29th International Conference on Salish and Neighboring Languages
Salish Kootenai College, Pablo, Montana, August 1994

TRANSITIVITY AND VOICE IN LUMMI

Eloise Jelinek
University of Arizona

Introduction. Kuipers (1968), in an early discussion of the question of a noun/verb contrast in Salish, pointed out the importance of the feature of Transitivity for this problem. Kuipers noted that there is a relatively straightforward correspondence between transitive expressions in Squamish, and a subclass of verb phrases in a language such as English; but with intransitive expressions in Squamish, there are no formal grounds for sorting them into intransitive verbs, adjectives, or "predicate nouns", as these classifications are generally employed. Kuipers argued that it is the contrast between transitive vs. intransitive forms that is basic to Squamish grammar, while a noun/verb contrast is not, and comments (p. 626):

> "The possibility of combinations with possessive affixes was used in The Squamish Language [Kuipers 1967] as the basis for a distinction of noun and verb in Squamish. It is clear, however, that such labelings not only fail to give any information beyond the already known facts on which the labeling is based, but are even misleading as they suggest a far-reaching parallelism between languages that does not exist."

Kuipers (1968) also draws attention to the significance of the fact that the feature of Transitivity receives morphological expression in Salish. This morphological expression is apparently found in all the Salish languages. Thompson and Thompson (1992), in their grammar of the Thompson language, observe (p.50):

> "All predicative words are either TRANSITIVE (TR), incorporating specific reference to the object or goal of an act; or INTRANSITIVE....All transitives are marked by the suffix //-t// (although it often is phonologically disguised)....While transitives incorporate pronominal subject and object, intransitives take enclitic pronominal subjects (21.3). They also can have Possessive inflection (21.2). This latter inflection takes on special importance in the casting of subordinated predications...."

Thompson (1979) identifies the feature of "control" as a major category of the grammar of Salishan system, and documents the complex phonological interaction of the marking of transitivity and "control" in Salish. "Control" as used by Thompson and other Salish scholars has to do with the volitionality or agency of the subject, whether an action is under the control of the subject, or inadvertent, accomplished with difficulty, etc.

One of the great things about working on a language of such inherent typological interest as Salish, is that now and then the descriptive facts about these languages provide the stimulus or corroboration for new developments in syntactic and semantic theory. Of course, the relevant theoretical domain has to be advanced to the point that the significance of particular grammatical facts can be recognized for what they are. In this sense, linguistic theory is now at a stage where it is possible to appreciate the major significance

of the features of transitivity and "control" (as Thompson used the term) for our understanding of universal grammar. These aspects of Salish grammar can no longer be dismissed as mere idiosyncratic variations, since they provide confirmation for new analyses of argument structure in universal grammar that have been independently developed by linguists working on other languages.

1. Transitivity. The feature of Transitivity relates to the noun/verb question in Salish in the following way. Within generative grammar, nouns and verbs have been distinguished on the basis of argument structure. While members of the category verb may assign structural case to an internal argument, nouns never assign structural case -- that is, nouns don't take direct objects. It is currently assumed in the Minimality framework that direct arguments (Subjects, Objects) are assigned case by a Functional head above the VP; Chomsky identifies these heads as AgrS and AgrO. The notion of "object agreement" presents a number of problems, and the alternative proposal of Murasugi (1991) seems more useful. Murasugi, working on Eskimo and ergativity in general, argues that the appropriate Functional heads in universal clause structure are TENSE and TRANSITIVE, which assign case to the "external" and "internal" arguments respectively. Assuming that the Inflectional head associated with structural case is TRANSITIVE rather than AgrO fits better with the data from Ergative languages, since Ergative can be a structural case assigned to Agents when they are internal arguments.

This works nicely for Lummi, where the third person Ergative pronoun (transitive Agent) is -s. The Ergative is morphologically an internal argument, preceding the clitic string, in the same position in the predicate word that object suffixes appear.

