# Thematicity in Lushootseed syntax

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#### **Abstract**

The surface form of sentences in Lushootseed is governed primarily by considerations of Communicative Structure, in particular Thematicity. This paper will argue that Thematicity, rather than part of speech, governs the selection of the syntactic predicate in Lushootseed, and will offer some preliminary formal treatments of the phenomenon in terms of ranked constraints governing the transition between SemR and DSyntR. It will also be shown that the typological distinction between Lushootseed and more familiar languages like English can be accounted for by variable rankings of a shared set of constraints on this transition.

The surface form of sentences in the Salishan language Lushootseed, as in other languages in its family, is conditioned to a remarkable degree by Communicative Structure (Mel'čuk, 2001, a.k.a. Information Structure—Lambrecht, 1994; Vallduví, 1992). While previous attempts to come to terms with this aspect of Salishan syntax have made use of concepts such as Topic and Comment (Davis and Saunders, 1978) and Discourse Topic (Beck, 2000; Kinkade, 1990), this paper will attempt to account for a wider range of the effects of Communicative Structure on Lushootseed syntax by applying the model of Semantic Communicative Structure (Sem-CommS) outlined by Mel'čuk (2001). It will be argued that, contrary to traditional approaches to syntax, which give *a priori* primacy to lexical and syntactic categories in clause structure, Lushootseed requires that precedence be given to Communicative Structure in the organization of the clause. Some preliminary steps will also be taken towards formalizing a system of ranked constraints on the expression of particular elements of the Sem-CommS in Deep Syntactic Structure, and it will be shown that at least some of the typological differences separating Salishan from more familiar languages can be accounted for by the differential ordering of the same basic set of constraints.

## 1 Lushootseed clause structure

Lushootseed, like other Salishan languages, uses a system of pronominal clitics, agreement-markers, and a fairly rigid VSO word-order to encode grammatical relations (Czaykowska-Higgins and Kinkade, 1998). The simple transitive clause is illustrated in (1):<sup>1</sup>

(1) a. ?u-gwəč'-t čəd ti sqwəbay?

PFV-seek-ICS 1SG.SUB DEF dog

'I sought the dog'

<sup>&</sup>lt;sup>1</sup> The abbreviations used in glosses are: 1,2,3 = first-, second-, third-person; ADD = additive; ATTN = attenuative; DEF = definite; DC = diminished control; DIST = distal; ICS = internal causative; INTJ = interjection; NDEM = non-demonstrative; PASS = passive; PFV = perfective; PL = plural; PR = preposition; PROX = proximal; REM = remote; REFL = reflexive; SG = singular; SUB = subject.

- b. ?u-g<sup>w</sup>əč'-t čəł ti sq<sup>w</sup>əbay? PFV-seek-ICS 1PL.SUB DEF dog 'we sought the dog'
- c. ?u-g\*vəč'-t čəx\* ti sq\*vəbay?
  PFV-seek-ICS 2SG.SUB DEF dog
  'you sought the dog'
- d. ?u-g<sup>w</sup>əč'-t čələp ti sq<sup>w</sup>əbay?
   PFV-seek-ICS 2PL.SUB DEF dog 'you guys sought the dog'
- e. ?u-g\*\*əč'-t Ø ti sq\*\*əbay?
  PFV-seek-ICS 3SUB DEF dog
  'he/she/it/they sought the dog'

(Hess, 1995: 10)

Pronominal subjects are marked by one of a series of matrix subject clitics, the third person in this series being Ø and not making a distinction for number (Beck, 2000). A peculiarity of Lushootseed, shared to a certain extent by some other languages in the family (Gerdts, 1988; Kinkade, 1990), is that transitive sentences with both an NP subject and an NP object are disallowed (Hess, 1973). Sentences with third-person subject and object undergo obligatory pronominalization of the subject, surfacing as sentences like (1e). An interpretation of (1e) where the NP following the verb is the subject/AGENT (i.e., 'the dog sought him/her/it/them') is disallowed by what Gerdts (1988) refers to as the One-Nominal Interpretation Law. Interpretation of transitive clauses in discourse is facilitated by a reference-tracking system built around a strong constraint that subjects be topical (Beck, 2000; Kinkade, 1990).

