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1. The Argument Type Parameter.

There is a profound typological difference among languages that is broadly manifested in both the morphology and syntax: the argument type parameter. Some languages narrowly prescribe the set of elements that may serve as verbal arguments. In these languages arguments are pronominal only and mark simply the basic deictic features of person, number, and less frequently, gender. The Salish languages are of this type, and may be termed Pronominal Argument languages (Jelinek, 1985).

Pronominal Argument languages have a closed set of person marking elements, typically verbal affixes or clitics, that uniquely serve as verbal arguments. The syntax (and morphology) of the pronominal arguments is in sharp contrast to that of nominals in these languages, which are optional adjuncts to the pronominal arguments (Kinkade, 1983; Jelinek and Demers, 1982). The following properties are frequently found in Pronominal Argument languages. Clause types are often differentiated by particular sets of Pronominal Arguments (Demers and Jelinek, 1982). A noun/verb distinction may be absent, resulting in a single open lexical class with the sole syntactic function of determining argument structure, since lexical items never serve as arguments. An ergative split may also be present, with NOM/ACC case on pronouns and ERG/ABS case on nominals or in the third person verbal morphology. Pronominal Argument languages are often non-configurational, since objects are not NPs syntactically governed by the verb. Finally, what have been termed NP movement rules are absent, since NPs do not occupy argument positions in the clause.

In contrast, there are languages that do not constrain arguments to pronominals, but have an open lexical class (nouns), with unrestricted semantic features that serve as arguments. English is of this type and is an example of a Lexical Argument language. Lexical Argument languages generally lack pronominal inflection in the verb morphology or in AUX, have no ergative splits, are configurational, have a noun/verb contrast, have NP movement rules, and so forth.² Lexical Argument languages have "deep" hierarchical syntactic structures, with coreference across clauses established by deletion of arguments under identity in embedded clauses, as shown in (1).

- (1) Do you want [PRO to hear the Albinoni adagio [that we heard t the other day]]?

An important structural characteristic of pronominal argument languages is that they have a "shallow" syntax, with adjoined rather than embedded clauses linked by coindexing rules that provide for coreferentiality between the pronominal arguments of one clause and an adjoined one, as in the following Lummi sentence.

- (2) səx^w cə sk^wtó^l
disappear:x // DET raven:x
"Raven disappeared."

In this example, (//) marks a clause boundary. The first clause is finite, and is followed by a nominal clause. Each clause has a predicate argument structure, and there is a rule of construal making the arguments of the two clauses coreferential. In this paper, we will try to formulate the rules of construal for finite clauses and nominals in Lummi, in order to defend the claim that neither PRO nor trace is necessary in the analysis of Lummi syntax.

2. Further Constraints on Arguments: the Referentiality Scale.

It is of interest that languages that restrict arguments to a closed set of pronominals often place other constraints upon arguments as well. In order to state the coindexing rules for Lummi, we will need to look at some other kinds of constraints upon arguments in Salish in addition to the limiting of arguments to pronominals. Earlier (Jelinek and Demers, 1982) we proposed an account of the distribution of the active and passive sentence types in Lummi and certain other Coast Salish languages in terms of a Silversteinian agency hierarchy. We want to point out here certain problems in connection with attributing these features of Salish syntax to an agency hierarchy, and we offer here a revised account representing work in progress, which identifies the factors underlying the constraints on Active/Passive sentences in these languages.

The limitations on the occurrence of transitive sentences in Lummi stated in Jelinek and Demers (1982) may be summarized as follows:

- (3) a. Patients may not be first or second person, unless agents are also first or second person.
b. Nominal agents may not occur with pronominal patients.

Where these argument combinations are excluded, passive sentences are employed instead. The gaps in the transitive paradigm are as follows:

(4) Lummi transitive sentences

- a-1 x̄ci-t-oŋəs-sən 'I know you'.
 a-2 x̄ci-t-sən 'I know it'.
 a-3 x̄ci-t sən cə swəy²qə² 'I know the man'.
 b-1 x̄ci-t-oŋəs-sx^w 'You know me'.
 b-2 x̄ci-t-sx^w 'You know it'.
 b-3 x̄ci-t-sx^w cə swəy²qə² 'You know the man'.
 c-1* _____ 'He/she knows you/me'.
 c-2 x̄ci-t-s 'He/she knows it'.
 c-3 x̄ci-t-s cə swəy²qə² 'He/she knows the man'.
 d-1* _____ 'The man knows me/you'.
 d-2* _____ 'The man knows him'.
 d-3 x̄ci-t-s cə swəy²qə² cə swi²qó²ǵ 'The man knows the boy'.

