the language possesses a covert version of the well-known operation of A-scrambling.

At this point in our argumentation, however, we still must consider whether the analysis from Section 5 affects any of the crucial empirical results of our confirugational analysis. That is, we must ask whether the introduction of covert A-scrambling into our theory potentially impacts our earlier, configurational analyses of the data from Section 3.

While space precludes a full discussion, we can note in passing that the introduction of 'covert A-scrambling' into our theory of Tlingit grammar does not in any way affect our analyses of the phenomena from Sections 3.2 – 3.4. Both the existence of Superiority effects (Section 3.2) and the inability for post-verbal subjects to scope below negation (Section 3.3) would still be predicted under our newly augmented account, since both phenomena are ultimately derived from the postulated differences in the underlying (base) positions of the subject and the object. Similarly, the possibility of sentences like (20) in Tlingit (Section 3.4) is not affected by the introduction of covert A-movement, since the proposed account attributes their possibility solely to the existence of a verb phrase (VP) in the language.

Thus, for the most part, the introduction of 'covert A-scrambling' does not undermine our earlier arguments for the configuational analysis in (2a). However, our arguments regarding so-called Principle C effects in the language (Section 3.1) may be critically weakened if we assume that Tlingit allows objects to A-scramble covertly.

To recall, one of our main arguments for the configurational analysis in (2a) was the following fact.

(49) **Classic Principle C Effects in Tlingit (Section 3.1)**

In Tlingit, a pronominal subject cannot co-refer with a phrase inside the object (cf. (3)-(9))

Let us also recall, however, that our main argument for the 'covert A-scrambling' analysis of Section 5 was the fact that it predicted the following generalization.

(50) **Tlingit Objects Behave as if They were A-Scrambled (Section 5.2)**

Even in canonical SOV sentences, objects in Tlingit should display the special properties of overtly A-scrambled objects in languages like Hindi.

Unfortunately, there is a *prima facie* incompatibility between the statements in (49) and (50), one that stems from the following fact.

(51) **Overt A-Scrambling (in Hindi) Obviates Principle C Effects**

Overtly A-scrambled objects (in Hindi) are such that pronominal subjects can co-refer with phrases inside of them (Mahajan 1990, 1997)

a. * Us_1-ne Siitaa-ko [tumhaaraa $Raam_1$-ko likhaa hua petr]
he-ERG Sita-DAT your Ram-DAT written be letter
dikhaayaa.
showed
* 'He_1 showed to Sita a letter written by you to Ram_1.'

b. [Tumhaaraa $Raam_1$-ko likhaa hua petr] us_1-ne Siitaa-ko
your Ram-DAT written be letter he-ERG Sita-DAT
dikhaayaa.
showed
'A letter written to you by Ram_1 was shown by him_1 to Sita.'
(*Literally:* 'He_1 showed to Sita a letter written by you to Ram_1.')

That is, as shown above, A-scrambling of an object to a position above a pronominal subject (in Hindi) allows phrases inside the object to co-refer with the subject. In sentence (51a), for example, a phrase containing the name *Raam* 'Ram' occupies a position below the pronominal subject. Consequently, the pronominal subject cannot be understood as co-referent with the name *Raam* (*cf.* (7a)). However, in Sentence (51b), the object containing the name *Raam* has been A-scrambled to a position above the pronominal subject, and the sentence now allows an interpretation where the subject is co-referent with *Raam*.

This ability for A-scrambling to obviate Principle C effects raises a difficult challenge to our account from Section 5. Given that our 'covert A-scrambling' account makes the general prediction in (50), the pattern in (51) entails that our account *wrongly* predicts an *absence* of classic Principle C effects in Tlingit. After all, the illicit c-command configuration in (52a) could presumably be eliminated via covert A-scrambling of the object as in (52b). Compare the predicted structure in (52b) to the Hindi structure in (51b).