1)	leŋ-t-s	=lə'=Ø	2)	leŋ-t-oŋəɬ	=lə'=sx^{w}
	see-TR-3ERG	=PAST=3ABS		see-TR-1plACC	=PAST=2sNOM
	He saw him.			You saw us.	

Any internal argument follows immediately after TRANSITIVE, and is a suffix that receives case from TRAN; the particular case that the internal argument receives (ACC, ABS, or ERG) depends on the Voice of the construction, which we will consider in a moment.

Let us follow Murasugi and assume that [± Transitive] is the proper designation for the Functional head associated with the "internal" (suffix) argument in Lummi. Intransitive constructions cannot have an argument with structural case. Most languages do not mark Transitivity overtly in the morphology, but the presence of this feature can be deduced from such facts as clitic raising, etc., across languages (Diesing and Jelinek, 1994). We need to assume such a node to account for clause structure in universal grammar, and Salish (and a few other language families such as Athabaskan, Eskimo, some Philippine languages, and Basque) provide us with explicit evidence that TRANSITIVE is actually present as a Functional head. Consider the following kind of parametric contrast:

3) a. In some languages (English, for example), TRANSITIVE is not overtly marked in the syntax, and Transitivity is a subcategorizing feature of a class of lexical items, verbs, which assign structural case. Nouns may have Possessive and oblique arguments, but they never assign structural case.

b. In other languages (Salish, for example) TRANSITIVE is an obligatory Functional head in the syntax, which assigns structural case to internal arguments. This means that there is no class of lexical items which subcategorize for internal arguments, and there is no necessity for a noun/verb contrast at the word level -- since words are predicates that include the overt marking of Transitivity.

In current Chomskyan terminology (1992), TRANSITIVE is a "strong" feature in Salish that is expressed in the overt syntax.

Salish is famous for the productivity of the transitivization process. Some Lummi examples:

4) ʼən'e-t-Ø=lə'=sən
come-TRAN-3ABS=PAST=1sgNOM
I brought it.

5) s-monəč-t-s=Ø
pitch-TRAN-3ERG=3ABS
He is "pitching" it (covering it with pitch).

While processes that transitivize intransitive verbs and nouns are frequent across languages, the examples in (6) are of a type less commonly seen.

6) a. məkʷ'-t-Ø=lə'=sən
ALL-TR-3ABS=PAST=1sgNOM
I took all of them/it.

b. his-t-oŋəs=lə'=sxʷ
long time-TR-1/2ACC=PAST=2sNOM
You kept me a long time.

The roots in Ex. (6) are adverbial quantifiers elsewhere. In (7), the root assigns a quality.

7) ʼəy-t-ŋ=Ø
good-TR-PASS=3ABS
It has [been] improved. ("been made good")

(Al Charles used this sentence in speaking of the weather. There is no comparative inflection in Lummi.) This productivity in the transitivization process can be attributed to the fact that TRANSITIVE is an obligatory Functional head in the overt syntax which occurs with all roots, rather than a feature of a particular lexical class. Speaking informally, we can say that the Functional head [± TRAN] takes over some of the syntactic work assumed by the noun/verb contrast in languages like English, and permits relative freedom in the distribution of the morphologically bound roots. Following

Thompson and Thompson, I assume that roots never appear without being inflected for [± TRAN]; roots do not occur independently, but only within Predicates, which include [± TRAN] and any internal argument.

2. Intransitives and Possessive pronouns. Possessive pronouns occur with nouns across languages. If the Salish root describes something that can be characterized grammatically as possessed, for example material objects, relations, feelings or experiences, a Possessive pronoun may be affixed to it.

8) a. nə-ŋənə=sxʷ
1sPOSS-child=2sNOM
You are my child.

b. nə-men=lə'=Ø
1sPOSS-father=PAST=3ABS
It is my late (deceased) father.

The point here is that the resulting complex form remains a predicate: these derived predicates occur with the clitic string to produce a finite sentence. In main clauses, a Possessive pronoun can occur only in predicates that are [- TRAN]. Technically, this follows from the fact that [+ TRAN] assigns a structural case (ACC, ABS or ERG) to an internal argument, and POSS case is incompatible with (cannot be checked at) [+ TRAN]. [- TRAN] does not assign structural case.