The excluded transitive sentence types may be represented as:

- (5) $\left\{ \begin{matrix} 3 \\ N \end{matrix} \right\} / \left\{ \begin{matrix} 1 \\ 2 \end{matrix} \right\}$ (6) *N/3

where {/} stands for the agent/patient relationship. These restrictions can be combined and schematized in a linear scale:

- (7) 1 & 2 > 3 > N

On this scale, the agent cannot be to the right of the patient. The ordering in (7) coincides with the ordering seen in Silverstein's (1976) "hierarchy of (semantic) features" where the ranking of elements is claimed to reflect the speaker's and hearer's expectations as to agency. Since the speaker and hearer are animate beings with volition and some control over their actions, they are more frequently agents than some third person, or some inanimate being. Mallinson and Blake (1981), however, questioned Silverstein's claims as to agency as the factor underlying the scale, and gave text counts (including counts in aboriginal Australian texts) that show no correlation between agency and person. In Jelinek (1984) it is claimed that the ergative split found in the majority of Australian languages, where 1, 2, and 3 person pronominals are NOM/ACC in case while nominals are ERG/ABS, does not reflect an agency hierarchy but has a syntactic basis. Clitics vs. nominals have different syntactic functions and different case marking systems. The AUX pronominal clitics are verbal arguments with grammatical (NOM/ACC) case, while the adjoined nominals have lexical (ERG/ABS) case that does not mark grammatical relations, but signals coreferentiality with the clitic arguments. In Lummi there is also an ergative split, but it falls between 1st and 2nd person vs. 3rd person and nominals. Our revised account of the excluded sentence types and ergative split in Lummi now

recognizes the fact that nominals are not arguments, and offers a syntactic, rather than a semantic explanation for the "ergative split". That is, we need not depend upon the pragmatic factor of associations between person and agency, but will base our account on the crucial typological feature of the Salish languages: the fact that the sole verbal arguments are pronominal, and that nominals are always optional adjuncts to these pronominals.

We do not dispute the fact that semantic features such as animacy, agency, volition, control, topicality, old vs. new information, and so forth, are more often associated with first and second person than with some, but not all, third person referents. All these semantic/pragmatic attributes of first and second person are language universal; the point is that languages differ in the extent to which these features find formal expression in the syntax. In Jelinek (1985) it is proposed that what have been termed agency hierarchies in fact reflect a different semantic/pragmatic feature that is encoded in the syntax of Pronominal Argument languages, that of referentiality.

In the utterance context, first and second person have unique reference: they are the speaker and hearer, the speech act participants. In contrast, the reference of a third person pronoun is not unique; it must be fixed in context, given a nonce-interpretation, by additional predicational material (or some non-verbal deictic gesture). Lexical Argument languages resolve the inherent vagueness (better, non-specificity) of third person pronouns by using nominal "predicates" as lexical arguments. Pronominal Argument languages employ a different strategy, making use of coindexing between main clauses and adjoined clauses that fixes the reference of third person pronominal arguments by making an additional predication about that argument. An example of this fixing of reference is shown in (8) and (9).

- (8) t'iləm
 "Somebody sang."
 (9) t'iləm // cə swəy²qə²
 "The man sang."

Without an adjoined nominal clause, however, the reference of a third person is open in interpretation, and may be recognized as a "non-person" in the sense of Benveniste (1956): see discussion in Lyons (1977). It is significant that third person is often phonologically null in Pronominal Argument languages. Since the set of possible arguments is so narrowly constrained, when neither first nor second person marking is present, a third person interpretation is present "by default". Sentences such as (8)

are usually translated into English with maximally non-specific terms such as "somebody/something". Speakers will generally add some deictic nominal expression to aid in reference, as in (10).

- (10) t'ilə'm//cu niɪ
sing:x//DET LOCATIVE:x
"That guy sang."

In formulating the rules for coindexing across clauses in Lummi, we find it useful to treat a sentence such as (8) with a non-specified subject as an open sentence containing a variable (x) that may be bound by a following nominal. The following is an informal schematization of simple constructions in Lummi:³

- (11) a. F(1) "I arrived" tečəl-sən
 b. F(2) "You arrived" tečəl-sx^w
 c. F(x) "Someone arrived" tečəl

 d. F(1/ $\begin{Bmatrix} 1 \\ 2 \end{Bmatrix}$) "I saw you" leŋ-n-oŋəs-sən
 e. F(2/ $\begin{Bmatrix} 1 \\ 2 \end{Bmatrix}$) "You saw me" leŋ-n-oŋəs-sx^w

 f. F(1/x) "I saw somebody" leŋ-nəx-sən

(The forms (-n) and (-nəx) in (14, 15) are variants of a single transitivizing suffix.) A rough approximation of the logical form of a construction such as (9) with an adjoined nominal, would be:

- (12) t'ilə'm // cə swəy²qə² "The man sang."