In contexts where the identity of the subject of a transitive clause is not recoverable from discourse, or where both event-participants must be specified for communicative reasons, the passive voice is used:

Like the English passive, the passive in Lushootseed promotes the direct object to subject (Sub) and demotes the active voice subject to an oblique agentive complement (AgCo) phrase, introduced by a preposition (2). The order of arguments can be either Sub >> AgCo or, as shown here, AgCo >> Sub, the order in (2) being more prevalent.

One of the more remarkable characteristics of Lushootseed syntax is the flexibility it displays with respect to which parts of speech are eligible syntactic predicates (Beck, 2002). As in most Salishan languages (Kinkade, 1983), words corresponding to English verbs, nouns, adjectives, adverbs, and demonstrative pronouns are all potential predicates, as in the nominally-predicated expressions in (3):

(3) a. ?aciłtalbix<sup>w</sup> čəd
Indian 1SG.SUB
'I am an Indian' (Hess & Hilbert, 1976: vol. I, 36)

b. s?uladx<sup>w</sup> ti?ił
salmon DIST
'that is a salmon' (Hess & Hilbert, 1976: vol. I, 7)

Non-verbal predicates like *?aciłtalbix*<sup>w</sup> 'Indian' in (3a) take the same subject inflections as do the verbal predicates in (1) above; copular constructions with NP or demonstrative subjects like that in (3b) simply juxtapose subject and predicate, the latter appearing in sentence-initial position. Unlike nouns and other

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<sup>&</sup>lt;sup>2</sup> The translation "boy" is from č'ač'as 'child' and the non-feminine determiner, ti; 'girl' would be tsi č'ač'as.

nominal elements used as arguments, nominal predicates do not take determiners unless the sentence identifies the subject with a specific individual.

Non-verbal predicates are not confined to simple expressions of identity like those in (3); constructions like that in (4), with a nominal predicate and a complex nominal acting as subject, are quite routine:

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(4) wiw'su ti?ə? ?u-čala-d ti?ə? sqwəbay?
children PROX PFV-chase-ICS PROX dog
'those who chased the dog are the children' (Hess, 1995: 99)
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The syntactic predicate in (4) is the bare noun wiw'su 'children', while the subject is a relative clause headed by the determiner ti?ə? (Beck, 2002). It is the predicative use of nouns in constructions like those in (3) and (4) which have led some researchers (e.g., Jelinek & Demers, 1994; Kinkade, 1983; Kuipers, 1968) to argue that there is no distinction between nouns and verbs in Salishan languages. While this is probably an over-reaction, it is the case that part of speech plays less of a role in the selection of the syntactic predicate of a sentence than it does in most other languages, where there is a strong tendency for sentences to have verbal predicates. Instead, predicate selection in Lushootseed depends crucially on Communicative Structure.

#### **2** Effects of Thematicity on syntactic structure

The component of Sem-CommS that has the greatest effect on Lushootseed syntax is Thematicity, which is the driving force behind the selection of the syntactic predicate. A similar effect is discussed for another Salishan language, Nuxalk (Bella Coola), in Davis & Saunders (1978). In Davis & Saunders' terms, the structure of a Nuxalk clause involves a bi-partition between the part of the sentence that is the "Comment" and that which is "Topic." In our terms, this translates into the Nuxalk sentence being organized so that the Sem Rheme is expressed as the syntactic predicate and the Sem Theme as its subject. Beck (1997) argues that Lushootseed has the same pattern, as shown by question-and-answer pairs such as that in (5):

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(5) a. ?u-?əxid kwi ki-kəwič
PFV-what.happen REM ATTN-hunchback
'what happened to Little Hunchback?'
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The question in (5a) is a narratively-focused question asking about an event in which a particular Thematic event-participant is involved, and elicits a narratively-focused response with a Rhematic verbal predicate. The question in (5), however, asks for the identity of an unknown participant in a Thematic event, this event being expressed as a headless relative clause in subject position of a sentence whose predicate is the interrogative word *stab* 'what?'. The response mirrors this structure exactly, substituting the requested information for the interrogative, giving us a sentence with a Rhematic nominal predicate.

Subsequent work has found that this pattern also occurs more generally in Lushootseed narrative and other discourse contexts where the event is Thematic (and, generally, Given) and the Rheme is an event-participant or some other non-verbal element of the sentence (Beck, 2000; Beck, 2002). This is an interesting situation from a theoretical point of view in that traditional approaches to syntax generally approach clause structure as being built around phrasal projections of lexical elements whose part of speech (or the projections of the functional/inflection categories associated therewith) determine whether particular elements are realized in predicate or argument positions. Thematicity in such approaches tends to be

<sup>&</sup>lt;sup>3</sup> The position that Salishan languages do not distinguish nouns and verbs is not the current consensus position held by most specialists in these languages—cf. van Eijk & Hess (1986), Kroeber (1999), and Beck (2002).

