

UNIVERSITY OF CALIFORNIA

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Lushootseed (Salish) Transitives: Pronominal  
Morphology and Licensing of Noun Phrases

A thesis submitted in partial satisfaction of the  
requirements for the degree Master of Arts  
in Linguistics

by

Robert Elliott Hagiwara

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The thesis of Robert Elliott Hagiwara is approved.

Edward L. Keenan

A handwritten signature in black ink, appearing to read 'Edward L. Keenan', written over a horizontal line.

Hilda Koopman

A handwritten signature in black ink, appearing to read 'Hilda Koopman', written over a horizontal line.

Pamela Munro, Committee Chair

A handwritten signature in black ink, appearing to read 'Pamela Munro', written over a horizontal line.

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## LIST OF GRAMMATICAL ABBREVIATIONS

The following abbreviations are used in glosses throughout this thesis:

-	morpheme boundary
=	clitic boundary (after Klavans 1982)
BEN	benefactive suffix; takes another transitive; indicates that unmarked NP names benefactive of action, rather than object
DET	determiner
DIST	distributive reduplication
EB	<i>-əb</i> suffix (see Section 4.0)
(-f-)	<i>-s-</i> 'feminine' (infix on determiners and demonstratives)
(f.pl)	feminine plural (Spanish <i>las</i> )
FUT	future aspect
P	preposition
PRF	perfective aspect (indicates action with known end-point)
PST	remote past/remote distance aspect
STV	stative aspect
(trans)	transitive stem (as opposed to benefactive)
1pO	first person plural object
1pPos	first person plural possessor
1pS	first person plural subject
1s	first person singular (used with clitic in <i>-əb</i> construction)
1sO	first person singular object
1sPos	first person singular possessor
1sS	first person singular subject
2pO	second person plural object
2pPos	second person plural possessor
2pS	second person plural subject
2s	second person singular (used with clitic in <i>-əb</i> construction)
2sO	second person singular object
2sPos	second person singular possessor
2sS	second person singular subject
3O	third person object (ambiguous for number)
3Pos	third person possessor (ambiguous for number)
3S	third person subject (ambiguous for number)

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I dedicate this thesis to the three people who contributed the most to my life, and made this thesis possible: my parents, Patrick and Misako Hagiwara, and my Lushootseed teacher Vi (taqʷʂəbɫu) Hilbert, an elder of the Upper Skagit tribe and director of Lushootseed Research, who shared with me her language, her work, and her extended Lushootseed family. Taqʷʂəbɫu once said to me, "I do things the easy way: I get them done." I regret that I have not always acted in accordance with this wisdom.

## ABSTRACT OF THE THESIS

Lushootseed (Salish) Transitives: Pronominal  
Morphology and Licensing of Noun Phrases

by

Robert Elliott Hagiwara  
Master of Arts in Linguistics  
University of California, Los Angeles, 1990  
Professor Pamela Munro, Chair

In this thesis, Lushootseed syntax is described within the government and binding framework (Chomsky 1981, 1986a, 1986b, etc.).

In the first section, I outline the principal features of Lushootseed transitive sentences. At most one noun phrase (NP) may appear in a single sentence. This phrase names object unless the object is first or second person, when it names subject. First and second person are realized as bound morphemes exclusively; there are no personal pronouns.

In Section 2.0, I analyze the first and second person object suffixes in the spirit of Jelinek's (1985) Pronominal Argument Parameter. However, I recast Jelinek's proposal in light of Baker's (1988) work on incorporation.

In Section 3.0, I argue that only one structural case assigner is available in Lushootseed sentences. I discuss two proposals to this effect. The first exploits a parameter proposed by Koopman (1987), in which verb traces fail to assign case. In the second, I assume that INFL does not contribute structurally to the Lushootseed

sentence. I also formalize conditions on NP interpretation which Baker (1988) requires but fails to explore.

In Section 4.0, I describe the Lushootseed *-əb* construction in which two NPs appear. The case assigned to the second NP is not a structural case (assigned at S-structure), but an inherent case assigned at D-structure (Chomsky 1986b). The analysis of *-əb* further serves as a critical test between the two approaches discussed in Section 3.0.

## Section 1.0: Introduction

Lushootseed, a Coast Salish language, was once spoken in numerous villages lining the rivers draining into Washington state's Puget Sound. Lushootseed syntax, and indeed the syntax of Salishan languages generally, is almost deceptively simple but presents many problems for the theory of parameterized universal grammar (Government and Binding, Barriers, after Chomsky 1981, 1986b, etc.). In this thesis, I will discuss the relationship between the noun phrase (NP) system and the pronominal (clitic and suffix) system in Lushootseed transitive sentences, and I will argue that the pronominal system represents the system of verbal arguments in that they are assigned theta-roles contributed by the verb, while the NP system (including licensing by case to pass the case filter) fulfills an ancillary role to the pronominal system. This proposal is made in the spirit of Jelinek's (1985) Pronominal Argument Parameter, but differs from Jelinek's theory in that I generate pronominal morphology in the syntax, and use existing principles in the theory of government and binding to generate the proper surface forms (Baker 1988).

### Section 1.1 A brief overview of the Lushootseed language

More detailed and complete descriptions of Lushootseed than can be given here are given in Hess & Hilbert (1976) and Hess & Hilbert (in press). Data in this study have been drawn from these sources and others, as well as personal work with Vi Hilbert (taq<sup>w</sup>ʂəblu), an elder of the Upper Skagit tribe.

Lushootseed is a verb-initial language. With the exception of certain adverbs (such as *cick<sup>w</sup>* 'very', *həlaʔb* 'well') and discourse functors (*huy* 'then, next', *g<sup>w</sup>əl* 'and then'), nothing normally precedes the verb.

One striking feature of Lushootseed syntax is that at most one 'direct complement', that is, a lexical noun phrase which is not governed by a preposition, may

appear in a single sentence (Hess & Hilbert, in press). This lexical NP may in principle name either the subject or object, depending on the inflectional properties of the sentence. In the first and second persons, subjects and objects of verbs can only appear as inflectional markings (subject clitics in second position and suffixes on the verb) and cannot be 'doubled' with an independent pronoun.

The questions I will address in this thesis center around these facts. First, what is the relationship of the person-marking morphology to the syntax of Lushootseed? **Section 1**, why is only one lexical NP argument possible in a Lushootseed clause? And finally, how can we capture the descriptive facts concerning the interpretation of Lushootseed lexical NPs?

### Section 1.1.1 Lushootseed subjects and intransitive verbs

The subject clitics are used to indicate the only argument of an intransitive verb as well as the subject of a transitive verb when these are first or second person. In the third person, the absence of a first or second person clitic (or the presence of a lexical NP) indicates a third person argument. Intransitive verbs do not distinguish 'active' from 'stative' or 'uaccusative' stems in terms of how they realize their arguments. First and second person singular and plural arguments of intransitive verbs appear as subject clitics (1a-d) and (2a-d). In the third person, no clitic is used, but a lexical noun phrase may be used (1e and 2e) and the absence of either an NP or clitic signals a third person (1f and 2f).<sup>1</sup>

- (1) a.  $\text{ʔu-ʔuluʔ}$  = $\text{čəd}$  b.  $\text{ʔu-ʔuluʔ}$  = $\text{čəx}^w$   
 PRF-travel.by.water = 1sS PRF-travel.by.water = 2sS  
 'I canoed' 'you (sg) canoed'

<sup>1</sup>A list of grammatical abbreviations used throughout this thesis may be found on page (iv). The data in this thesis will be written in the standard orthography adopted by Hess & Hilbert (1976), except when this would hide a morphological alternation.

- c.  $\text{ʔu-ʔuluʔ}$  = $\text{čəʔ}$  d.  $\text{ʔu-ʔuluʔ}$  = $\text{čəlap}$   
 PRF-travel.by.water = 1pS PRF-travel.by.water = 2pS  
 'we canoed' 'you (pl) canoed'
- e.  $\text{ʔu-ʔuluʔ}$   $\text{tiʔiʔ stubʂ}$  f.  $\text{ʔu-ʔuluʔ}$   
 PRF-travel.by.water that man PRF-travel.by.water  
 'that man/those men canoed' 'he/she/it/they canoed'
- (2) a.  $\text{ʔəs-ʔitut}$  = $\text{čəd}$  b.  $\text{ʔu-ʔitut}$  = $\text{čəx}^w$   
 STV-sleep = 1sS STV-sleep = 2sS  
 'I am sleeping' 'you (sg) are sleeping'
- c.  $\text{ʔəs-ʔitut}$  = $\text{čəʔ}$  d.  $\text{ʔəs-ʔitut}$  = $\text{čəlap}$   
 STV-sleep = 1pS STV-sleep = 2pS  
 'we are sleeping' 'you (pl) are sleeping'
- e.  $\text{ʔəs-ʔitut}$   $\text{tiʔiʔ stubʂ}$  f.  $\text{ʔəs-ʔitut}$   
 STV-sleep that man STV-sleep  
 'that man/those men is/are sleeping' 'he/she/it/they is/are sleeping'

Lushootseed noun phrases do usually distinguish singular from plural, except occasionally by reduplication. Thus, the third person forms in (1e and f) and (2e and f) might be translated with either singular or plural noun phrases.

We can summarize the subject clitic system, as in (3)

- (3) The subject clitics
- |        | singular                | plural           |
|--------|-------------------------|------------------|
| first  | = $\text{čəd}$          | = $\text{čəʔ}$   |
| second | = $\text{čəx}^w$        | = $\text{čəlap}$ |
| third  | ZERO (with optional NP) |                  |

Since third person is represented overtly in nearly all the person-marking paradigms except these clitics, and first and second person are uniquely identified independently, we may infer the presence of a phonologically null third person marker.

These clitics require special rules (probably phonological) to move them into second position (Kaisse 1985, Klavans 1982). Since Lushootseed is verb initial, they normally follow the verb. When an adverb appears preverbally, then the clitic follows

the adverb (4b). When more than one adverb appears before the verb, the clitic will follow the first adverb.

- (4) a. ṽṽṽ-tag<sup>w</sup>ṽṽṽ =čṽṽ  
STV-hungry = 1sS  
'I am hungry'
- b. cick<sup>w</sup> =čṽṽ ṽṽṽ-tag<sup>w</sup>ṽṽṽ  
very = 1sS STV-hungry  
'I am very hungry'

### Section 1.1.2 Lushootseed objects and transitive verbs

Transitive verb stems fall into five categories, depending on their phonological shape. Transitive stems ending in *-r* are by far the most common. These take one of five suffixes which indicate the person of the object. The same clitics which indicate the sole argument of an intransitive verb indicate the subject of a transitive.

- (5) *tṽṽṽ* 'hit (with fist)'
- a. ṽṽṽ-tṽṽṽ-s =čṽṽ<sup>w</sup>  
PRF-hit-1sO = 2sS  
'you (sg) hit me'
- b. ṽṽṽ-tṽṽṽ-sid =čṽṽ  
PRF-hit-2sO = 1sS  
'I hit you (sg)'
- c. ṽṽṽ-tṽṽṽ-ubuf =čṽṽṽṽṽ  
PRF-hit-1pO = 2pS  
'you (pl) hit us'
- d. ṽṽṽ-tṽṽṽ-ubufṽṽṽ =čṽṽ  
PRF-hit-2pO = 1pS  
'we hit you (pl)'
- e. ṽṽṽ-tṽṽṽ-d =čṽṽ  
PRF-hit-3O = 1sS  
'I hit him/her/it/they'
- f. ṽṽṽ-tṽṽṽ-d  
PRF-hit-3O  
'he/she/it/they hit him/her/it/them'

The sequence /t-d/ reduces to [d] on the surface, via a productive phonological rule of degemination (Hagiwara 1989).

A lexical NP may occur in a transitive sentence only if at least one of the verbal arguments is third person—that is, if there is no overt subject clitic, or if the verb is suffixed with the *-d* marker. Crucially, if both the subject and object are third person, a lexical NP may only be interpreted as the object.

- (6) a. ṽṽṽ-tṽṽṽ-s tiṽṽṽ stubṽṽ  
PRF-hit-1sO that man  
'that man hit me'

- b. ṽṽṽ-tṽṽṽ-d =čṽṽ tiṽṽṽ stubṽṽ  
PRF-hit-3O = 1sS that man  
'I hit that man'
- c. ṽṽṽ-tṽṽṽ-d tiṽṽṽ stubṽṽ  
PRF-hit-3O that man  
'he hit that man'  
\*'that man hit him'

The other transitive verb stem-classes end with the suffixes *-dx<sup>w</sup>*, *-ṽṽ<sup>w</sup>*, *-s*, or *-c*.