(52) **Covert A-scrambling (in Tlingit) Means No Principle C Effects**

a. * $\varnothing_1$ [$Bill_1$ tláa] asix<u>á</u>n.
pro Bill mother loves
** He_1 loves $Bill_1$'s mother.*

b. ~~[$Bill_1$ tláa]~~ **$\varnothing_1$ [$Bill_1$ tláa] asix<u>á</u>n**.
pro Bill mother loves

In other words, our covert A-scrambling analysis from Section 5 must answer the following, challenging question: *given the general prediction in (50), why doesn't the object in (52a) display the special property of the A-scrambled object in (51b), namely, the ability for phrases inside of it co-refer with a pronominal subject?*

While this issue remains an outstanding problem for our covert A-scrambling account, I will in the remainder of this section sketch a possible route to its solution. In broad outline, I will propose that certain independent principles regarding movement might rule out the problematic A-scrambling in (52b). That is, I will attempt to provide a principled reason why *covert* A-scrambling might (unlike *overt* A-scrambling) be generally unable to obviate Principle C effects. Unfortunately, because of the nature of the claims involved, the ensuing discussion will be more technical and less accessible than any of the preceding material of this paper.

Recent research into the syntax-semantics interface (Chomsky 1995, Fox 1999, Reinhart 2006) has argued that operations taking place in the syntactic derivation of a sentence must have some semantic 'motivation'. This general dictum has the following specific consequence regarding syntactic movement operations like A-scrambling: *such movement operations can only take place if they affect the meaning that is assigned to the sentence*. This specific generalization can be referred to as the 'Have an Effect on Output' (HEO) Condition, stated below.

(53) **HEO Condition (Chomsky 1995, Fox 1999, Reinhart 2006)**

Movement can only occur if it affects the meaning of the sentence.

Interestingly, if we accept the principle in (53), it might be possible to understand why the putative A-scrambling in (52b) is not possible. To begin, let us first observe that all the covert A-scrambling postulated in Section 5 for Tlingit satisfies the condition in (53). For example, covert A-scrambling of the object in (43) and (45) creates an otherwise unavailable binding relationship between the object and a pronoun/reciprocal inside the subject. Thus, in these circumstances covert A-scrambling increases the number of interpretations that the sentence can be assigned, and so clearly affects the meaning of the sentence. Furthermore, the covert A-scrambling in (47) creates an otherwise unavailable scope relationship between the object and the subject. Therefore, once again, such covert A-scrambling increases the number of interpretations that the sentence can be assigned, and so is in compliance with condition (53).

We see, then, that all those instances of covert A-scrambling that our account relies upon are licensed by the principle in (53). Significantly, however, the 'unwanted' A-scrambling in (52b) would *violate* the condition in (53). Since the phrase *Bill tláa* 'Bill's mother' is a referential expression (of semantic type 'e'), its movement in (52b) is semantically vacuous (Heim & Kratzer 1998). That is, whether or not the phrase *Bill tláa* 'Bill's mother' undergoes the A-scrambling in (52b), the sentence will (under the given indexation) be assigned

the same interpretation, namely, 'Bill saw Bill's mother'. Thus, we find that the illicit covert A-scrambling in (52b) would actually be independently ruled out by the HEO Condition in (53), and so our account (augmented with (53)) accurately predicts that Tlingit should exhibit all the classic Principle C effects witnessed in Section 3.1.

Before we leave this section, however, we should note some potential problems for the above line of reasoning. The first is that account rests on the fact that the moved phrase in (52b) is a referential expression, and so its movement is semantically vacuous. This immediately raises the question of whether Tlingit still exhibits Principle C effects when the object is a quantificational expression that can take scope over the subject. That is, would the Tlingit equivalent of the sentence in (54a) permit an interpretation akin to that in (54b)? If it doesn't, if co-reference between the object and the c-commanded name 'Bill' is *still* impermissible, then the principle in (53) would not be sufficient for explaining the existence of classic Principle C effects in Tlingit.

(54) **A Sentence Where Semantically Contentful A-Scrambling Could Obviate Principle C**

a. A relative gave him_1 [every picture of $Dave_1$'s mom].

b. [Every picture of $Dave_1$'s mom] was given to him_1 by a relative.