<sup>&</sup>lt;sup>4</sup> Materials not cited as being from published sources are drawn from unpublished texts kindly provided by Thom Hess; these are referred to by speaker's initial followed by title of the text and line number(s).

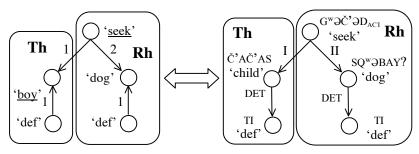


Figure 1. ?ugwəč'əd (ti č'ač'as) ti sqwəbay? '(the boy) sought the dog'

treated as a secondary phenomenon with less import for clause structure; however, data like that in (5) shows that Thematicity plays a much more fundamental role in Salishan languages, and suggests that it might be worthwhile to re-examine some of these traditional assumptions. In the following section, I will illustrate how the effects of Thematicity on syntactic structure can be modeled from the perspective of text generation, using some of the formalisms from Meaning-Text Theory, beginning with the selection of the syntactic predicate (Section 2.1), and then moving on to constraints on grammatical voice (2.2).

## 2.1 Constraints governing the selection of syntactic predicates

From the point of view of text synthesis, the initial step in mapping between SemR and DSyntR is the selection of what is called the *entry node*, that semanteme (or configuration of semantemes) in the SemR that will be lexicalized as the top node of the DSyntS (the matrix predicate). In the SemR in Figure 1 above, for example, the entry node is 'seek', which is lexicalized as the verb  $g^w \partial \tilde{c} \partial d$ , the matrix predicate in the DSyntR. One of the reasons that 'seek' is chosen is that it is the *Communicatively Dominant Node* in its sub-network of the SemR. In this context, Communicatively Dominant means that the sub-network of the SemS 'past'  $\rightarrow$  'seek'  $\rightarrow$  'dog' can be reduced to 'seek' without changing its referent—that is, its referent is a seeking event rather than, say, a dog (if 'dog' were the Comm-dominant node in this configuration, the corresponding DSynt tree would be a relative clause, 'the dog that was sought').

The second consideration that determines the selection of 'seek' as the entry node is the part of speech with which its meaning is lexicalized. In English, 'seek' corresponds to the meaning of a verb, LOOK(FOR), which is selected as the top node of the DSyntS of *the boy sought the dog*. In most languages, part of speech is the primary factor governing the selection of entry nodes: by far the majority of the world's languages select as entry node semantemes that are semantic predicates and whose most natural expression is a verb. However, Lushootseed departs from this pattern in preferring elements that are Rhematic, whatever their lexical class, allowing for a wide range of non-verbal predicates.

Procedural rules for the selection of entry nodes in languages like English, Russian, and French are set out in work by Iordanskaja and Polguère (Iordanskaja, 1990; Iordanskaja & Polguère, 1988) and discussed in the context of Sem-CommS by Mel'čuk (2001). Without getting bogged down in technical details, the relevant rules proposed by these authors can be restated as the ranked constraints in (6):

#### (6) <u>Semantically-Predicative Entry Node (SPEN)</u>

The entry node is a semantic predicate.

#### Verbal Entry Node (VEN)

The entry node is most naturally lexicalized as a verb.

<sup>&</sup>lt;sup>5</sup> A more detailed discussion of Comm-Dominance and methods for determining the Comm-Dominant node can be found in Iordanskaja and Polguère (1988) and Mel'čuk (2001: 29ff.).

<sup>&</sup>lt;sup>6</sup> This, of course, may depend on language-specific characteristics of the lexicon such as the (non-)existence of verbal expressions for certain semantemes (the case in point being the absence of a verbal expression of 'be' in Lushootseed—see below). The term "most naturally" is deliberately vague, allowing for lexical and other types of idiosyncrasies to override more rigid considerations such as the existence in the lexicon of a direct expression of a particular semantic predicate (*viz.* the case of the English expression BE HUNGRY which is the most common expression of the stative predicate 'hunger', in spite of the existence of the verb HUNGER).

## Comm-Dominant Entry Node (CDEN)

The entry node is the Comm-dominant node in its sub-network of the SemR.