They differ from the *-r* class in that *-dx<sup>w</sup>* often occurs with experiencer, rather than active, transitives (or indicates derivationally that the action is uncontrolled by the subject) and the *-ṽṽ<sup>w</sup>* frequently transitivizes intransitive stems (ṽṽṽṽṽ 'go' > ṽṽṽṽṽṽṽ 'go (to get something)'). The *-s* and *-c* suffixes are rather rare. These four are distinguished from the *-r* class also in that they take a different set of object suffixes:<sup>2</sup>

- (7) *ṽṽṽṽṽ* 'see'
- a. ṽṽṽṽṽ-ṽṽṽṽṽ  
STV-see-1sO  
'he/she/it/they see me'
- b. ṽṽṽṽṽ-bicid  
STV-see-2sO  
'he/she/it/they see you (sg)'
- c. ṽṽṽṽṽ-buf  
STV-see-1pO  
'he/she/it/they sees us'
- d. ṽṽṽṽṽ-bufṽṽṽṽṽ  
STV-see-2pO  
'he/she/it/they sees you (pl)'
- e. ṽṽṽṽṽ-dx<sup>w</sup>  
STV-see  
'he/she/it/they sees him/her/it/them'

As in the case of (5) above, first and second person subjects are indicated by same set of subject clitics as were used with the intransitive verbs. Also like the other examples above, the presence of a lexical NP is licenced only if at least one of the arguments of the verb is third person; if both are third person, a lexical NP must be interpreted as object.

- (8) a. ṽṽṽṽṽ-ṽṽṽṽṽ tiṽṽṽṽṽ stubṽṽṽṽṽ  
STV-see-1sO that man  
'that man sees me'

<sup>2</sup>Note that the final [x<sup>w</sup>] of these roots vocalizes to [u] before one of the object suffixes. The third person object suffix, while overt in the previous paradigm, is phonologically null in this paradigm.

- b. ʔəs-ʂudx<sup>w</sup> =čəd tiʔil stubʂ  
STV-see =1sS that man  
'I see that man'
- c. ʔəs-ʂudx<sup>w</sup> tiʔil stubʂ  
STV-see that man  
'he/she/it/they see that man'  
\* 'that man sees he/she/it/they'

We can now summarize the object-marking system.

(9) The object suffixes (with -t transitives)

	singular	plural
first	-s	-ubul
second	-sid	-ubuləd
third		-d (plus optional NP)

(10) the object suffixes (other transitives)

	singular	plural
first	-bʂ	-bul
second	-bicid	-buləd
third		-ZERO (plus optional NP)

Section 1.1.3 A note on two important ungrammatical readings

As we have seen above, it is possible to have in a sentence a noun phrase which names subject (6a and 8a) and a noun phrase which names object (6b and 8b).

However, the presence of two overt NPs, one naming subject, the other naming object, is ungrammatical. (The one exception to this statement, the -əb construction, will be addressed in Section 4.0.)

- (11) \*ʔu-təʂət-d tiʔiʂ siʔab t-s-iʔiʂ slədəyʔ  
PRF-hit-3O that noble that(-f-) woman  
\* 'that noble hit that woman'  
\* 'that woman hit that noble'

A sentence that contains two bare NPs such as (11) could only be grammatical if both NPs referred to the same entity, as in an apposition.

Further as we saw əb (6c and 8c), if both the subject and object of a transitive verb are third person, an accompanying NP may only be interpreted as object.

- (12) ʔu-k<sup>w</sup>ax<sup>w</sup>at-d te d-bad  
PRF-help-3O DET 1sPos-father  
'he helped my father'  
\* 'my father helped him'

Section 1.1.4 Lushootseed aspectual affixes

The aspectual system, which will be of particular interest in Section 2.0, includes eight or nine prefixes (depending on dialect<sup>3</sup>) and one suffix.

(13) Aspectual affixes

ʔəs-	stative	lə-	progressive (in space)
ʔu-	perfective	ləs-	progressive (in time)
tu-	remote	bə-	repetitive
ʔu-	future	λ'u-	habitual
g <sup>w</sup> ə-	irrealis	-əx <sup>w</sup>	new

Stative aspect most usually occurs on non-active verb stems, both intransitive and transitive. The perfective aspect does not indicate that an action or state *has* ended, but that it has an expected end point. Compare:

- (14) a. lə-ʔibəʂ =čəʔ dx<sup>w</sup>ʔal d<sup>ʔ</sup>id<sup>ʔ</sup>əlalijč  
PRG-travel.by.land =1pS toward Seattle  
'we are (currently) walking toward (in the direction of) Seattle'
- b. ʔu-ʔibəʂ =čəʔ dx<sup>w</sup>ʔal d<sup>ʔ</sup>id<sup>ʔ</sup>əlalijč  
PRF-travel.by.land =1pS toward Seattle  
'we are walking to Seattle' (destination)  
'we walked in the direction of Seattle'  
...etc.

With stative verbs (those which in the unmarked case would take the stative aspect), the *ʔu-* perfective indicates that the state occurred in the recent past.

The *ʔu-* prefix unambiguously indicates that the action or state has not yet occurred. In contrast, the *tu-* prefix, while most frequently indicating an action or state in

<sup>3</sup>Speakers of the Skagit dialect (see map, page 63) do not distinguish *ləs-* and *lə-*, having only the latter with both meanings.

the remote past, may also indicate an action or state far removed in space from the speaker.

Because they usually occur on verbs, and almost always have some kind of temporal meaning, the aspectual system is often construed as tense marking. However, it differs from tense in English in several critical respects. First, as a marker occurring in independent clauses, Lushootseed aspectual morphemes are not obligatory, but optional. The sentence *ʔibəʂ = čəʔ* 'we walk' (cf. *ʔu-ʔibəʂ = čəʔ*, *tu-ʔibəʂ = čəʔ*, *lu-ʔibəʂ = čəʔ*, etc. 'we walked/we did walk/we will walk') is completely grammatical, though admittedly ambiguous as to when, where, and for how long the walking continued. Second, while the full range of aspectual markers is limited to 'true' verbs, the appearance of certain aspectual markers on categories other than V (N and A are represented in my data, though aspectual marking on P seems probable) is frequent. The most common are *tu-* 'remote', *lu-* 'future', *gʷə-* 'irrealis' and *-əxʷ* 'new'. They may occur nouns (15a-c) and adjectives (15d).

- (15) a. *t̥i tu-d-bad*  
 DET PST-my-father  
 'my former (late) father'
- b. *t̥si ʔu-d-čəgʷas*  
 DET(-f-) FUT-my-wife  
 'my future wife'
- c. *t-s-iʔiʔ puay-əxʷ*  
 that(-f-) flounder-NEW  
 'that new flounder' (i.e. 'she who is now a flounder')
- d. *t̥iʔiʔ tu-χikʷ sqʷəbayʔ*  
 that PST-mean dog  
 'that formerly mean dog'

The absence of the other aspectual markers appearing on nouns and adjectives seems to be pragmatic, rather than grammatical. That is, it is difficult to know what a

'stative' dog would be, or a 'repetitive' flounder. Given an appropriate context (someone who is always changing into a flounder?), these may seem more reasonable.

In general, aspectual affixes behave semantically more like adjectives or adverbs than 'tense', and lexically more like inflectional morphemes indicating particular properties of the referents of the stems to which they attach than a morphological reflex of temporal properties of the whole sentence. All of which has led other researchers (notably Hess & Hilbert 1976) to conclude that Lushootseed does not have tense marking in the English sense.

## Section 1.2 Organization of the thesis

It is my goal in this thesis to explore the analysis of Lushootseed syntax within the framework provided by the theory of government and binding (GB) (Chomsky 1981, 1986a, 1986b, etc.). The thesis will have four principal sections. In this first section, I have outlined the principal features of Lushootseed transitive sentences. Again, more complete descriptions of Lushootseed than can be given here may be found in Hess & Hilbert 1976, and Hess & Hilbert, in press.

In Section 2.0, I will present an analysis of the first and second person object suffixes, in the spirit of Jelinek's Pronominal Argument Parameter. However, I will recast Jelinek's proposal in light of Baker's (1988) work on incorporation, and not appeal to the ad hoc devices in Jelinek's presentation.

In Section 3.0, I will explore several possible analyses of Lushootseed sentence structure within the parameters provided by the GB theory, and argue that only one structural case assigner is available in Lushootseed transitive sentences. I will discuss two proposals to this effect. The first makes use of a parameter proposed by Koopman (1987), in which traces of verbs fail to assign case within VP. In the second proposal, I will assume that INFL does not contribute structurally to the sentence in Lushootseed.



This analysis, which may seem unsettling from the point of view of universal grammar, suggests an analysis of NP interpretation and theta-role linking that Baker (1988) fails to explore, and may be generalizable to other situations in which a lexical NP ought to be ambiguous or unlicensed, but is not (e.g. appositives, nominal adjuncts).

In the following section, I will explore the Lushootseed *-əb* construction in light of the analyses proposed in Section 3.0. This construction represents the one counterexample to the generalization that one and only one lexical NP naming subject or object may appear in a Lushootseed sentence. I will argue not only does this not present a problem for the analyses in Section 2.0, but that it actually confirms the approaches outlined in that section. In particular, the case assigned to the second NP is not a structural case (one assigned at S-structure), but an inherent case assigned at D-structure. The analysis of *-əb* will further serve as a critical test between the two approaches discussed in Section 3.0.

## Section 2.0: The Pronominal Argument Hypothesis

Jelinek (1985) proposed that languages may differ parametrically with respect to whether they are “Lexical Argument” (LA) languages or “Pronominal Argument” (PA) languages. Lexical argument languages assign theta-roles to NPs, where PA languages assign theta-roles to bound morphemes rather than phrasal categories. In Jelinek’s theory, a category AUX dominates such morphemes. However, the existence of such a category has been placed in considerable doubt (see discussion in Kaisse 1985, for example).

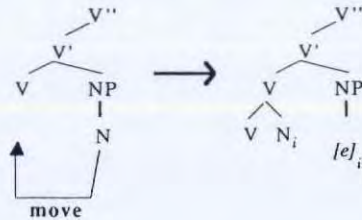
In this section, I will discuss the status of the object suffixes within the D-structure verb phrase, arguing that these elements are assigned theta-roles, in the spirit of Jelinek’s (1985) Pronominal Argument Parameter. However, I differ from Jelinek, in that I will argue that these elements are generated at D-structure in the positions that analogous NPs are generated in lexical argument languages. Thus, PA languages such as Lushootseed do not differ radically from LA languages at D-structure. I will be recasting the Lushootseed object suffixes as pronominal, in the sense of being assigned theta-roles, but we will show that a treatment of these suffixes as incorporated nouns (Baker 1988) accounts both for their argument-hood and their surface status as suffixes to the verb.

### Section 2.1 Noun Incorporation

Baker’s (1988) discussion of Noun Incorporation (NI) considers two basic phenomena. The incorporation of lexical (that is, free) nouns, and the incorporation of morphologically dependent antipassive suffixes.

Boiled down into an extremely simplistic form, Baker shows that a movement of a complement N into a governing V (as in 16) is a grammatical movement, as the trace of N is properly governed, and thereby satisfies the Empty Category Principle (17).

(16)



(17) The Empty Category Principle: Empty categories must be properly governed.

(18) Proper government (after van Reimsdijk and Williams, 1984):

- X properly governs Y if
- a. X governs Y and X is a lexical head (N, A, V, P) (lexical government) or
  - b. X governs Y and X is the antecedent of Y (antecedent government)

Languages differ as to whether the resulting compound verb is transitive and can assign case to another, independent NP, or intransitive and cannot. Baker does argue, however, that structural NPs out of which Ns incorporate do not themselves need to be case licensed.

In contrast to the incorporation of independent (free) Ns, Baker discusses the antipassive construction in a number of languages. In this construction, the incorporated element is not an independent noun, but an affix. Affixes differ from free nouns in that they have 'morphological subcategorization frames', and are ungrammatical if they surface without having been affixed to a stem satisfying their frame. Nonetheless, Baker allows the object theta-role to be assigned to the antipassive morpheme.