The examples in (9) below illustrate non-agentive "psych" predicates with a Possessive pronoun marking the Experiencer, while the subject is a second position clitic.

9) a. nə-s-ƛ'i'=sxʷ
1sPOSS-value=2sNOM
You are my dear/valued. (I like you.)
[s-ƛ'i'= be dear/valuable]

b. nə=s-ləl=Ø kʷ ye'-ən
1sPOSS=intent=3ABS DET go-1sSBD
It is my intention to go.

Possessive pronouns appear also as subjects in nominalized Propositional clauses.

10) ʼəw' χči-t-Ø=sən kʷ ən-s-ye'
LINK know-TR-3ABS=1sNOM DET 2sPOSS-SBD-go
(And so) I know (it), that you left.

Thus, the two functions of Possessive pronouns are clearly distinct syntactically in Lummi. They participate in deriving complex predicates (8, 9) where they are not subjects, and in deriving nominalized Propositional clauses (10) where they are subjects. In other Salish languages, the situation is more complex; Thomason and Everett (1993) note the presence of Possessive pronouns in finite

paradigms in Flathead.

4. Voice. Now that we have discarded AgrO in favor of TRANSITIVE, can we also get rid of AgrS? Murasugi, as noted earlier, substitutes TENSE for AgrS. There is much that is attractive about this proposal, since in many languages NOMINATIVE case, the default case associated with subjects, occurs only in tensed clauses. But this association is by no means universal. For example, in Salish, nominalized clauses with Possessive subjects can show Tense.

Preliminary work by Kratzer (1992, 1994) argues that there is a universal Functional head VOICE that introduces the external argument. The arguments that Kratzer presents are based in part on data from German, and include representations of formal semantic structure; I won't try to recapitulate them here. The central idea is that external arguments are added via a neo-Davidsonian secondary predication, since all arguments must be introduced by some head. Informally, we may note that Voice determines the theta role assigned to the subject: Transitive subjects are Agents, while Passive subjects are Patients. Middle subjects are "affected", as Passive subjects are, but no agent is implied.

Since the transformational analysis of Voice alternates was abandoned, little progress has been made towards integrating the phenomena of Voice into current generative theory. If we define Voice contrasts as particular mappings between thematic roles and argument positions, then it follows that the Lummi Ergative construction is an Inverse Voice construction (Jelinek 1993a). The Lummi Inverse is a [+ TRAN] construction where the subject is the Patient, and the morphologically internal argument has the Agent theta role, as in Ex. (1) above. Inverse Voice is also found in Athabaskan, where Transitivity is again overtly marked. Kinkade (1989, 1990) identifies other construction types in Salish where Patients, rather than Agents, are topics.

On Kratzer's analysis, the functional head VOICE is responsible *both* for assigning a theta role to the external argument and for assigning case to the internal argument, since ACC case is not present unless there is an external argument. The Salish languages present evidence that we need to recognize two Functional heads, TRANSITIVE and VOICE, since both are morphologically overt in Salish. The valence of the clause is determined at TRAN, where a second argument may be introduced. The new, external argument receives default case, and the internal argument receives structural case. At VOICE, theta role assignments occur, and the value of structural case may be reset.

The presence of the "control" feature, as the term has been used in Salish studies, means that the Salish languages are particularly rich in marking sub-types of Agent thematic roles; Salish Agents are marked as more or less successful or volitional. Kratzer points out that across languages, we see very few theta roles assigned to transitive subjects: there are Agents, and "holders" in Possessive

sentences; perhaps we can add Experiencers.

10) a. He owns them. b. He dislikes them.

It is interesting that Salish does not construct transitive Possessive sentences with the Possessor as a subject. One kind of Lummi Possessive sentence includes the Relational prefix:

11) a. słeni'=sən
female=1sNOM
I am a woman.

b. č-słeniy'=sx^{w}
REL-female=2sNOM
You have a wife.