## Rhematic Entry Node (REN)

The entry node is a part of the Sem Rheme.

In most languages, these constraints are ranked in the order given here, expressing the near-universal preference for verbal syntactic predicates:

## (7) SPEN, $VEN \gg CDEN \gg REN$

In Lushootseed, on the other hand, the same four constraints are also present, but they are ordered differently, as in (8):

#### (8) REN >> CDEN >> SPEN, VEN

These rankings express the Lushootseed preference for Rhematic syntactic predicates, irrespective of their lexical class. The differences in these two ranking systems account neatly for the differences in the selection of syntactic predicate seen between English and Lushootseed.

The most straightforward case, a narratively-focused sentence with a verbal predicate such as (1e), is that shown in Figure 1 above. This sentence represents a common case in narratives, which are typically structured around one or more Topical participants. Topical participants tend to be expressed at the sentence-level as Themes, whose actions—and (to a lesser extent) the other participants with which they interact—tend to be Rhematic at the sentence-level. Thus, the SemR in Figure 1 is partitioned into two SemComm areas, the Theme containing the topical event-participant, 'child', and the Rheme containing the semantic predicate 'seek' and its SemA 2 'dog'. This sentence is an appropriate response to a question such as "What did the boy do?" or could be part of a story relating the boy's activities.

In both English and Lushootseed, the SemR in Figure 1 is expressed as an ordinary verbally-predicated sentence, given that the node 'seek' satisfies all four constraints for being the top node in DSyntR—that is, it is a semantic predicate, it is naturally expressed as a verb, it is a Comm-Dominant node (indicated by underlining), and it belongs to the Sem Rheme. This is not the case for the other nodes in the SemR, as can be seen in Table 1, which presents—using an Optimality-Theory (Prince & Smolensky, 2004) style tableau—all five candidate entry nodes in the SemR in Figure 1 as evaluated against the four constraints, ordered as per the Lushootseed rankings shown in (8).

Candidate Node	SPEN	VEN	CDEN	REN
☞ 'seek'				
'child'	*!	*		*
'dog'	*!	*	*	
'dog' 'def' <sub>Rh</sub>		*!	*	
'def' <sub>Th</sub>		*!	*	*

Table 1. Lushootseed constraint rankings for Figure 1

Here, 'seek' is the superior candidate as it incurs no constraint violations whatsoever, whereas the remainder of the candidates violate at least two of the constraints. Because 'seek' satisfies all four constraints, the difference in rankings between (7) and (8) are of no consequence, and English and Lushootseed syntacticize this SemR in essentially the same way (although Lushootseed requires pronominalization of the NP subject in SSyntR, as noted in Section 1).

For sentences with non-verbal predicates such as that in (3b), shown in Figure 2 below, we see the same principles at work, although here the difference in constraint rankings results in very different structures. This sentence, a felicitous response to the question "what is that?", is straightforward in propositional terms, its Sem S consisting of a semantic predicate 'be' with two Semantic actants (SemAs), indi-

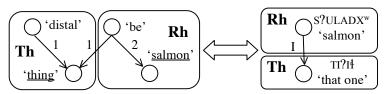


Figure 2. s?uladxw ti?ił 'that is a salmon'

cating the identification of a particular entity pointed to by the speaker (SemA 1)—as a member of a designated class of entities (SemA 2).

In languages with a copula, the semanteme 'be' would be realized as that language's equivalent of the English lexeme BE. Even though 'be' is not a Communicatively-Dominant mode in the SemR (i.e., the utterance is an assertion of "salmonhood" rather than of "being"), the constraint-rankings given in (7) guarantee that in English it will be realized as the syntactic predicate, giving us the English sentence *this is a salmon*. Thus, as shown in Table 2, although 'be' violates the second-ranked constraint CDEN, it satisfies SPEN, whereas the nodes 'salmon' and 'thing' do not. The next-best candidate, 'distal', is not part of the Sem Rheme and does not have a natural verbal expression, and therefore is also excluded.

Candidate Node	SPEN	VEN	CDEN	REN
☞ 'be'			*	
'salmon'	*!	*		
'thing'	*!	*		*
'distal'		*	*	*!

Table 2. English constraint rankings for Figure 2

The different rankings Lushootseed accords to the constraints in (6) result in the selection of a different entry node, shown in Table 3.