NI of antipassive morphemes differs from NI of free Ns also in that the resulting verb never assigns accusative case. The antipassive morpheme is the sole internal argument of the verb, and no case or theta-role is available to license an independent

lexical NP. However, an oblique adjunct may appear. This inherently case-marked NP identifies the 'object' of an antipassive verb in the same way that a *by* phrase identifies the 'subject' of an English passive. This oblique NP does not receive a theta-role of its own, but is transmitted the object theta role by the antipassive morpheme. We will return to this point in Section 3.3.

Thus, Baker (1988) focuses attention on two kinds of N-to-V incorporations: incorporation of free, fully referential Ns, and incorporation of morphologically dependent elements of weak referential force, being roughly equivalent to 'something' or 'someone'.

### Section 2.2 Incorporation of Lushootseed person-marking suffixes

Let us reconsider the Lushootseed object suffixes in this light.

(19) object (suffixes—revised from (9))

	singular	plural
first	-s	-ubut
second	-sid	-ubutad
third		(-d)

Recall that first and second person object are realized on the surface only as suffixes, and may not be doubled by an independent pronoun; an independent NP co-occurring with a first or second person object suffix names the subject, and is grammatical only if the subject is not indicated by an overt (first or second person) subject clitic. Third person objects are signalled by the voiced [d] at the end of the verb stem. If an independent NP co-occurs with a verb ending with with [d], it must name the object.

Consider the following partial derivation of the Lushootseed VP in the sentence *?u-taset-sid = tɛd* 'I hit you (sg)':



- (22) ʔəs-ʔəl-ʔəl ti d-ʕələs  
 STV-sick-DIST DET 1sPos-hand  
 'I have sore hands' (lit. "my hands are sick")

Expressions with lexical suffixes may be derived in the same way object suffixes are derived, except that they involve a non-argumental theta-role. That is, generate the lexical suffix *-aʕiʔ* as a pronominal complement (that is, as a morphologically bound 'word', meaning 'hand') and later incorporate it to the governing verb.

Lexical suffixes may also suffix to some prepositions. Note in particular the suffix *-aʔtxw* which also combines with the verb *ʕəl*.

- (23) diʔ 'locative (around)'
- |                              |          |                               |
|------------------------------|----------|-------------------------------|
| -ucid 'opening' <sup>6</sup> | diʔucid  | 'across a river'              |
| -abac 'solid mass'           | diʔabac  | 'around a rock' (for example) |
| -aʔtxw 'house'               | diʔaʔtxw | 'around a house'              |

The resulting forms (*diʔ* + suffix) are complete phrases, rather than a complex preposition which might still take an NP complement. If further elaboration is called for, another NP, licensed by a separate locative preposition, is used.

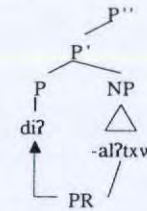
- (24) ʔal tə ʔalʔal (lit.) 'in/at/by the house'  
 diʔalʔtxw 'around the house'  
 diʔalʔtxw ʔal ti ʔalʔal 'on the other side of the house'
- (25) ʔal tə stulək<sup>w</sup> (lit.) 'in/at/by the river'  
 diʔucid 'across the river'  
 diʔucid ʔal te stulək<sup>w</sup> 'on the other side of the river'

The proposed derivation of these expressions is similar to generating the object suffixes, except that the governing head is not V, but P. The difference is that the case involved is an *inherent* case rather than structural, and thus is assigned at D-structure rather than at S-structure. Thus, at D-structure, there is no other theta-role, nor another case position, available to license a second (nonpronominal) NP.

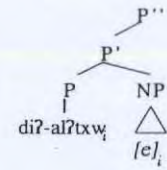
<sup>6</sup>Rivers can be conceptualized in several ways in Lushootseed, as an 'opening', as a 'passage', etc. It is worth noting that "Lushootseed" is an Anglicization of the native word *dx<sup>w</sup>-ləʕ-ucid*, where *dx<sup>w</sup>* is a prefix meaning 'from', *ləʕ* refers to the Puget Sound region, and *-ucid* is the same lexical suffix as in (55) 'opening', this time indicating 'mouth'.

(26)

a. D-Structure:



b. S-Structure:



Thus, Baker's (1988) discussion of noun incorporation underestimates (probably accidentally) the range of phenomena found in the world's languages. I do not mean to imply that Baker's treatment is inadequate or flawed. The evidence of Lushootseed pronominal and lexical suffixes bring independent confirmation to Baker's (1988) theory. Further, Jelinek's (1985 and elsewhere) hypothesis that the person markers in many languages represent the true arguments of verbs is confirmed, but with an independent mechanism.

Jelinek (1985) posits a category (AUX) in the syntax of pronominal argument (PA) languages. AUX dominates morphological material to which theta-roles are assigned. Jelinek (1984) introduces the notions of lexical (L-) versus grammatical (G-) case and a set of Linking Rules to associate them.<sup>7</sup>

Kaisse (1985), however, demonstrates that the properties of the putative AUX node (Steele *et al* 1981) do not follow from its being a syntactic category, but rather from the fact that the elements associated with 'AUX' are clitics. Thus, Jelinek's AUX

<sup>7</sup>L- and G-case are merely paradigmatic relations among morphemes or NPs. They should not be confused with the notions of Structural vs. Inherent case (Chomsky 1986a). Morphemes (i.e. pronominals) which indicate subjects of verbs are marked in a 'nominative' G-case paradigm, where object-marking pronominals are marked in an 'accusative' paradigm. These may or may not be the same paradigms in which NPs which name subjects or objects are marked. NPs, in Jelinek's (1985) are governed by case-particles (i.e. overt or non-overt prepositions) and mark L-case. L-case paradigms may be nominative-accusative, ergative-absolutive, or several other combinations. Jelinek thus accounts for various kinds of 'ergative splits' across PA languages.

is not a syntactic category available to languages, and her formulation of the Pronominal Argument Parameter is incorrect. However, by bringing Baker's (1988) theory of incorporation into the picture, most of Jelinek's observations across many languages will follow, without appeal to a syntactic constituent (AUX) for which there is little, if any, independent evidence other than the behavior of sentential clitics (Kaisse, 1985).

### Section 3.0: Structural Case and NP Licensing in Lushootseed Syntax

In order to be adequate, a theory of grammar must not only generate the grammatical sentences of a language, but fail to generate sentences which are ungrammatical. In Section 2.2, I presented an analysis of the object suffixes in which these morphemes were generated in the syntax, and incorporated into the verb via syntactic movement. We are left now with the question of noun phrases (and clitics); that is, how are these categories licensed and how do they interact with the object suffixes—in particular, the putative *-d* suffix (Hagiwara 1989)—and how can this be captured in a theory of syntax. In this section, I will discuss several approaches to the structure of the Lushootseed sentences, noting the advantages and problems associated with each.

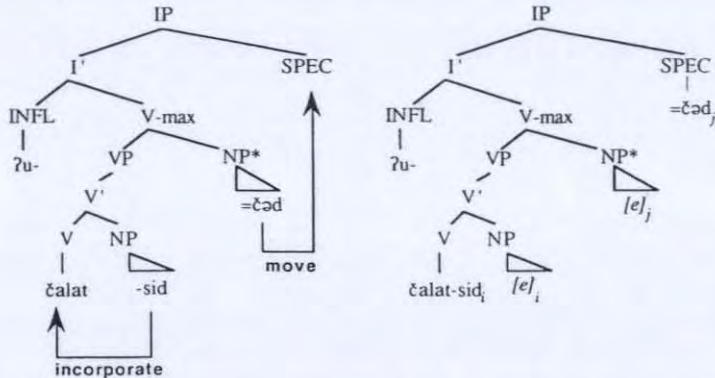
#### Section 3.1 Problems in a generic GB analysis of Lushootseed

The most obvious approach to the problem is to assume that Lushootseed sentences are just like sentences in other languages. The subject clitics and object suffixes notwithstanding, when a lexical NP names the subject, it is assigned nominative case (NOM) in the SPEC of INFL. When an NP names the object, it is generated as the complement of V, where it can receive accusative case (ACC) from the verb. Note the following derivations. In the following, the verb is assumed to raise to INFL at a later stage in the derivation—this assumption makes the position of *the* complement to V with respect to the head V a vacuous choice. In versions of this analysis where INFL lowers into V, both [SPEC,VP] and [NP,VP] must follow the V at S-structure. These choices are not critical to this generic level of analysis.

(27) Subject and object are first or second person:

- a. ʔu-čalat-sid =čəd  
 PRF-chase-2sO =1sS  
 'I chased you(sg)'

b.



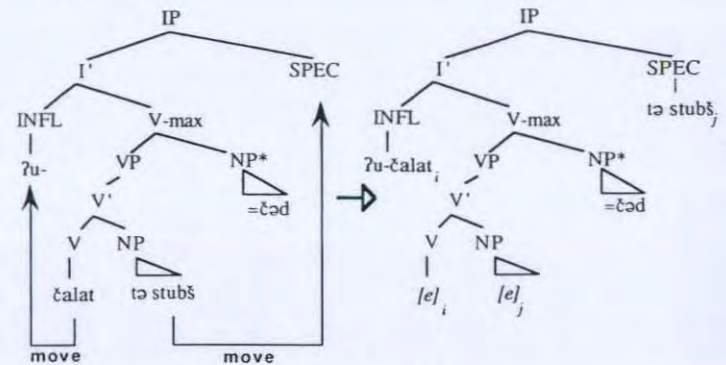
In this and the following derivations, the left tree indicates the D-structure relations and the relevant movement(s), where the tree on the right indicates the relations at the next stage in the derivation. At D-structure, this sentence begins with the verb in V' assigning theta-roles to the object NP (in this case, second person singular suffix), which is generated as the complement of V where it is assigned accusative case, and the subject NP (in this case, a clitic), which is adjoined to VP. The object incorporates into the verb as discussed in Section 2.2. The subject clitic, I assume for the moment, behaves like a structural NP, requiring case. Since it cannot receive case in NP\*, it raises to the subject position, [SPEC,IP].

In the next case (28), the object suffix has been replaced by an overt (but optional) third person NP. The principal difference between (28) and (27) above is that in (28), the object is represented by an independent noun phrase, rather than a suffix.

(28) Subject is first or second person, object is third person

- a. ʔu-čalat-d =čəd (tə stubš)  
 PRF-chase-3O =1sS DET man  
 'I chased that man'

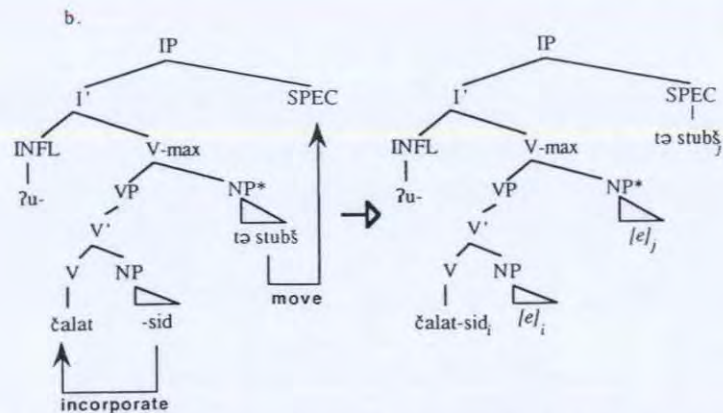
b.



The [d] that arises at the end of the verb at PF need not concern us; it may be the result of an agreement relation between the verb and the third person NP, or the *t/d* alternation may be the result of some phonological rule. Because the object NP is independent, it requires case marking; it is assigned ACC by the verb.

(29) Subject is third person, object is first or second person

- a. ʔu-čalat-sid (tə stubš)  
 PRF-chase-2sO DET man  
 'that man chased you(sg)'



This case differs from the ones above only in that the phrase *tə stubš* names the subject rather than the object, and is represented as a full, structural NP, rather than a clitic.

This analysis is able to make both the structures in (28) and (29) grammatical only by having two cases available, to license both NP chains. It is unfortunate but unavoidable in this analysis that Lushootseed seems to lack NPs naming first and second persons, as the English pronouns *I, you* or the Spanish *yo, tú* etc.

This analysis further assumes that the lexical NP in (29) which names the subject is licensed by a different case than that which licenses the object-naming NP in (28).