$F_1(x) \cdot \dot{\iota}x(F_2(x))$

. = nominal adjunction

x = a variable

$\dot{\iota}x$ = iota operator

$\lfloor \quad \rfloor$ = coreference (binding)

F_1 = sing

F_2 = (be a) man

Here the adjoined nominal contains a predicate (F_2) and its argument, a variable (x) which is bound by the iota operator ($\dot{\iota}x$) which builds terms from open sentences. The nominal as a whole is coreferential with the variable argument (x) of (F_1).

To account for the distribution of the Active/Passive sentences and the ergative split in Lummi, the following constraint is proposed:

- (13) Referentiality Constraint: AGENTS MAY NOT BE LESS REFERENTIAL THAN PATIENTS.

This constraint rules out sentences of the type which in fact are excluded in Lummi.

- (14) *F(x/ $\begin{Bmatrix} 1 \\ 2 \end{Bmatrix}$)

While permitting those which Lummi allows:

- (15) a. F(x) c. F($\begin{Bmatrix} 1 \\ 2 \end{Bmatrix}$ / x)
 b. F(x/x) d. F($\begin{Bmatrix} 1 \\ 2 \end{Bmatrix}$ / $\begin{Bmatrix} 1 \\ 2 \end{Bmatrix}$)

First and second person are uniquely (and maximally) referential, while the variable x is non-referential. It is of interest that in sentences of the type where both agent and patient are first/second person, that Lummi has a suffix (-oŋəs) that is undifferentiated between first and second person patient and is therefore less specific in reference than the agent, which must be specified as either first or second person. Undifferentiated -oŋəs obeys the Referentiality Constraint, but is not a necessary consequence of it, since the constraint states only that agents may not be less referential than patients, thus providing for agents and patients that are equal in referentiality. This is a weaker condition than requiring patients to be less referential than agents as is the case with -oŋəs.

Since the constraint given in (13) applies only to transitive sentences, where both agents and patients are present, it is consistent with the fact that a passive must be employed as a substitute for one of the excluded sentence types, since a passive is an intransitive sentence with only one non-oblique argument, the subject. Furthermore, when no (oblique) agent is stated, the agent is maximally non-specific. A passive "I was seen" is pragmatically equivalent to a transitive of the kind Lummi excludes, with a non-specific agent: "Somebody saw me".

The primary constraint that Lummi places upon arguments is that in all sentences, arguments must be pronominal only, either deictic referring expressions that mark person and number, or non-referring variables. The secondary constraint that Lummi places on arguments applies to transitive sentences, and requires that patients not be more referential than agents.

In the following sections, we will formulate the coindexing rules that describe the facts concerning coreference between the arguments of main clauses and nominals in Lummi.

3. Finite Clause Coindexing: The Absolutive Nominal Interpretation Principle.

Following a finite intransitive clause, an adjoined nominal is necessarily interpreted as coreferential with the single argument of the main clause predicate, as in example (10) above. We turn now to the interesting question of why transitive finite sentences with a single nominal adjunct are always interpreted so as to coindex the nominal with the object argument of the main clause. This is the feature of Salish syntax that we earlier attempted to capture with the stipulation (3 > N) in (7) above. The Referentiality Constraint given in (13), however, only applies to Agent/Patient combinations; since nominals are not arguments and do not function as agents or patients, (3 > N) is not a correct formulation of the principle that underlies the interpretation of transitive sentences with a single nominal adjunct.

- (16) $le\eta-i-t-\emptyset-s$ cə swəy^lqə^l
 saw:ASP:TRANS:x:3 // DET man:x
 3 saw x, the [One who is a] man.
 "He/she/they saw the man."

This sentence cannot be interpreted as "The man saw him." The generalization is:⁴

- (17) A nominal following a finite clause is coreferential with the absolutive (variable) argument of the finite clause.