Another potential problem for the account based upon (53) is that it has the potential of being far too strong, and of ruling out the *licit* overt A-scrambling in Hindi sentences like (51b). After all, the overt A-scrambling in (51b) also targets a purely referential (type 'e') phrase. Consequently, the interpretations that would be assigned to both (51a) and (51b) would seem to be identical: 'Ram showed to Sita a letter written by you to Ram.' Thus, it appears that our principle in (53) would also incorrectly rule out the well-formed A-scrambling structure in (51b).

On the other hand, there may be a way of construing the principle in (53) so that, while it correctly rules *out* the *covert* A-scrambling in (52b), it also correctly rules *in* the *overt* A-scrambling in (51b). First, let us note that precisely because the Hindi A-scrambling in (51b) is overt, it has effects upon the *intonational* structure assigned to the sentence. Secondly, let us note that in some languages, changes to intonational structure resulting from A-scrambling can, in turn, lead to changes in the discourse-pragmatic properties of the sentence (Arregi 2002, Rienhart 2006). Thus, in some languages, overt A-scrambling of referential (type 'e') phrases does have an indirect semantic effect upon the sentence, via its altering of the sentence's intonational structure. If such an account can be extended to A-scrambling in Hindi, we would predict that the condition in (53) needn't – contrary to first appearances – incorrectly rule out the overt A-scrambling in (51b). Furthermore, since the putative semantic effects of such A-scrambling crucially rely upon its being *overt* (and

hence affecting the intonational structure of the sentence), it would follow that *covert* A-scrambling of the kind in (52b) would *still* be in violation of the condition in (53).

While the preceding remarks certainly do not entirely resolve the problems surrounding Principle C effects within the 'covert A-scrambling' analysis, they do offer an 'existence proof' that the data from Section 3.1 do not necessarily undermine the proposed account. Conversely, we've seen that the proposal that Tlingit grammar includes a covert version of 'A-scrambling' needn't undermine our arguments from Section 3 that the language possesses the configuational structure in (2a). Thus, the full range of data from Sections 3 and 4 can in principle be captured under a single, univocal account, one in which the sentences of Tlingit possess a structure where subjects (underlyingly) occupy a position that is hierarchically superior to that of objects.

7 Conclusion

In this paper, we have seen that there are syntactic phenomena in Tlingit which strongly suggest that the language possesses a configurational clausal structure, where subjects asymmetrically c-command objects. The data supporting such a structure are repeated below.

(55) **Evidence that Tlingit has a Configurational Clausal Structure**

- Classic Principle C effects
- Classic Superiority effects in multiple wh-questions
- Only post-verbal objects, and not post-verbal subjects, can occupy a position within the scope of negation.
- Co-ordination reveals that the object and the verb can together form a constituent (to the exclusion of the subject)

On the other hand, we've also seen that, paradoxically, there are syntactic phenomena that strongly suggest that the language possesses a flat, non-configuational structure, where objects and subjects symmetrically c-command one another. The data supporting such a structure are summarized below.

(56) **Evidence that Tlingit has a Non-Configurational Clausal Structure**

- Objects can bind pronouns/reciprocals inside subjects, *even in canonical SOV order*.
- Quantificational objects can take scope over quantificational subjects, *even in canonical SOV order*.

Finally, we've seen that while the data in (55) and (56) appear to be in direct conflict with one another, both can be accounted for in a model where the Tlingit language possesses (i) a configurational structure, as well as (ii) a covert variant of the operation of 'A-scrambling', well-known from languages such as Hindi (Mahajan 1990, 1997). While certain outstanding problems remain for this model, it stands as perhaps the most successful of the available or imaginable options.

References

Adesola, Oluseye. 2006. "On the Absence of Superiority and Weak Crossover Effects in Yoruba." *Linguistic Inquiry* 37:2.

Aoun, Joseph and Audrey Li. 1993. *The Syntax of Scope*. MIT Press. Cambridge, MA.

Arregi, Karlos. 2002. *Focus on Basque Movements*. PhD Dissertation. MIT. Cambridge, MA.

Cable, Seth. 2006. *The Interrogative Words of Tlingit: An Informal Grammatical Study*. Manuscript. Available at the Sealaska Heritage Institute Archives. Available on-line at: http://people.umass.edu/scable/papers/Tlingit-Interrogatives-Grammar.pdf

Cable, Seth. 2007. *The Grammar of Q: Q-Particles and the Nature of Wh-Fronting, as Revealed by the Wh Questions of Tlingit.* Doctoral Dissertation. MIT.