And Salish employs intransitive constructions with Possessor non-subject arguments in "psych" constructions, as in (9) above, and (12).

12) 'ən-s-x^{w}ətin'=sən
2sgPOSS-dislike=1sgNOM
You dislike me. (I am your dislike.)

In Lummi, the Voice system is relatively simple, compared to that found in many other Salish languages. There is a "control" contrast, as in most, if not all, languages of the Salish family.

13) a. c'əs-t-oŋəł =lə'=sx^{w}
hit-TRAN-1pACC =PAST=2sNOM
You hit us (on purpose).

b. c'əs-n-oŋəł =lə'=sx^{w}
hit-NCTR-1plACC =PAST=2sgNOM
You hit us by accident/finally managed to hit us.

And there is a suffix -ŋ that marks the subject as affected, and derives an intransitive (the Passive).

14) a. c'əs-t-ŋ =lə'=sx^{w}
hit-TRAN-PASS =PAST=2sNOM
You were hit (deliberately).

b. c'əs-n-ŋ =lə'=sx^{w}
hit-NCTR-PASS =PAST=2sgNOM
You were hit by accident/finally hit got hit.

The Passive suffix immediately follows [+TRAN], and marks the subject as a Patient. It is important to note that [+TRAN] continues to mark the volitionality of the "implicit" agent. When PASSIVE follows [-TRAN], it still marks the subject as affected.

15) hes-ŋ=ø
sneeze-MID=3ABS
He sneezed.

Both Lummi and Saanich (Montler 1986) have a "Non-control" Middle:

16) 'iɬən-noŋət=sən -n-oŋət
eat-NCMID=1sgNOM
I (luckily) got to eat. (Non-Control Reflexive Passive?)

The preceding examples demonstrate that in Lummi there is a functional head TRAN that assigns case to the internal argument, followed by a functional head VOICE that assigns case to the external argument. In other Salish languages, there are additional elements that may appear in these positions, and these functional heads may interact phonologically and semantically; they may also combine with the pronominal arguments they introduce, producing portmanteau morphemes, in complex inflectional paradigms. This is additional evidence for the status of TRAN and VOICE as Functional heads.

5. Other objects. A striking property of Straits Salish is the absence of prepositional phrases consisting of a preposition with a pronominal object, or an "inflected" preposition or postposition of the kind so common in Native America (Jelinek 1993b). This follows from the fact that structural case is assigned by the TRANSITIVE Functional head that is a feature of clause structure. The pronominal object forms are licensed only by TRAN, and thus cannot occur with prepositions. Compare:

17) a. leŋ-t-oŋəs b. *'ə-oŋəs
saw-me [to-me]

The Oblique marker 'ə and the few other attested prepositions in other Salish languages occur before Determiner Phrases, as in oblique agents and locative expressions. Oblique (non-subject, non-object) first, second and third person deictic arguments are expressed via use of the person deictic roots, that occur with Determiners and are third person in syntax.

18) c'əs-t-ŋ=ələ'=sən ('ə cə nəkʷ)
hit-TRAN-PASS=PAST=2sNOM (OBL DET YOU)
I was hit (by you).

The Salish languages have roots with "prepositional" (locative) meanings, that occur in main clause predicates and may be [± TRAN]. We may outline the distribution of objects in Lummi as follows:

19) a. PREDICATE: includes a Functional head [± TRAN] that may assign a structural case (ACC, ERG or ABS) to an internal argument.

b. PREPOSITION: assigns Oblique case to a Determiner Phrase, deriving an oblique adjunct.

Note that there are no ditransitive predicates in Straits, in the sense of an obligatory second object. The root that may be glossed "give" takes the Goal as the "direct object", the argument with structural case, and the Theme is an optional adjunct.

20) 'oŋəs-t-oŋəɬ=sxʷ ('ə cə kʷən-t-əxʷ)
give-TR-1plACC=2sgNOM (OBL DET take-TR-2sgSBD)
You gifted us (with the one you caught).