The theory offers the empty category *pro* to stand in place of the NPs in (28) and (29) resulting in sentences consisting only of the inflected verb and the clitic. However, since there may be an overt NP naming a third person subject, as in (29), and an overt NP naming a third person object (28), the theory offers no explanation why both the subject and object NP cannot be overt in the same sentence:

- (30) \*ʔu-čalat-d tiʔiʔ stubš t-s-iʔiʔ stadəyʔ  
 PRF-chase-3O that man that(-f-) woman  
 \*'that woman chased that man'  
 \*'that man chased that woman'

Nor does the theory offer an explanation as to why, when both subject and object are third person, an overt NP can only name the *object* of the transitive verb, and not the subject:<sup>8</sup>

- (31) ʔu-čalat-d tiʔiʔ stubš  
 PRF-chase-3O that man  
 'he chased that man'  
 \*'that man chased him'

The former in (30), the prohibition against two NPs in a single sentence, suggests that, for whatever reason, only one structural case is available in Lushootseed sentences to license a NP to pass the case filter.

### Section 3.2 Lushootseed V cannot assign case

Under what circumstances would only one of the two structural cases NOM and ACC be available in a language. Koopman (1987) suggests that languages may differ parametrically with respect to whether verbal traces (i.e. the trace of V after V-to-INFL raising) can assign case to an NP in complement position within VP. This suggests one possible way to derive the 'one NP' condition in Lushootseed—V never assigns ACC because it always moves to INFL.

This proposal has some theoretical appeal not only because the inability of traces to assign case has been demonstrated in other languages (Koopman, 1987, for Bambara, and Baker 1988 suggests that traces of noun incorporation cannot assign genitive case to possessor NPs, etc.), but because a lexical NP that names object does not appear to be structurally distinct from one which names subject.

In order for this analysis to work for Lushootseed, we must accept that the subject clitics, even though it receives the external theta-role, does not need to be case marked. It is not inconceivable that clitics might escape the case filter because they

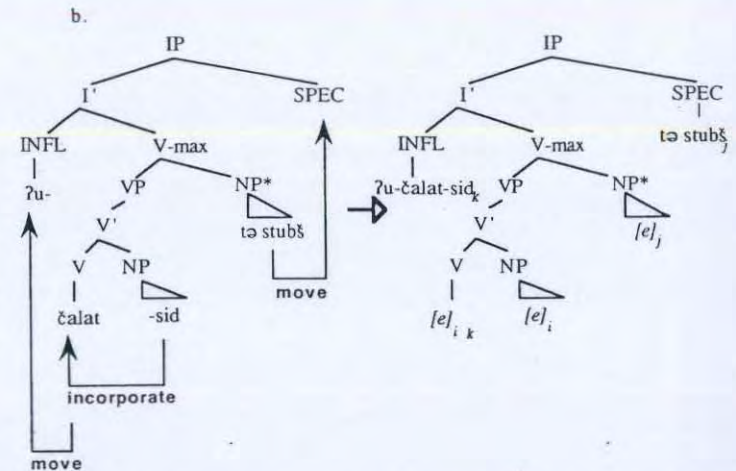
<sup>8</sup>There is, of course, no general prohibition on sentences in which both subject and object are third person—that is, if the phrase *tiʔiʔ stubš* were to be dropped from (33), the resulting phrase *ʔu-čalat-d* 'he chased him' is completely grammatical.

incorporate in some way, especially in light of Baker's (1988) analysis of passive morphemes, which are assigned the external theta-role in INFL, and incorporate to the verb.<sup>9</sup>

Under this proposal, a Lushootseed lexical NP always appears in [SPEC,IP] and receives NOM case. Thus, in those instances when the NP names the object, the derivation of the sentence is analogous to the derivation of the English passive—the D-structure object NP raises to the subject position in order to receive case. Consider the following derivations.

(32) Subject is third person, object is first or second person

- a. ʔu-čalat-sid (tə stubš)  
 PRF-chase-2sO DET man  
 'that man chasedyou(sg)'



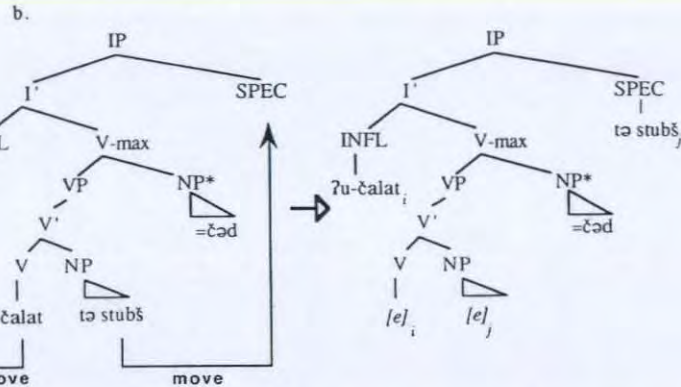
In (32), the object is represented by the incorporated suffix *-sid*, which does not need, nor is it assigned, case. The incorporated verb then moves to INFL. The D-structure subject, *tə stubš* moves to [SPEC,IP] in order to receive NOM. This derivation is to be contrasted with (33)

<sup>9</sup>This does not quite suit the behavior of second position clitics, since the movement of other incorporated elements is forced by their 'morphological subcategorization frames'. However, it does not seem inconceivable that some elements, instead of having 'morphological subcategorization frames' have 'phonological' subcategorization frames, requiring that they appear only in a particular phonological environment. Something of this sort is necessary, I believe, to correctly generate the allomorph of the indefinite article in English, 'a' before a consonant/'an' before a vowel. Because of space and time limitations, I must for the time being simply stipulate that clitics escape the case filter simply by virtue of their clitic-hood.



(33) Subject is first or second person, object is third person

a. ʔu-čalat-d =čəd (tə stubš)  
 PRF-chase-3O =1sS DET man  
 'I chased that man'



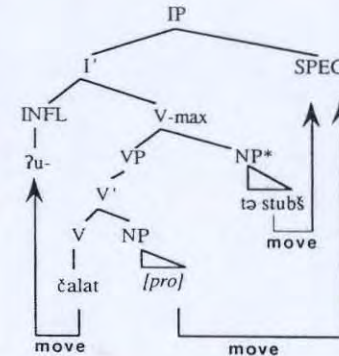
Here, the object is represented by an independent third person NP, and the subject is a clitic. When the verb raises to INFL, it leaves behind a trace which cannot assign case. Thus, in order to pass the case filter, the object NP must move to the [SPEC,IP] position, and receive NOM. Thus, sentences of this type are regarded as closely analogous to the English passive.

The derivation in (33) does not address the status of what Hagiwara (1989) claimed was the *-d* suffix on the verb. One possibility is that it is the surface reflex of a passive morpheme. If this were the case, however, we would not expect to be able to generate the subject clitic in (33), as passive morphemes absorb (or are assigned) the external theta-role of a transitive verb (Baker 1988). Another possibility is that it represents an agreement relation with a third person object, a morphological reflex of a derived SPEC/HEAD relation, in which case the complement NP must move to [SPEC,VP] in order to satisfy the SPEC/HEAD requirement before proceeding on to

[SPEC,IP] where it receives case. Or, the alternation may simply result from an allophonic variation of the final consonant of the stem, as Hess & Hilbert (1976) describe, and thus require no further comment. The choice is not one which is critical to the analysis.

This analysis was motivated generally by the need to restrict the number of structural cases available within the Lushootseed sentences; that is, to rule (30) ungrammatical. We also have in this analysis an explanation of the fact in (31), that if both the subject and object are third person, why a lexical NP can only name object. Consider the following D-structure.

(34)

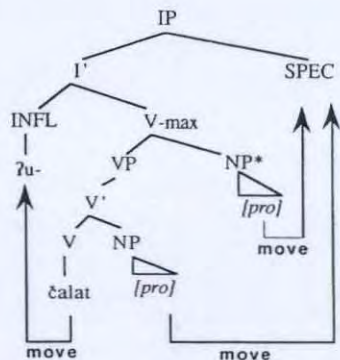


If the subject NP were lexical and the object represented by the empty category *pro*, then there would be two elements competing for the one available case. In any derivation along these lines, one or the other would fail to pass the case filter, and thus the sentence is ungrammatical.

This analysis, however, has one unsatisfying property, in that we must stipulate that in Lushootseed, the category *pro*, which must receive case, cannot be substituted for a lexical NP as a D-structure subject. That is, it is rather unlike *pro* in other

languages that has more or less the same distribution of lexical NPs. When a third person subject is not named by an NP (as it is in (32)), the subject must be represented by a phonologically null clitic, or some element that does not otherwise need to receive case. Consider the following structure.

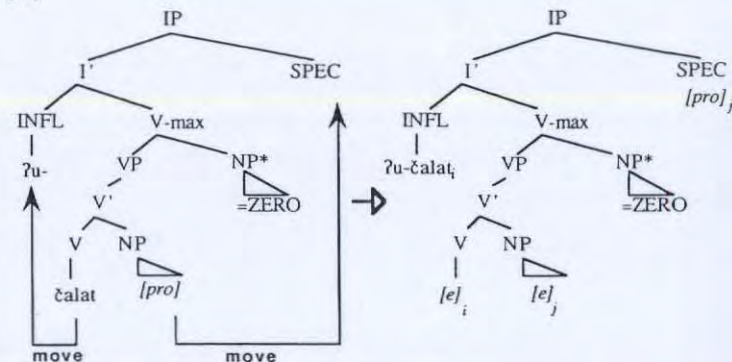
(35)



If *pro* had the same distribution as lexical NPs, then the case of the null-subject/null object sentence *ʔu-ɕalat-d* 'he chased him' would be ungrammatical for the same reason that (34) above was ungrammatical—two elements are competing for the only available case.

If the *pro* in NP\* in (35) were replaced by a phonologically null clitic, with the same properties as the overt first and second person clitics, the sentence *ʔu-ɕalat-d* is predicted to be grammatical:

(36)



The advantage of this theory over one in which clitics must receive case are clear. The hallmarks of the analysis presented thus far can be summarized as follows. First, the one lexical NP constraint is derived from the fact that there is only one structural case available in Lushootseed sentences. At D-structure, Lushootseed external theta-roles are assigned to NP\*, which can dominated clitics (both overt and null) or lexical NPs. The internal theta-role is assigned to complement position, which can dominate object suffixes, which do not need case and incorporate into the verb, or a lexical NP (or *pro*) which must ultimately receive case; from this the fact that if both arguments of the transitive verb are third person, then a lexical noun phrase must be interpreted as object follows, as does the lack of tests which distinguish an lexical NP which names subject from one which names object.

### Section 3.3 An alternative analysis

It is worth discussing one alternative analysis with the same essential features. While it does not explain the problems associated with the structures discussed thus far

with any more facility than the analysis in Section 3.2, it suggests a solution to the problem of NP interpretation in Lushootseed more generally.

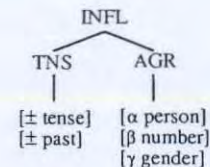
That INFL is an obligatory category in all languages has been an implicit claim in much of the work in the GB framework(s). However, if we were to accept that INFL does not participate in X-bar syntax or contribute structurally (i.e. as a case assigner) to the Lushootseed sentence, many of the effects of the above analysis will follow. The difference will be in the generation and interpretation of noun phrases. In Section 3.3.1, I will briefly outline the structural properties I assume for the INFL node and suggest that the morphological reflexes of abstract features which are associated INFL are systematically absent from Lushootseed. Finally in Section 3.3.2, I will work out a proposal along these lines.

### Section 3.3.1 INFL in syntactic theory

INFL, and previously AUX, is posited as a syntactic node. Earlier work assumed INFL to be a daughter of S, but more recent work, especially Chomsky (1986b), has reanalyzed S as a maximal projection of INFL, IP. INFL, then, has the general properties of an X-zero head, and IP the properties and structure of an X-max in standard X' theory.

Van Riemsdijk and Williams (1986) offer an INFL which dominates the binary feature  $[\pm\text{tense}]$  (TNS). If the INFL is  $[\text{+tense}]$ , a complementary feature  $[\pm\text{past}]$  is also specified. INFL may also dominate a sister to TNS, under which agreement features (AGR), presumably subject agreement features, are specified. Thus, INFL has the structure given in (37).