Candidate Node	REN	CDEN	SPEN	VEN
🖙 'salmon'			*	*
'be'		*!		*
'thing'	*!		*	*
'distal'	*!	*		*

Table 3. Lushootseed constraint rankings for Figure 2

As in English, the fact that 'be' is not the Communicatively-Dominant node of the Sem Rheme triggers a violation of CDEN; however, this constraint is ranked more highly that SPEN, and so 'be' is rejected as a candidate. The non-Rhematic nodes, 'thing' and 'distal', are eliminated by the highest-ranked constraint, REN. It should also be pointed out that in Lushootseed there is no equivalent of BE and, hence, no lexical element to appear in the DSyntS. Instead, SemA 2 of 'be', 'salmon', becomes the DSynt predicate and takes SemA 1 as its first Deep-Syntactic actant (DSyntA I), the semanteme 'be' finding its expression in the construction NPRED  $\rightarrow$  N rather than in a lexical item, as it does in most languages.

In terms of its Sem-CommS, the sentence in Figure 2 can be compared with the sentence in (9), whose syntactic predicate is the proximal demonstrative *ti?ə?* and which would be the answer to a question such as "which stone is it?":

The SemR for this sentence is shown in Figure 3 below. Unlike Figure 2, however, the DSyntR in Figure 5 takes the Rhematic SemA 1 of 'be' as its syntactic predicate rather than SemA 2—in other words, the

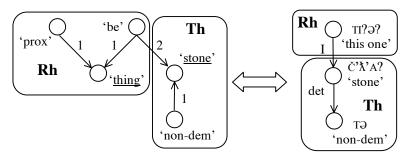


Figure 3. ti?ə? tə č'\(\hat{\chi}\)'a? 'the stone is this one'

entity whose identity is established by the predication becomes the DSynt-predicate, rather than the identity attributed to it, as in Figure 2. The source of this difference lies in the Sem-CommS. In Figure 2, SemA 1 (the entity being identified) belongs to the Sem Theme and SemA 2 (the identity attributed to it) lies within the Sem-Rheme. The fact that Lushootseed requires that the syntactic predicate belong to the Rheme results in SemA 2 surfacing as the DSynt predicate in Figure 2 and Sem A 1 becoming predicate in Figure 3—the Sem-CommS of the sentence, rather than its propositional content, determining DSyntS.

The contrast in constraint-rankings quite easily accounts for these differences. The most natural English sentence expressing this SemR is something like *this* is the stone, where the entry node continues to be the semantic predicate 'be'. This outcome is predicted by Table 4.

Candidate Node	SPEN	VEN	CDEN	REN
r⊛ 'be'			*	
'stone'	*!	*		*
'thing'	*!	*		
'proximal'		*!	*	
'non-demonstrative'		*!	*	*

Table 4. English constraint rankings for Figure 3

Once again, although 'be' is not the Communicatively Dominant node, it is selected as entry node because it is a semantic predicate and because its most natural expression is verbal. 'stone' and 'thing' are not semantic predicates, whereas the semantic predicates 'proximal' and 'non-demonstrative' have no natural verbal expression in English. For Lushootseed, the relatively low-ranking of the constraints SPEN and VEN selects 'thing' as the entry node as in Table 5:

Candidate Node	REN	CDEN	SPEN	VEN
r 'thing'			*	*
rs 'thing' 'stone'	*!		*	*
'be'		*!		*
'proximal'		*!		*
'non-demonstrative'	*!	*!		*

Table 5. Lushootseed constraint rankings for Figure 3

As a result, the syntactic predicate becomes  $ti?\partial$ ? 'this one', lexicalizing the configuration of semantemes 'prox'  $\rightarrow$  'thing' as a demonstrative.

The same principles come into play in expressions like (4), shown in Figure 4, which answers the question "who chased the dog?". The English constraint-rankings for Figure 4 are shown in Table 6:

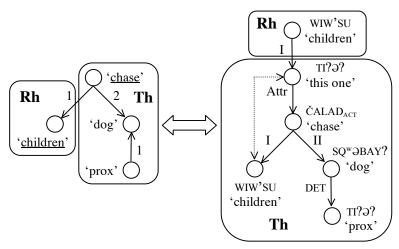


Figure 4. wiw'su ti?ə? ?učalad ti?ə? sqwəbay? 'those who chased the dog are the children'

Candidate Node	SPEN	VEN	CDEN	REN
r 'chase'				*
'children'	*!	*		*
'dog'	*!	*	*	*
'proximal'		*!	*	*

Table 6. English constraint-rankings for Figure 4

In this case, the high ranking of SPEN and VEN ensure that 'chase', which has a lexical equivalent in the verb CHASE, is selected as the entry node, giving us *the children chased the dog*, the marked prosody indicating that, exceptionally, the Thematic element is not Subject.