TRAN introduces only one object. With Passive, the goal is subject:

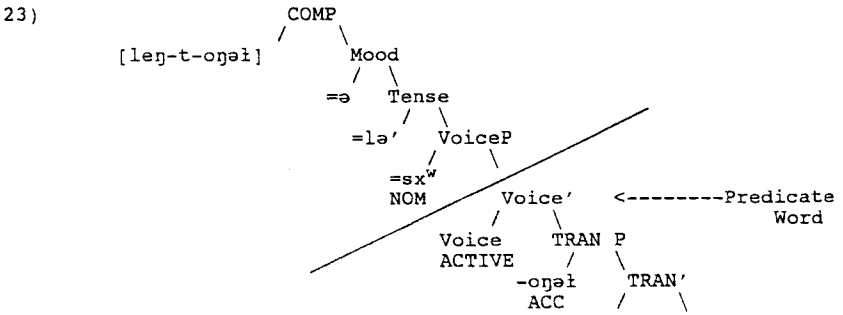
21) 'oŋəs-t-ŋ=sxʷ ('ə cə kʷən-t-ən)
give-TR-PASS=2sgNOM (OBL DET take-TR-1sgSBD)
You were gifted (with the one I caught).

In Saanich, there is an "Indirective" or Applicative construction, where the goal argument again becomes the direct object, and there is an implicit theme argument. When le' "be in a place" appears with the "control" transitivizer, it is glossed "fix" or "repair".

22) le' -sis -sxʷ
repair-INDIRECT:CTRAN:1OBJ-2SUBJ
You fixed [it] for me. (Montler 1986:171)

6. Head-Raising. A cornerstone of current syntactic theory is the notion of head-raising, whereby elements may "raise" successively in the course of a syntactic derivation to incorporate various Functional heads. For Lummi, I assume a derivation where the root raises to adjoin TRAN, VOICE, and the pronominal arguments that are introduced by (and "case-checked") at these Inflectional heads. The portmanteau forms in many Salish languages, where TRAN or VOICE combine with a pronoun, are evidence for head raising, and for the status of TRAN and VOICE as Functional heads. This raising and adjunction produce a complex phonological word, the Predicate, which can move as a unit. (23) shows a rough outline of the relevant features of the structure.

23)



leŋ-t-oŋəɬ=ə=ələ'=sxʷ
see-TRAN-1plACC=Q=PAST=2sgNOM
Did you see us?

Finally, the Predicate word raises to COMP, where the second position clitics attach to it. These raising processes produce the correct

order of consitituents. The following table shows the grammatical properties of TRAN and VOICE in Lummi:

Table 1

A. Transitivity: Case		
1. - TRAN	-Ø	Single argument has default case
2. + TRAN	-t, -nəx^{w}, -tx^{w}	Introduces second argument, marks volition; External argument has default case; Internal argument has structural case
B. Voice: Theta roles		
1. - VOICE	-Ø	[± TRAN] Default voice and theta roles
2. + INVERSE	-s	[+ TRAN] Subject is Patient, Internal argument is Agent; structural case reset
3. + PASS/MID	-ŋ	[- TRAN] Subject is Patient
4. + ANTI-PASS	-el's	[- TRAN] Subject is Agent

Other Salish languages have much more complex systems of Voice and Transitivity. What needs to be clarified is the possible range of theta roles carried by the subjects of Predicates that are [-TRAN] and have default Voice. Is there an "unergative"/"unaccusative" contrast? Kratzer claims that the Aktionsart of the verb, along with Voice, must be taken into account in theta role assignment to the external argument; it appears that in Salish the Aktionsart is overtly marked in the "control" system.

Murasugi (1992) classifies the obligatory Transitive marker in Eskimo clauses as an auxiliary verb "do". This is reminiscent of the function of "light" verbs in Chinese or other languages, where an "light" verb ("do" or "make") often derives a complex predicate from a lexical noun. Hale and Keyser (1987) proposed an abstract verb "make" as a universal feature of transitive clauses. Other recent work on the VP "shell" gives converging results on the feature of Transitivity.