(37)



In languages other than English, INFL will often not dominate lexical words, but affixes reflecting specifications of these features. These will, in the syntax, adjoin to the verb (either by V-to-I raising or I-to-V lowering—both instances of head-to-head movement, and probably incorporation). English INFL may also dominate modals. Recently, others (in particular, Pollack 1989) have suggested that TNS and AGR (also Aspect) participate in X-bar independently, thus supplanting the notion INFL altogether. Agreement, per se, has also been reduced to a morphological reflex of the SPEC/HEAD relationship. Thus, what I have been referring to as INFL perhaps ought to be referred to more specifically as structural tense. With this in mind, languages with INFL nodes would be expected to express, minimally, a distinction between tensed and infinitival constructions, and past and non-past tenses.

While Lushootseed does distinguish independent from dependent clauses, such a distinction does not reduce to a tensed/infinitival distinction. Non-independent clauses differ from independent clauses in one of two ways—either the dependent verb is nominalized (in which case it surfaces with a nominalizing prefix *s-*, a determiner and subject marked with a possessive affix) or with a ‘dependent subject marker’, which is etymologically equivalent to the independent clause subject clitics but without the  $[\text{ɛ}]$ . While historically  $[\text{ɛ}]$  may have indicated the tensedness of the independent clause, this cannot be the case in the modern language as this would require the independent subject clitics to be morphologically complex.

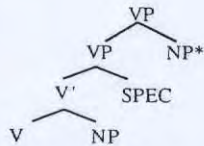
The other logical possibility, with respect to possible surface reflexes of D-structure tense is the use of aspectual morphology to indicate time-of-event with respect to time-of-speech. This was the underlying assumption in representing the perfective prefix *ʔu-* under INFL above.

However, as demonstrated in Section 1.1, this treatment Lushootseed aspect as tense is hazy at best. Lushootseed aspect seems to be a property of lexical categories, not sentences. Further, Lushootseed aspect as a marker on verbs in independent clauses is generally optional. In this sense, either 'tense' fails to be a structural property by which finite and non-finite clause are distinguished, or these morphemes fail to be a reflex of structural tense.

### Section 3.3.2 Lushootseed without INFL

Let us suppose for the moment that Lushootseed 'tense' and therefore INFL, in the sense that I have used it in this thesis, does not participate in X-bar syntax—that is, it fails to project categories and contribute structurally to the sentence. We are left with a structure along the lines of (38).<sup>10</sup>

(38)



This is merely a left-headed VP as it might appear at D-structure in any language, in principle identical to the VPs assumed in the analyses above. The difference here is that this VP is the entire sentence. How can this structure be made to generate the licit sentences of Lushootseed?

<sup>10</sup>This general approach to Lushootseed sentence structure was first proposed in Hagiwara (1987).

Recall the following licit transitive sentences.

- (39) a. ʔu-ʂalat-sid =ʂəd  
 PRF-chase-2sO = 1sS  
 'I chased you (sg)'
- b. ʔu-ʂalat-d =ʂəd (tə stubs)  
 PRF-chase-3O = 1sS DET man  
 'I chased that man'
- c. ʔu-ʂalat-sid (tə stubs)  
 PRF-chase-2sO DET man  
 'that man chased you (sg)'

In (39a), both arguments of the transitive verb *ʂalat* 'chase' are marked inflectionally; the first person subject is marked with a clitic, while the second person object is marked with a suffix on the verb. In (39b), we have a first person subject clitic and the *-d* suffix on the verb indicating that the object is third person. Here, the optional NP names the object. Finally in (39c), the object is represented with a verbal suffix, while the third person subject may be named with an NP, or like the object NP in (39b), it may be omitted (presumably replaced by a phonologically null clitic).

What was in the previous analysis a stipulation, that the category *pro* was restricted from appearing in NP\* even though a lexical NP could, must be recast. If the structure in (38) is accepted, a lexical NP cannot be generated in NP\* because there would be no position to which it could move and receive case. We will return to the problem of the lexical NP naming the subject in (29c) momentarily.

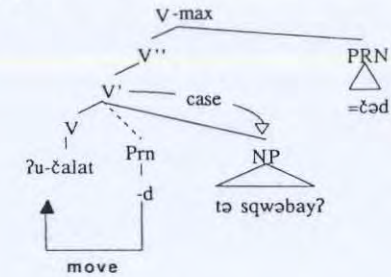
I have already demonstrated that, for whatever reason, the subject clitics in NP\* do not need to receive case in the previous analysis; thus, carrying this assumption with us in this analysis does not come at a cost. It has been further argued by Baker (1988) that incorporated nominals, such as the object suffixes, do not need to receive case.

However, Baker's discussion of antipassive construction presents the opposite situation, where a lexical NP is licensed by a case, but is not itself assigned a unique theta-role. That is, in antipassive constructions, the antipassive object is incorporated.

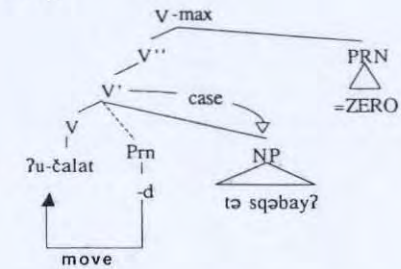
The resulting verb does not assign accusative case. However, when an oblique (that is, inherently case-marked) NP appears in such a construction, it is interpreted as naming the object. Baker accounts for this with a rather vague notion of theta-linking. The antipassive oblique NP does not receive a unique theta-role, but the incorporated antipassive morpheme somehow 'transmits' its theta-role to the oblique NP. Thus, the two form a sort of thematic chain; the oblique NP is, in a general sense, an appositive (or in Jelinek's 1984 terms, adargumental) adjunct.

Returning now to Lushootseed, we may ask, how do NPs get licensed? Consider the derivations in (40) and (41). For expository purposes, I have labelled the incorporable (object) pronominal position "Prn", and the external subject (clitic) position "PRN", in order to distinguish them easily from the category I have labelled "NP", which must be licensed by case. It is important to remember that the NP system and the pronominal system are separate. Again for expository purposes, we represent both systems in the same two dimensions, although ideally would represent them in parallel planes. That is, we want to represent sisterhood between the argumental (i.e. pronominal) complements of V and the V-head in order to preserve the requirements of theta-role assignment across languages. In addition, we want to preserve cross-linguistic requirements of case assignment (under government) to NPs, and thus to represent sisterhood between the phrasal complements of V (nonargumental NPs) and the V-head.<sup>11</sup>

- (40) ʔu-čalat-d =čəd tə sqwəbayʔ  
 PRF-chase-3O =1sS DET dog  
 'I chased the dog'



- (41) ʔu-čalat-d tə sqwəbayʔ  
 PRF-chase-3O =3S DET dog  
 'he chased the dog'



The above trees appear to be in violation of the theta-criterion, as the incorporated element, -d and the independent element tə sqwəbayʔ are both sisters to V, even though there is only one theta-role between them. However, I believe similar situations occur in other kinds of constructions in many languages. One obvious example is the existence of special constructions, like appositives and some parentheticals in English and other languages, which perhaps 'inherit' not only theta-roles from adjacent Ns, but their case as well. Another possible example is the elevation of an inherent case that was not available in other constructions, such as the oblique case

<sup>11</sup> I do not want, necessarily, to imply 'structural' sisterhood of the pronominal complements and the NP complements. This question I leave for further research.

which is assigned to antipassive NPs in the presence of an incorporated antipassive (true) argument.

Within a verb phrase, of course, there is a third possibility. Namely the position licenced by ACC. It is critical to note that in (40) and (41) the theta-role is assigned to the pronominal element which later incorporates. This action does not *a priori* prevent the verb from assigning case. Baker (1988) shows that in some languages the resulting verb is still able to assign case to an otherwise un-case-licensed (but in Baker's examples, independently theta-marked) lexical NP. Such an NP is usually assigned a theta-role by an element that, in the end, fails to assign it case.

In the above two derivations, the lexical NP is assigned ACC by the verb, even though the verb's internal theta-role is assigned to the suffix *-d*, which incorporates later. We can now give a more formal account of the interpretation of the lexical NP than Baker (1988) gave to the antipassive NP, but without appeal to the 'Linking Rules' of Jelinek (1985), which made critical reference to the surface case marking of the lexical NP involved and the role-paradigmatic form of the pronominal element. Instead, I propose the universal constraint on NP interpretation and the simple algorithm such as in (42) that will successfully interpret NPs in Lushootseed.<sup>12</sup>

- (42) a. Lexical NP interpretation constraint: Lexical NPs must be coreferential (i.e. identified) with theta-marked elements.
- b. Condition on coreferentiality: coreferential categories must agree (or, at least, not disagree) in phi-features (i.e. person/number/gender as grammaticized in the language). (This may also be quite sensitive to more pragmatic features, such as animacy, volitionality, etc., though, I predict, not so much in terms of grammaticality as sensibility.)
- c. NP interpretation algorithm: Make NPs which are not independently theta-marked coreferential with the 'structurally closest' theta-marked element satisfying (42b).

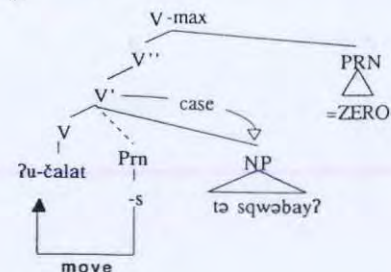
<sup>12</sup>The algorithm in (42c) has an advantage over Jelinek's (1984) Linking Rules, in that (42c) still relies on structural relations rather than matching morphological paradigms (i.e. case marking of structural NPs and 'G-case' of pronominals).

As I have said, something along the lines of (42) is required in the theory independently of the VP-only analysis of Lushootseed, in order to account for 'theta-linking' of case-licensed NPs which do not receive an independent theta-role. In Baker's (1988) theory, the oblique NPs in both passive and antipassive constructions fit this description—the theta-role with which they are linked is not assigned to the oblique NP, but to the incorporated morpheme, which then transmits, or links, its theta-role to the oblique NP.

Before the algorithm in (42c) steps in, it must be that a lexical NP be case-marked independently of it being assigned a theta-role, as in (40) and (41). In these sentences, the lexical NP *tə sqwəbay?* is not theta-marked, and is interpreted as being coreferential with the third person object pronominal *-d*. I submit that *-d* is the structurally closest pronominal by virtue of both being dominated by the same category, V'.

(42c) will also successfully interpret the third licit structure, in which the case-licensable NP is made coreferential with the third person subject rather than a first or second person object.

- (43) ?u-čalat-s =ZERO tə sqwəbay?  
PRF-chase-1sO =3S DET dog  
'I chased the dog'



In (43), the structurally closest pronominal is that which receives the object theta-role, as it was in the previous examples. But *-s* in (43) is first person singular, where *tə sqʷəbayʔ* is third person. Since they disagree, the algorithm (42c) cannot make them coreferential. The algorithm thus makes *tə sqʷəbayʔ* coreferential with the subject, the third person (=ZERO) clitic.

The algorithm in (42c) also captures the generalization that when both subject and object are third person, a lexical noun phrase can only be interpreted as naming the object—the object theta-role is always assigned to the complement pronominal, that dominated by *V'*, and that pronominal is always structurally closer to the accusative noun phrase than the subject pronominal. Further, it also rules ungrammatical sentences in which a case is assigned to a third person (lexical) NP when both the subject and object are third person—the algorithm cannot find a theta-marked element with which the lexical NP agrees.

Note that first and second person lexical NPs are not ruled out in this analysis. But here again, the theory provides the category *pro* which is usually specified for person and number. Thus, the structural verb may *always* assign ACC to some independent nominal.<sup>13</sup>

### Section 3.4 Algorithmic interpretation of other structural NPs

I will not attempt, in this thesis, to come to a final decision between the analysis in Section 3.2 and the analysis without INFL in Section 3.3. However, the fact that the INFL-less analysis required the formalization of an algorithm which interprets NPs in the *derivation* of a sentence, rather than only in its *parse*, makes some headway with

<sup>13</sup>It is a little troubling, under this proposal, that intransitive verbs can still assign accusative case. However, judging from the fact that Lushootseed does not appear to distinguish 'intransitive' verbs from 'unaccusative' ones, that the theta-role in the case of an intransitive verb in Lushootseed is always assigned externally. Thus, Burzio's generalization, that only verbs that assign an external theta-role can assign accusative case, can be **made** pushed to make accusative case available, even to intransitive verbs.

other problems associated with the derivation of NPs that are somehow extra in a sentence. I have already alluded to the possibility of extending the constraint and algorithm in (42) to a theory of appositives. In this section, I will discuss other algorithmic aspects of the interpretation of other NPs in Lushootseed.