Chomsky, Noam. 1973. "Conditions on Transformations." In Anderson, Stephen and Paul Kiparsky (eds) *A Festschrift for Morris Halle*. Holt, Reinhart & Winston. New York.

Chomsky, Noam. 1981. *Lectures on Government and Binding: The Pisa Lectures*. Mouton de Gruyter.

Chomsky, Noam. 1995. *The Minimalist Program*. MIT Press. Cambridge, MA.

Davis, Henry. 2005. "Constituency and Coordination in St'át'imcets (Lillooet Salish)." In Carnie, Andrew, Sheila Anne Dooley, and Heidi Harley (eds.) *Verb First: On the Syntax of Verb Initial Languages*. John Benjamins. Amsterdam.

Davis, Henry, Ryan Waldie, and Rachel Wojdak. 2007. "Condition C Effects in Nuu-chah-nulth." *Canadian Journal of Linguistics* 52.

Dryer, M. 1985. "Tlingit: An Object-Initial Language?" *Canadian Journal of Linguistics* 30.

Fanselow, Gisbert. 1991. *Minimale Syntax*. Habilitation Thesis. University of Passau.

Fanselow, Gisbert. 1997. "Minimal Link Effects in German (and Other Languages)." Manuscript. University of Potsdam.

Fox, Danny. 1999. *Economy and Semantic Interpretation*. MIT Press. Cambridge, MA.

Grohmann, Kleanthes. 2003. *Prolific Domains: On the Anti-Locality of Movement Dependencies*. John Benjamins. Amsterdam.
Heim, Irene and Angelika Kratzer. 1998. *Semantics in Generative Grammar*. Blackwell. Oxford.
Koch, Karsten. 2006. "Transitive Word Order in Nle7kepmxin (Thompson River Salish)." In *Papers for the 41st International Conference on Salish and Neighboring Languages.* UBCWPL. Vancouver.
Kuno, Susumu and Jane J. Robinson. 1972. "Multiple Wh-Questions." *Linguistic Inquiry 3*.
Lasnik, Howard and Tim Stowell. 1991. "Weakest Crossover." *Linguistic Inquiry* 22.
Leer, Jeff. 1991. *The Schetic Categories of the Tlingit Verb*. PhD Dissertation. University of Chicago.
Mahajan, Anoop. 1990. *The A/A-bar Distinction and Movement Theory*. Doctoral Dissertation. MIT. Cambridge, MA.
Mahajan, Anoop. 1997. "Rightward Scrambling." In Beerman, Dorothee, David Leblanc, and Henk van Riemsdijk (eds.) *Rightward Movement.* John Benjamins. Amsterdam.
Matthewson, Lisa, Dwight Gardiner and Henry Davis. 1993. "Coreference in Northern Interior Salish. In *Papers for the 28th International Conference on Salish and Neighboring Languages*. University of Washington.
Pesetsky, David. 1982. *Paths and Categories*. Doctoral Dissertation. MIT. Cambridge, MA.
Pesetsky, David. 2000. *Phrasal Movement and Its Kin*. MIT Press. Cambridge, MA.
Reinhart, Tanya. 2006. *Interface Strategies*. MIT Press. Cambridge, MA.
Richards, Norvin. 1997. *What Moves Where in Which Language?* Doctoral Dissertation. MIT. Cambridge, MA.
Rudin, Catherine. 1986. *Aspects of Bulgarian Syntax: Complementizers and Wh Constructions.* Slavica Publishers, Inc. Columbus, OH.
Thompson, Chad L. 2000. "Iconicity and Word Order in Koyukon Athabaskan." In Fernald, Theodore B. and Paul R. Platero (eds.) *The Athabaskan Languages: Perspectives on a Native American Language Family*. Oxford University Press.

Seth Cable
Department of Linguistics
University of Massachusetts, Amherst
226 South College
150 Hicks Way
Amherst, MA 01003-9274
United States
scable@linguist.umass.edu