7. Summary and conclusions. Murasugi argues for the Functional head TRAN, and Kratzer argues for VOICE. Salish provides evidence that we need both, since both occur overtly in Salish predicates: TRAN and VOICE together are responsible for the valence of the clause, case, and theta role assignment. Predicates with the value [+TRAN] are agentive *only*, and assign some structural case (ACC, ABS, or ERG) to an internal argument. Predicates with the value [- TRAN] cannot assign structural case; they may include a Possessive argument. Note that [+ TRAN] does not equate with VP, and [- TRAN] does not equate with NP. [- TRAN] includes forms glossed as non-agentive transitive verbs, intransitive verbs, adjectives, nouns, quantifiers, prepositions, etc., across languages. The value of [± TRAN] determines the argument structure of the predicate, and permits all predicates to fall together into a single syntactic class, occurring with the second position clitic string. In languages with a noun/verb contrast at the word level, [± TRAN] is represented by subcategorization features of the lexical categories that determine the argument structure of the phrasal categories (VP, NP, PP) they head.

REFERENCES

Chomsky, Noam. 1992. A Minimalist Program for Linguistic Theory. MIT Occasional Papers in Linguistics.

Diesing, Molly and Eloise Jelinek. Distributing Arguments. In press, NATURAL LANGUAGE SEMANTICS 3.1.

Hale, K. and S. J. Keyser. 1987. A View from the Middle. Lexicon Project Working Papers 10, Center for Cognitive Science, MIT.

Jelinek, Eloise. 1993a. Ergative "splits" and Argument Type. MIT Working Papers in Linguistics 18, Papers on Case and Agreement I.

_____. 1993b. Prepositions in Straits Salish and the Noun/Verb question. ICSNL 28.

_____. 1994. Quantification in Straits Salish. In Emmon Bach, E. Jelinek, A. Kratzer and B. Partee, eds., Quantification in Natural Languages. Kluwer.

_____ and Richard Demers. Predicates and Pronominal Arguments in Straits Salish. (In press, LANGUAGE.)

Kinkade, M. Dale. 1983. Salish Evidence Against the Universality of "Noun" and "Verb". LINGUA 60.25-40.

_____. 1989. When Patients are Topics: Topic Maintenance in North American Indian Languages. ICSNL 24.

_____. 1990. Sorting out Third Persons in Salish Discourse. IJAL 56:341-360.

Kratzer, A. 1992. Towards a Theory of Voice. University of Massachusetts ms., Amherst, MA.

_____. 1994. On External Arguments. Functional Projections, UMOP 17, Amherst, MA: University of Massachusetts.

Kuipers, Aert. 1967. The Squamish Language. Janua Linguarum, Series Practica, 73. Mouton, The Hague.

_____. 1968. The Categories Verb-Noun and Transitive-Intransitive in English and Squamish. LINGUA 21:610-626.

Montler, Timothy. 1986. An Outline of the Phonology and Morphology of Saanich, North Straits Salish. University of Montana Occasional Papers in Linguistics, No. 4. Missoula.

Murasugi, K. 1992. Crossing and Nested Paths: NP Movement in Accusative and Ergative Languages. Cambridge, MA: MIT dissertation.

_____. 1994. The Transitivity Morpheme as Auxiliary in Inuit. McGill University ms.; to appear.

Thomason, Sally and Daniel Everett. 1993. Transitivity in Flathead. ICSNL 28.

Thompson, Laurence C. 1979. The Control System: A Major Category in the Grammar of Salishan Languages. In B. Efrat, ed., Proceedings of the Victoria Conference on Northwestern Languages, British Columbia Provincial Museum, Victoria. Pp. 154-176.

Thompson, Laurence C. and M. Terry. 1992. The Thompson Language. University of Montana Occasional Papers in Linguistics No. 8. Missoula.