Interpreting structural NPs via algorithm rather than by structural relations seems *ad hoc*, and would not be an acceptable alternative if it could not be demonstrated that NPs more generally must appeal to algorithmic interpretation. In general, the question of 'transmission of theta-roles' requires some measure along the lines of (42c). In addition, there is evidence that algorithmic interpretation of NPs is a general phenomenon in Lushootseed, and not merely an *ad hoc* device. This evidence, described more fully in Hukari (1976), is the constraints on the interpretation of comitatives. Consider the following data, adapted from Hukari:<sup>14</sup>

- (44) *tə-ʔətəd ti ad-suqʷaʔ ʔi ti ad-syayaʔ*  
 PRG DET 2sPos-ygr.sibling P DET 2sPos-friend  
 'your little brother and your friend are eating'
- (45) a. *tə-ʔətəd =čələp ʔi tə ad-syaʔyaʔ*  
 PRG-eat =2pS P DET 2sPos-friend  
 'you(sg) and your friend are eating'
- b. *ʔu-čalat-ubuʔəd =čəd ʔi ti ad-syaʔyaʔ*  
 PRF-chase-2pO =1sS P DET 2sPos-friend  
 'I chased you(sg) and your friend'

If one was committed to generating the object suffixes as agreement, one would resort to conjoining the *ʔi* phrase with [*pro*]. However, as Hukari (1976) observes, conjunctions of singular NPs cross-linguistically generate plural agreement; while there is a preference for the plural markers (as in 50), they are not necessary, as demonstrated in (46).

- (46) a. *tə-ʔətəd =čəxʷ ʔi tə ad-syaʔyaʔ*  
 PRG-eat =2sS P DET 2sPos-friend  
 'you(sg) and your friend are eating'

<sup>14</sup>NB: The verb *ʔətəd*, in spite of ending with a *-d*, is an intransitive verb in Lushootseed.

- b.    ʔu-čalat-sid    =čəd ʔi ti    ad-syaʔyaʔ  
 PRF-chase-2sO = 1sS P    DET 2sPos-friend  
 'I chased you(sg) and your friend'

In (46), we have an *ʔi* comitative interpreted with singular pronominals. This indicates that the pronominals are not agreement markers. Further, it demonstrates that the *ʔi* comitative is not a conjunction but a preposition. If one generates the pronominals in the syntax, and were to conjoin them with *ʔi*, then moving the pronominal out of the coordinate structure would violate the Coordinate Structures Constraint (Ross 1967).<sup>15</sup> Thus on two independent grounds, I take [*ʔi* + NP] to be a prepositional phrase.

However, there is an additional condition on interpreting *ʔi* comitatives, and that is that when interpreted along with with argumental person markers, *ʔi* NPs must be possessed, and must be interpreted as comitative with an argument with which the possessor 'agrees' in phi-features:

- (47) a.    ʔu-čalat-sid    =čəd ʔi tsiʔiŋ    ad-skʷuy  
 PRF-chase-2sO = 1sS P    that(f) 2sPos-mother  
 'I chased your mother and you(sg)'  
 \*'your mother and I chased you'
- b.    ʔu-čalat-sid    =čəd ʔi tsiʔiŋ    d-skʷuy  
 PRF-chase-2sO = 1sS P    that(f) 1sPos-mother  
 \*'I chased my mother and you'  
 'my mother and I chased you'
- c.    \*ʔu-čalat-sid    =čəd ʔi tsiʔiŋ    sʔadəyʔ  
 PRF-chase-2sO = 1sS P    that(f) woman  
 \*'I chased that woman and you'  
 \*'that woman and I chased you'

Here again, there is a preference for the plural person marker, but for clarity in translation we have presented (47) with singular forms. In (47a) we can see that the comitative NP is marked with the second person singular possessive prefix *ad-*, and can only be interpreted with a second person argument, the object *-sid*, and not the first

person subject, =čəd. In (47b), the comitative NP is marked with a first person possessor *-d*, and accordingly can only be interpreted along with the first person subject =čəd and not with the second person object. Finally, in (47c), an unpossessed comitative cannot be interpreted with respect to first or second person arguments of the verb.<sup>16</sup>

There seems to be no straightforward way to require this kind of 'agreement' structurally, especially since the comitative NP may be interpreted along with either the verb-incorporated object marker or the clitic subject marker. Further, the possessive marker on the comitative noun is a prefix, and does not always agree, strictly, in number with the pronominal category. I take this as further evidence that NPs are interpreted algorithmically with respect to the inflectional markings in a sentence, rather than to structural relations they bear within the sentence.

<sup>16</sup>Hukari (1976) does not discuss the interpretation of third person-possessed comitatives (roughly equivalent to 'I chased her brother and you', etc.). His discussion of these facts leads me to suspect that such NPs must be interpreted with respect to third person arguments. However, such a construction does not seem to appear in my data; it may be that third person-possessed comitatives may be grammatical when interpreted with first and second person arguments. This is an interesting question, but one which does not immediately bear on the issue of algorithmic interpretation of NPs. What is clear is that in (49-52) one must appeal to algorithmic matching of inflectional markings (possessive morphemes) with other features of the sentence (pronominals), independent of their structural relationships.

<sup>15</sup>The constraint prohibits movements of one conjunct out of a coordinate structure unless the rule applies specifically to coordinate structures. Since both moving the object suffix onto the verb and moving the clitic to second position are both general in their application, they could not apply to a [pronominal-*ʔi*-NP] coordinate structure. See Hukari (1976) for a discussion.



#### Section 4.0: The Lushootseed *-əb* Construction

In this section, we will examine another transitive construction, in *-əb*. I have delayed discussing this construction for several reasons. First, of all Lushootseed constructions, it most obviously seems to contradict the generalization made in Section 1.0 that only one lexical NP naming an argument may appear in a given sentence. However, as I argued in Section 3.0, this condition on Lushootseed transitives is derived from the fact that only one structural case is available in Lushootseed sentences. I will argue in this section that the 'second' NP in the *-əb* construction is not licensed by a structural case, but by an inherent case.

Another reason for waiting to discuss this construction is that it is clearly marked in Salishan. While sentences in *-əb* are reasonably common in Lushootseed texts and discourses, its function in licensing this inherently case-marked NP, which names the notional subject of the transitive verb, is apparently an innovation unique in Salishan to Lushootseed (Hess & Hilbert, in press). Finally, in discussing the *-əb* transitive, I hope to use it as a litmus test for deciding between the analyses in Sections 3.2 and 3.3, both of which were seen to be adequate to describe the unmarked transitive, but both with some loss of generality with respect to the predictions of the other.

##### Section 4.1 The *-əb* transitive

In the transitives discussed earlier, logical subjects of the verb were assigned to the D-structure subject position (NP\*), and were represented on the surface by overt subject clitics when first or second person or by a lexical NP (or a corresponding empty category) when third person. Logical object was assigned to complement position, and represented by incorporated suffixes for first and second person, and an optional lexical NP in the third person.

With the *-əb* transitive, however, the situation is rather different. A transitive verb in *-əb* is always interpreted as having a third person (logical) subject. The subject may also be named in an optional PP. The logical object may be first, second, or third person, and is represented on the surface by the first and second person clitics (which indicate subject in the unmarked transitives presented in Section 1.0), or by an optional lexical NP (when third person).<sup>17</sup>

- (48) a.  $\gamma u-k^wax^wat-əb =čəd$   
 PRF-help-EB =1s  
 'he helped me'
- b.  $\gamma u-k^wax^wat-əb =čəd \gamma ə ti d-staləł$   
 PRF-help-EB =1s P DET 1sPos-nephew  
 'my nephew helped me'

In (48), the verb *k<sup>w</sup>ax<sup>w</sup>at* 'help' is suffixed with *-əb*. The logical object of the verb, which in the absence of *-əb* would be represented with an object suffix, is now represented by a subject clitic, in this instance, *=čəd*. If it is named, the third person subject is represented with an NP governed by the preposition  $\gamma ə$  (48b).

If the logical object is not first or second person, a lexical NP may be used. This NP is not marked with a preposition, and seems to be licensed by the same structural case as the unmarked NP in the transitives discussed in earlier sections.

- (49) a.  $\gamma u-k^wax^wat-əb \gamma ə ti d-staləł t-s-i d-sk^wuy$   
 PRF-help-EB P DET 1sPos-nephew DET(-f) 1sPos-mother  
 'my nephew helped my mother.'
- b.  $\gamma u-k^wax^wat-əb t-s-i d-sk^wuy \gamma ə ti d-staləł$   
 PRF-help-EB DET(-f) 1sPos-mother P DET 1sPos-nephew  
 'my nephew helped my mother.'
- c.  $\gamma u-k^wax^wat-əb \gamma ə ti d-staləł$   
 PRF-help-EB P DET 1sPos-nephew  
 'my nephew helped her.'

<sup>17</sup>For variety, the verb-of-choice in this section is *k<sup>w</sup>ax<sup>w</sup>at* 'help'. These examples may just as easily be presented using one of the transitive stems used earlier, *čalat* 'chase' or *təsət* 'hit'. Also, most of the NPs in this section are kinship terms, which in Lushootseed are always marked as possessed. This is accidental and does not indicate a condition on the interpretation of these NPs on the order of that on the interpretation of comitative  $\gamma i$  NPs.

- d.  $\gamma u-k^wax^wat-\text{\textcircled{a}}b$  t-s-i d-sk^wuy  
 PRF-help-EB DET(-f-) 1sPos-mother  
 'he helped my mother.'
- e.  $\gamma u-k^wax^wat-\text{\textcircled{a}}b$   
 PRF-help-EB  
 'he helped her.'

Note that the third person subject is still named by the NP governed by the preposition  $\gamma\text{\textcircled{a}}$ , and the object NP is bare. The two NPs may occur in either order (49a and b), and either or both may drop (49c through e).

#### Section 4.1.1 A brief analytical history

Snyder (1957) calls the  $-\text{\textcircled{a}}b$  construction "passive", saying, "This suffix indicates that purposeful action is being directed toward the passive subject." This indicates that Snyder acknowledged the ability of  $-\text{\textcircled{a}}b$  to name an actor acting on a patient marked with a subject clitic. "Passive" in this sense is not an unreasonable designation.

However, Hess (1973) concludes that  $-\text{\textcircled{a}}b$  is not a passive marker. He observes that  $-\text{\textcircled{a}}b$  may be used when the speaker wishes to focus attention on the "patient and his attitude toward his fate"; Hess glosses  $\gamma u-k^wax^wat-\text{\textcircled{a}}b = \text{\textcircled{c}}\text{\textcircled{a}}d$  (as in 48a) as "He (insisted) on helping me (although I would have preferred to do it alone)" (p.92). However, Hess points out that the  $-\text{\textcircled{a}}b$  construction is the only one where the actor/experiencer can be named with a referential NP, and thus is not functionally equivalent to the passive construction in English. In the grammatical notes to Hess & Hilbert (in press),  $-\text{\textcircled{a}}b$  is called "ergative"; it has two principal functions. "... it provides a shift in focus drawing attention to a first or second person patient .... to provide for the explicit expression of an agent ." The label "ergative" is appropriate, in the same sense that "passive" was for Snyder; it is certainly true that the agent is marked in an oblique case, and the patient is represented in the same way as subjects of intransitive verbs (as clitics), a classic ergative pattern.

It is true that the  $-\text{\textcircled{a}}b$  transitive uses the usual subject markers (the clitics) to represent the object of a verb, and it is true that the logical object of the sentence is somehow made more salient in the  $-\text{\textcircled{a}}b$  construction than in the other transitives. But in the sense of "passive" being an operation which an n-ary predicate is changed into an (n-1)-ary predicate (Keenan & Timberlake 1985), the construction is more elusive. On the one hand, there are clearly *nvo* NPs possible in this construction, where only one was possible before. This is clearly not what was intended by the (n-1) criterion.

On the other hand, in considering the pronominal morphemes of Lushootseed, it is true that the usual range of object marking is absent in this construction, and that the usual markers of subject, the clitics (including, I presume, the =ZERO third person) are used for naming the notional object. This is very clearly reminiscent of the English passive.