As shown in Table 7, the Lushootseed treatment of the same SemR gives different results:

Candidate Node	REN	CDEN	SPEN	VEN
r 'children'			*	*
'chase'	*!			
'dog'	*!	*	*	*
'proximal'	*!	*!		*

Table 7. Lushootseed constraint-rankings for Figure 4

Here, there is an eligible semantic predicate in the SemS, 'chase' which is most naturally lexicalized as a verb, ČALAD 'chase'; however, 'chase' is Thematic rather than Rhematic, and so the constraint rankings select the node 'children' rather than the node 'chase', reflecting the relatively low-ranking of the part-of-speech related constraints SPEN and VEN. The high precedence Lushootseed gives to the Sem-Comm status of elements thus leads to the creation of the nominally-predicated sentence wiw'su ti?ə? ?učalad ti?ə? sqwəbay? 'those who chase the dog [are] the children'. The form of the headless relative clause that appears as DSyntA I (that is, as the argument that will become subject in SSyntR) is the result of the interaction of further sets of constraints governing syntacticization (specifically, constraints requiring the realization of DSyntAs of verbs as nouns or nominal expressions).

#### 2.2 Thematicity and voice

Lushootseed makes use of passive voice in a way that parallels its function in many of the world's languages, that of ensuring the alignment of sentence-level Theme (and, by extension, discourse Topic) and

<sup>&</sup>lt;sup>7</sup> The elision of the co-referential NPs is part of pronominalization in the DSyntR ⇔ SSyntR component.

the syntactic relation Subject (Keenan, 1976; Li & Thompson, 1976). As in most languages, the primary Communicative contrast between an active sentence such as that in (1e) and a passive sentence such as that in (2) has to do with the Thematicity of the SemA which is realized as DSyntA I: in Lushootseed, DSyntA I must be an expression of a SemA contained in the Sem Theme. In (1e), the Thematic SemA is SemA 1, 'child', giving us the DSyntR shown in Figure 1; however, in (2) (a felicitous answer to the question "what happened to the dog?" or part of a discourse episode centred on the dog), the Theme is SemA 2, the PATIENT 'dog'. In such a context, a sentence such as (1e) in the active voice is ruled out by the constraint given in (10):

#### (10) Thematic DSyntA I (ThDAI)

DSyntA I of the main predicate must be Thematic.

This constraint is a formalization of the strong tendency in natural languages for subjects to be Thematic and Topical. In Lushootseed, it requires the use of the passive *čalatab* 'be sought', whose government pattern assigns the expression of the SemA 2 of 'seek' to the role of DSyntA I rather than assigning this role to SemA 1 as in the active voice.

Because of the central role that Thematicity plays in Salishan reference-tracking, the constraint in (11) is virtually inviolable for Lushootseed, the only higher-ranked constraint being an essentially morphological restriction on passives which blocks the realization of first- and second-person agentive complements (Hukari, 1976; Jelinek & Demers, 1983):

# (11) 3rd Person Passive AGENT (3PassAgt)

The DSynt II of a passive verb must be third-person.

This makes the passive in Lushootseed a much more straightforward proposition than it is in, say, English or many other familiar languages where it is more closely tied to textual, stylistic, and discourse-level considerations which are related to, but potentially independent of, Sem-CommS proper (see, for example, Givón, 1994; Shibatani, 1988).

#### 3 Conclusion

As the preceding discussion illustrates, the Communicative Structure of Lushootseed sentences is one of the primary determinants of their syntactic structure. This is seen most dramatically in the constraints governing the selection of the syntactic predicate, which in Lushootseed and many other Salishan languages depends on Thematicity rather than part of speech. The priority placed on Thematicity in this context offers a striking typological contrast to the majority of the world's languages, which place a much higher priority on considerations of semantics and part of speech in the selection of syntactic predicates. Approaching Lushootseed clause structure from the point of view of Communicative Structure also has the advantage of resolving some long-standing debates in Salishan studies concerning the (non-)existence of the distinction between nouns and verbs, allowing us to keep this useful (and probably universal) distinction while at the same time accounting for the unique properties of Salishan syntax.

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