My point here is not to argue whether this construction in Lushootseed is or is not passive, or is or is not ergative. The question that arises from this discussion is simply whether the Lushootseed  $-\text{\textcircled{a}}b$  construction, including its morphological and syntactic patterning, can be reasonably derived within one or both of the general approaches to Lushootseed syntax presented in Sections 3.2 and 3.3.

#### Section 4.1.2 Excursus on the typological perspective on Lushootseed

Typologists like to categorize languages as to the least marked surface order of the subject NP, the object NP and the verb. Using standard criteria, the least marked transitive construction (discussed previously, with the full set of object suffixes) cannot be classified this way; subject and object cannot be named by NPs. Affixes, being morphologically bound to some other element in the S are not to be considered in this respect; clitics, generally, are also not considered.

However, in the *-əb* construction, the two arguments of a transitive verb can be named with NPs, and the least marked order (or the most frequently occurring order) is VSO (i.e. Verb - PP - NP, as in (49a)). VSO languages are a little dissatisfying to the GB theorist, because it is impossible to construct a constituent VP from the surface V and O. Ordinarily, the GB assumes that there is VP underlyingly, and probably a level at which the sentences is SVO (or SOV); during the derivation, the verb is raised to some higher-than-sentence category on the left, INFL for instance, and the surface VSO order is derived.

This analysis makes several predictions. First, adverbs modifying VP are expected to stay 'low'. That is, if the intermediate order of a sentence is S-Adv-V-O, raising the verb would result in an V-S-Adv-O order, as adverbs do not typically move (Pollack 1990).

Second, deriving a VOS surface order (as in (49b)) in a canonically VSO language would require either right-extrapolation of the subject NP, or a complicated series of raisings of the verb and the object NP leftward. Either of these should probably occur only under some pragmatic duress, for instance, when special attention is to be drawn to the subject NP (e.g. conditions analogous to those which are thought to result in heavy NP shift in English).

However, neither of these is borne out in Lushootseed. Adverbs which modify VP, such as '(dance) well', 'very (hungry)' etc. consistently appear to the left of the verb in Lushootseed. This is true of intransitives (such as in (50)), as well as 'regular' transitives, and transitives in *-əb*.

- (50) a. *cickʷʹ ʔəs-tagʷəxʷ tiʔil spaʔc*  
very STV-hungry that grizzly.bear  
'that grizzly is very hungry'
- b. *cickʷʹ =čəd ʔəs-tagʷəxʷ*  
very =1sS STV-hungry  
'I am very hungry'

Secondly, while the VSO order is unmarked in Lushootseed, the VOS order does not appear to carry with it the pragmatic force expected if subject were either an extremely informative NP, or some kind of afterthought (cf. English *He hit the squirrel, the idiot*). The *-əb* construction tends to focus attention on the logical *object*, even though it is the only construction where a third person subject can be named in the presence of a third person object.

Another problem from the typological perspective is the incidence of clitics (in complementarity with lexical NPs) to indicate first and second person object—as the clitics are placed in second position independently of the position of the verb and lexical NPs in the sentence, sentences in *-əb* with first or second person object cannot be considered.<sup>18</sup>

With all the preceding in mind, (51) lists the properties specific to the *-əb* transitive which must be accounted for.

<sup>18</sup>This is perhaps not as great a problem as it appears—it is not unheard of for languages to require specific orderings for first and second person arguments with respect to third person nominals.

- (51) a. *-əb* transitives always have a third person (logical) subject
- b. logical objects of *-əb* transitives are realized as subject clitics (including third person objects, realized as the ZERO clitic), rather than the expected object suffixes
- c. when present (i.e. when the logical object is third person), a bare NP may name the object; as expected, lexical NPs naming the patient cannot cooccur with overt clitics indicating first or second person patients
- d. an oblique NP (PP) may name the logical subject
- e. bare and oblique NPs are freely ordered after the verb

In Section 4.2, I will discuss the *-əb* transitive in light of the analysis presented in Sections 3.2, and discuss some of the problems with such an analysis. In Section 4.3, I will compare the INFL treatment with the VP-only analysis, and suggest that, although many of the properties listed in (51) follow more naturally within this analysis, the *-əb* suffix itself cannot be generated within a VP-only analysis given the theory of incorporation (Baker 1988, as discussed in Section 2.0), and thus the INFL analysis will emerge as the stronger analysis, in spite of the problems discussed.

#### Section 4.2 The *-əb* construction in an analysis with INFL

Within the parameters of a grammar such as presented in Section 3.2, we would like to capture the morphological properties of the *-əb* construction (51a and b) within the framework provided by Baker (1988). The most obvious analysis of the *-əb* suffix within this framework is that the suffix is pronominal; it is assigned a theta-role at D-structure and incorporates (or is incorporated into) the verb. As mentioned in (51a), the *-əb* suffix fixes the interpretation of the external argument as third person. We therefore want to generate the suffix in the position of the D-structure argument. In the previous sections, we have assumed that this was the adjoined position under V-max, NP\*. Since Baker (1988) did not recognize this position, he generates passive morphemes

(that is, morphemes which are assigned or absorb the external theta-role of transitive verbs) in INFL—they incorporate with the verb after the verb raises to INFL.

The clitics, which in the unmarked transitive presented earlier, represented the subject, and thus were generated in NP\*. In the *-əb* construction, they indicate the person of the object, and therefore must be generated in complement position. We may wonder why the usual range of object suffixes is not used, but it is a simple matter to argue that the necessary morphological subcategorization frame for both the object suffixes and the *-əb* suffix require a bare verb stem to which to attach; since they compete for the same morphological position, the *-əb* suffix cannot cooccur with the object suffixes.

However, recall that within the INFL-as-only-case-assigner analysis, we concluded that the clitics did not require case marking. In its way, a treatment of the *-əb* construction is rather satisfying, since the clitics appear in complementary distribution with lexical NPs. The clitics, which do not need to receive case *may* be generated in complement position, which will not be assigned case by the verb. When the logical object is third person, it may be represented by a lexical NP, which, as I have said, presumably raises to [SPEC,IP] in order to receive case. On the other hand, were we to consider this analysis independently of the unmarked transitives discussed in Section 3.2, we might be led to conclude that the clitics *did* require case marking, since there is nothing in this construction to prevent a clitic generated in complement position from raising to [SPEC,IP]. This is not a problem for the analysis, *per se*, but it is certainly an interesting asymmetry between the clitic that names subject (in the unmarked transitive) and the clitic that names object (in the *-əb* transitive).

The PP (or oblique NP) which appears in the *-əb* transitive unambiguously names the subject. However, the D-structure position of this category is slightly elusive. The most likely analysis is that it is base generated in within VP. Thus, the common VSO

order would be derived simply by raising the object NP to [SPEC,IP]. Deriving the VOS order from this point would simply be a matter of right-extrapositing the PP from inside VP. This, as I have said, would suggest some reasonably strong pragmatic difference between the two orders, but perhaps the difference is subtle.

Recall that in Section 3.2 we required the object NP to raise to [SPEC,IP] because case could not be assigned within VP. Koopman's (1987) manuscript, which originally motivated this approach, suggests an alternative approach to the *-əb* construction. Structural case *could* be assigned within VP, if the verb failed to move out of the verb phrase. If this were to take place, the object NP would be assigned accusative (structural) case in complement position, and an inherently case-marked NP can appear in [SPEC,IP] to indicate the subject. This would result in a basic VOS order, given the trees assumed in Section 3.2. The more common VSO order would then have to be derived by extrapositing the object NP, or perhaps by adjoining the subject to the left of V (in the manner described by Chung 1989 for Chamorro). As I mentioned above, one might expect such a movement to indicate a fairly important pragmatic distinction, but this is apparently not the case.

Nevertheless, there is some independent evidence which indirectly supports this general approach. The *ʔə* preposition has a variety of functions: it may indicate a possessor (52a), an instrument of an action (52b), or the patient in a benefactive (52c) as well as a few others.

- (52) a. ti q'ilbid ʔə tiʔit stubʂ  
 DET canoe P that man  
 'that man's canoe'
- b. ʃu-ʂabalik<sup>w</sup> t-s-i sʃadəyʔ ʔə tə λ'x<sup>w</sup>əyʔ  
 FUT-dry.food DET(-f-) woman P DET dog.salmon  
 'the woman will dry dog salmon'

- c. ʔu-tag<sup>w</sup>-yi-d ti John ʔə tə puʔtəd  
 PRF-buy-BEN-3sO DET J P DET shirt  
 'he bought John a shirt'

- cf. ʔu-tag<sup>w</sup>ət-d tə puʔtəd  
 PRF-buy(trans)-3O DET shirt  
 'he bought a shirt'

In (52a), where the *ʔə* phrase names a possessor, strongly suggests that the Lushootseed *-əb* construction is reminiscent of ergative constructions in other some languages, where possessor (genitive) NPs and ergative subjects surface with the same case marking. However, the instrumental use in (51b) and the patient use in (51c) occur within VP; either phrase may come first after the verb, although inversion in (51b and c) would be extremely marked pragmatically.

The analysis the *ʔə* phrase as the subject depends on our treatment of the *-əb* suffix. That is, if the *-əb* suffix actually bears the external theta-role, the *ʔə* phrase could not normally be generated in NP\*. However, if the *-əb* suffix were treated as closely analogous to the English passive, then generating the oblique *ʔə* phrase would proceed entirely analogously to the generation of the English passive *by* phrase. Nevertheless, as the above discussion should indicate, the analysis presented in Section 3.2 *can* reasonably generate the *-əb* construction. The only problem which remains is the more general one of deriving the Adv - V - (S/O) order. If the adverbs in question adjoin to VP, then raising the V leftward to INFL would result in a V - Adv order. This, however, is a minor difficulty, at best.

In light of the feasibility of the INFL-as-only-case-assigner analysis in deriving both the unmarked transitive and the *-əb* construction, we might hope that the *-əb* construction would serve as a litmus test for deciding between that analysis and the VP-only analysis presented in Section 3.3.

### Section 4.3 The VP-only treatment of the *-əb* construction

I now turn to a discussion of how we might treat the *-əb* construction within a VP-only analysis. We will proceed through the properties of the *-əb* transitive listed in (51) in reverse order, beginning with the problem of the free ordering of the NP and PP mentioned in (51e).

Under this analysis, the Lushootseed sentence is simply a VP, the pre-verbal adverb adjoined over VP on the left, accounting automatically for the Adv - V order. But because the NPs naming subject and object (that is, the NP naming object and the PP naming subject) in the *-əb* construction must both occur within VP, they may be freely ordered as they are both structural complements of the verb.

In this light, the whole construction is analogous to a dative VP in many languages (including English) in which two argumental ‘object’ NPs, case licensed by different cases, may appear in either order within the VP. Consider the Serbian data in (53).<sup>19</sup>

- (53) a.   da:           [psetu]<sub>ACC</sub>   [maitsi]<sub>DAT</sub>  
           give(3sS)   the.dog(acc)  mother(dat)  
           ‘...gives the dog to mother’
- b.       da:           [maitsi]<sub>DAT</sub>   [psetu]<sub>ACC</sub>  
           give(3sS)   mother(dat)   the.dog(acc)  
           ‘...gives mother the dog’

Recalling that the *ʔə* preposition seems to be a general case marker associated with a variety of roles (52), the NP/PP ordering is captured straightforwardly. Both are

<sup>19</sup>The Serbian dative-shift example in (53) is drawn from personal work with Siniša Spajić. These data are perhaps not as illustrative of this point as would hope, as Serbian has notoriously free surface word order generally. However, the analogous English VP is also problematic as an illustration, as the dative preposition *to* disappears if the dative object precedes the accusative:

          give   [the dog]<sub>ACC</sub>   [to mother]<sub>DAT</sub>  
           give   [mother]<sub>DAT</sub>   [the dog]<sub>ACC</sub>

A related problem is that though the order of structural complements to the verb is free, the cases in which they appear are fixed. Note the following example from Chicasaw (Munro, p.c.), in which the accusative case marker appears always appears on the NP further from the verb. :

lhoo-at	hattak-a	ofi'	im-a-tok	lhoo-at	ofi'-a	hattak	im-a-tok
woman-NOM	man-ACC	dog	DAT-give-PT	woman-NOM	dog-ACC	man	DAT-give-PT
‘The woman gives the dog to the man’				‘The woman gave the man the dog’			

complements of the verb, and ordering among structural complements is relatively free cross linguistically, as demonstrated by the preponderance of ‘dative shift’ constructions in a variety of languages. The conditions under which a dative NP is predicted to precede or follow an accusative NP seem to be rather subtle.<sup>20</sup> Thus, it is not wholly unexpected that the order of the subject-naming PP and object-naming NP in the Lushootseed *-əb* construction to be relatively free.<sup>21</sup>

Let us consider the syntactic properties (51c and d) simultaneously, returning to the argument in Section 2.0 and Section 3.3, namely, that the NP system in Lushootseed is largely non-argumental. NPs must receive case in order to pass the case filter, and there are still two kinds of case: structural and inherent. In English, structural cases are usually assigned to argumental (i.e. agent and patient) NPs, where inherent cases are usually non-argumental. In Lushootseed, structural case as well as inherent case is assigned to adargumental modifiers. In Section 3.3.2, I argued that structurally cased NPs are interpreted by algorithm, rather than by structural (or movement-derivational) criteria.

Note now that the algorithm that associates the bare NP with the object theta-role in the transitives presented in (42, Section 3.3.2), will also correctly interpret it as the logical object in the case of the *-əb* transitive. Interpreting the *ʔə* phrase as the logical subject is a natural extension of the algorithm in (42). Baker (1988) claims that structural cases are never associated with any particular theta-role, while inherent cases are associated with only a restricted range of roles.<sup>22</sup> The algorithm in (42) must make allowances for case-specific criteria on interpretation (recall the comitatives in Section

<sup>20</sup>This judgement is based on my own intuitions for English, and my interpretation of comments made by Spajić (p.c.) regarding Serbian. Munro (p.c.) suggests that the difference in Chicasaw is also subtle.

<sup>21</sup>The weak preference for the VSO order may be explainable by appeal to a cross-linguistic tendency for preferring actors (or subjects) to precede patients (or objects) in the unmarked case.

<sup>22</sup>In fact, Baker (1988) distinguishes structural case from inheherent case and *semantic* case, which is associated with one and only one theta-role.

3.4); it may reasonably be modified to stipulate that in the  $-\text{əb}$  construction the inherent  $\text{7ə}$  case be interpreted uniquely with the external theta-role.

Finally, we come to the morphological properties in (51a and b), which clearly present the biggest problem for this analysis. If we choose to think of  $-\text{əb}$  as marking a third person logical subject, in the sense of the Pronominal Argument Hypothesis, it will be assigned the external (subject) theta-role, and incorporate into the verb.

While the clitics can be generated in complement position, as described above in Section 4.2, the VP-only analysis requires the  $-\text{əb}$  suffix to be generated in NP\*, so it can be assigned the external theta-role. However, it would not then be able to be incorporated into the verb, as the trace in NP\* would not (under most definitions of government) be properly governed, and would violate the ECP (17).

While there may be a way around this problem<sup>23</sup>, for the moment we have one clear piece of evidence against the VP-only analysis that does not rely on the theory-internal stipulation that INFL (or tense) must participate in the syntax of all languages. The analysis is ruled out because independently motivated principles of the theory predict this obviously grammatical construction to be ungrammatical.

#### Section 4.4 Summary

Thus, in spite of the need to stipulate that *pro* is restricted from being generated in NP\* (Section 3.2) and the complications which arise in deriving both the V - NP - PP order and the V - PP - NP order in the  $-\text{əb}$  transitive, the INFL analysis presented in Section 3.2 is clearly to be preferred over the VP-only alternative. Details of the

analysis of  $-\text{əb}$  need to be worked out, but unless the theory of pronominal incorporation can be modified (or  $-\text{əb}$  analyzed differently), the contention that INFL (or Tense) does participate in X-bar syntax, and does contribute structurally to the sentence universally is supported.

<sup>23</sup>One obvious solution is to change the definition of government such that an incorporated element generated in NP\* can antecedent govern its trace in that position and Baker's (1988) Government Transparency Corollary may be invoked to make the assignment of inherent case (by  $-\text{əb}$  to the  $\text{7ə}$  phrase in NP\*) automatic. Another promising possibility is to treat the  $-\text{əb}$  suffix were merely a suffix on the verb (perhaps blocking the incorporation of the 'normal' object suffixes), and not an incorporated argument, then it is possible to assign the external theta-role to an lexical NP in NP\*, and account for its inherent case-marking independently.

## Section 5.0: A Broader Perspective

In the analysis of Lushootseed, two principal problems have arisen which are not generally encountered, or have not been generally discussed, in GB theories of language. The first is the general Salishan prohibition on two NPs naming arguments. The second is the critical role played by the morphology in the interpretation, not only of sentences, but of individual noun phrases. While it is certainly not unusual for morphological marking to be considered, even crucial, to the interpretation of roles, it is usually case marking and agreement morphemes which are the determinants. In Lushootseed, with the exception of the *ʔə* phrase in the *-əb* construction, it was the *lack* of agreement between a morpheme and an independent nominal (and also possessive marking on the noun) which determines how lexical NPs are interpreted.

In this thesis, I have suggested two proposals which both account for the particular problems found in Lushootseed and have crosslinguistic ramifications which are empirically testable. While the construction discussed in Section 4.0 seemed to single out one of these as better for Lushootseed, the other analysis made some strides towards a theory of grammatical interpretation of noun phrases, which is required in a theory of parsing, if not in a theory of sentence generation.

The first of my proposals involves my interpretation of Jelinek's (1985) Prenominal Argument Parameter. Jelinek introduced several new mechanisms, in particular 'Grammatical' vs. 'Lexical' case, to describe a range of phenomena associated with pro-drop, nonconfigurationality, and split-ergativity. The view defended here is not that Jelinek's fundamental observations were wrong—quite the contrary. But in the preceding pages I hope to have derived most of Jelinek's observed phenomena, at least the phenomena she would have observed in Lushootseed, from existing principles in the theory, rather than introducing an entirely new parameter which is essentially independent of other factors in the grammar, and therefore less easily learnable.

The essential property of my proposal, which is in line with Jelinek's fundamental observation, is that arguments (theta-roles) are fundamentally independent of structural noun phrases and the properties of case-licensing. I differ from Jelinek in that I believe that assignment of theta-roles and assignment of case may share a number of properties which have long been thought to apply to both systems in the theory. In particular, the notions of c- (or m-) command, and government are critical to both the assignment of theta-roles and the assignment of case. However, there are some individual principles which have specific domains (e.g. the Projection Principle is a principle of theta-relations, while the Case Filter has particular regard to structural NPs). Other principles (i.e. the Theta-Criterion, the Visibility Condition) are not primitive, but follow from the interaction (or non-interaction) of the more universal principles.

In order to derive bound morphology to which theta-roles are assigned, I have assumed Baker's (1988) theory of incorporation. Bound morphemes may be generated in the syntax identically to independent words, but because of their morphological (and, I have suggested, phonological) requirements, these elements may adjoin to a governing head (or be adjoined with an element which they govern), to derive their surface, morphologically bound forms. I have argued that such incorporation need not involve morphemes of only indefinite or nonspecific reference, as Baker (1988) seems to suggest, but a full range of pronominal elements, as suggested by Jelinek's (1985) Prenominal Argument Parameter.

In order to test the generality of this proposal, we must look not only at lexical argument languages, those which exhibit little if any person-marking morphology and in which arguments of verbs are always represented with independent NPs or pronouns, but at other proposed pronominal argument languages (such as those in Jelinek 1984). These, like Lushootseed, would be expected to exhibit very rich person-and-role marking morphology, a certain flexibility in the requirements of NP interpretation,



rampant pro-drop, and the availability of some subtle forms of incorporation (such as the 'lexical suffixes' discussed briefly in Section 3.0).

To investigate these matters further, the obvious languages to be considered are the pro-drop languages. Also to be considered are languages with an abundance of "special" morphology, clitics and the like, which do not hold to 'normal' syntactic relations on the surface, but require special rules of placement. Another source of languages is suggested by Jelinek's observation that these languages often exhibit not only 'case-paradigmatic' mismatches (ergative splits, etc.) but person or number mismatches of the kind encountered in Spanish:

- (54) a. las       mujer-es tien-en esperanza  
 DET(f.pl) women-pl have-3pS hope  
 '(the) women have hope'
- b. las       mujer-es tien-emos esperanza  
 DET(f.pl) women-pl have-1pS hope  
 'we women have hope'
- c. las       mujer-es tien-eis esperanza  
 DET(f.pl) women-pl have-2pS hope  
 'you women have hope'

In (54a) the lexical NP *las mujeres* 'the women' is coreferential with the third person subject agreement suffix on the verb *tienen* (< *tener* 'to have'). However, in (54b), this same noun phrase is apparently coreferential with a first person plural subject agreement marker, and in (54c) the agreement morpheme is second person plural. It is clear that the structural relationship of the surface noun phrase *las mujeres* in (54a-c) to the agreement marker on the verb (generated under INFL) is 'stronger' (in terms of an NP interpretation algorithm) than the mismatch of person features.

We are lucky, in a sense, that Lushootseed has only one structural case assigner, since it is likely that only in such a language would it be necessary to engage the Pronominal Argument Hypothesis in order to preserve the other principles of the theory, such as the Projection Principle.

This leads to the second major proposal. While the analysis of the Lushootseed *-əb* construction suggested strongly that the VP-only analysis of Lushootseed was incorrect, the problems associated with the VP-only analysis did not seem unsurmountable—certainly not more so than the stipulations regarding the appearance of the category *pro* and the linear order of adjectives with respect to the verb. Thus, I want to test the predictions of such an analysis in other languages.

On the immediate front, we must ask if there are other languages like Lushootseed, in which only one structural case assigner ever participates in the syntax, and whether it can be demonstrated that this case assigner is V rather than INFL. Likely candidates for such a language are the 'traditional' non-configurational languages, i.e. those apparently without external subjects; verb-peripheral languages, particularly VSO languages; and languages which fail to show the usual subject-object asymmetries in various constructions.

As I have said in other papers (in particular, Hagiwara 1989), I believe the languages of the New World, as opposed to the languages of Eurasia and to a lesser extent Africa, should be of particular interest to the GB/PUG theorist. The theory has universal implications, indeed, is believed to be a theory of Universal Grammar, the basic genetically determined endowment of mind which constrains the range of possible languages, and thus makes learning of language possible in humans. It is critical that a universal theory of grammar draw on all the languages possible. Many interesting features of language seem to pop up only in certain parts of the world,<sup>24</sup> and it is likely that areal features of the Americas may contribute critically to the theory of language.

<sup>24</sup>One obvious example, having neither to do with syntax nor the languages of the New World but still illustrative, is the occurrence of click sounds (sounds made with a velar ingressive airstream mechanism) only in languages of Southern Africa. If these languages were excluded from study merely because they were inconveniently located, or difficult to describe, we would lose a great deal from our theory.

Further, languages which did not contribute directly to the formation of the theory provide a critical testing ground for the predictive powers of the theory.

The theory, however, has been constructed from data taken mostly from Indo-European languages, in particular English, German, French, Italian and Spanish. While many other languages have contributed particular insights which have added greatly to the theory (e.g. Dutch, Chinese languages), languages of the Americas (and Australia) have not had the same sort of scholastic influence. Many problems for the theory are known to exist in such languages (notably the apparently significantly ergative syntax of Dyirbal, a language of Australia; the active agreement systems in many languages of North America, etc.), but research on such languages has either resulted in fundamental distinctions in the basic 'kinds' of languages there may be (e.g. the Configurationality Parameter, Hale 1983) or have gone largely ignored in the general theory.

My immediate goal in this thesis has been to return something to the study of Lushootseed comparable to what my study of Lushootseed has brought to my understanding of language. More far reaching is my hope that, in describing Lushootseed, I have raised issues and problems of more general interest to language theoreticians. I hope to have contributed to the sensibility among linguists that 'funny' languages will (or should) contribute vitally to linguistic theory, both in the realms of theory creation and hypothesis testing, and that as linguists we have a responsibility to preserving the many languages which are in imminent danger of disappearing forever both in the Americas and world-wide, not only for their intrinsic worth but for their potential contribution to our understanding of the human linguistic ability.

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## APPENDIX

This map of the Puget Sound region of Washington state lists the principle dialects of Lushootseed in their approximate native geography. This map was drawn by the author, adapting similar maps in Hess & Hilbert (1976) and Hilbert (1985).