The absolutive nominal interpretation principle is something quite different from the behavior of first/second person vs. third person.⁵ The former concerns coreference across clauses, while the latter has to do with restrictions on the cooccurrence of argument types. As we hope to show, the principle of relative referentiality underlies both of these features of Lummi grammar. In order to understand the phenomena of finite clause coindexing, we need to understand the function of ergative case marking and the "ergative split" found in Lummi. Ergative $-s$ is homophonous with third person Possessive $-s$ in Lummi; in other language families of the New World, ergative and possessive case coincide (Eskimo, Mayan, Athabaskan (Sandoval and Jelinek 1985)). Possessives are used to mark subjects in non-finite clauses in Salish and a great many of the world's languages; here possessive $-s$ marks a third person agent in a finite transitive clause.

The suggestion offered here is that Ergative/Possessive $-s$ fixes reference (very broadly) to some third person; therefore, $-s$ has a higher referentiality value than the non-referential x variable for objects and

intransitive subjects. If this is the case, then transitive sentences with $-s$ conform to the constraint stated in (13) above, not because both arguments are open variables (as shown in (15b): $F(x/x)$) and therefore equal in the lack of referentiality, but because the subject is understood as being some particular third person previously fixed in discourse, while the object is a variable with an open interpretation that is to be fixed (bound) by a following nominal.

- (16) $F_1(3/x) \cdot ix(F_2(x))$ "3 saw the [x who is a] man"

In (16) the patient variable is given a fixed interpretation by a following nominal. Note that ergative $-s$ differs in important respects from variable x ; the $-s$ refers only to third person transitive agents, while x means that a transitive patient or an intransitive subject is unspecified; variables are syntactically absolutive. We can also make the following generalization: In Lummi, referential arguments are phonologically overt, while non-referential arguments (variables) are phonologically null.

The reference of a variable may be fixed as other than third person by the use of one of the predicates that mark the semantic feature of person in Lummi. These constructions are often used to place emphasis on an argument.

- (17) $t'ilə\eta^m // cə nək^w$ "You're the one who sang."
 $F_1(x) \cdot ix(F_2(x))$ $F_2 =$ second person
- (18) $le\eta-nək^w-sx^w // cə 'ə\eta s$ "You saw [the one who is] me."
 $F_1(2,x) \cdot ix(F_2(x))$ $F_2 =$ first person
- (19) $le\eta-nək^w-sən // cə nək^w$ "I saw [the one who is] you."
 $F_1(1,x) \cdot ix(F_2(x))$ $F_2 =$ second person

Transitive sentences with nominal adjuncts referring to both agent and patient appear to be marginal in status in Salish. Lushootseed (Hess, 1973) has no ergative $-s$ and does not permit two nominals to be adjoined to a transitive sentence. Kinkade (1983) has suggested that this was probably a feature common to the Salish languages prior to contact with Western languages. We can offer tentative support for the view that ergative $-s$ is higher in referentiality than absolutive NULL by looking at additional

aspects of coindexing of arguments across clauses.

4. The "Agent Hierarchy" across Clauses.

In Jelinek and Demers (1982) we pointed out that the "agent hierarchy" and "ergative split" are not present in non-finite adjoined clauses. This is frequently the case across languages. In our earlier work we could only state these distributional facts as independent observations. We now believe that we have an explanation for these facts, and to demonstrate this we begin by showing how the "agent hierarchy" is suspended in nominals:

- (20) a. niɿ cə swəy²qə² k^w x̄ci-t-əŋəs-ø "That's the man that knows me."
 $F_1(x) \cdot ix(F_2(x)) \cdot ix(F_3(x/1))$
- b. niɿ cə swəy²qə² k^w x̄ci-t-ø-ən "That's the man that I know."
 $F_1(x) \cdot ix(F_2(x)) \cdot ix(F_3(1/x))$

Salish nominals are referring expressions that are coreferential with some argument of the predicate on which the nominal is built. There are subject centered nominals, such as the F_2 nominal in (20a,b) "the [one who is a] man". This nominal refers to someone by assigning to him the attribute "man", and the operator (ix) binds the variable (x) under the predicate (F_2) "man". The following (F_3) nominal in (20a) means "the one who knows me", and is agent centered; it fixes reference by assigning to someone the attribute "he knows me".

In contrast, in (20b), the F_3 nominal is patient centered and means "the one that I know", and refers to someone by assigning him the attribute "I know him". In both these examples, the successive nominals provide more information that serves to narrow possible reference; first we are told that the referent of (F_1x) is a man (F_2), and next whether he is known by or knows (F_3) the speaker. The "agent hierarchy" does not apply here; in (20a) there is a non-first or second person agent and a first person patient under (F_3). But notice that if referentiality is the determining factor, we have an explanation. Within the agent centered (F_3) nominal, the variable (x) is bound by the operator (ix); that is, reference is fixed as "the one that knows me". Since both the agent and patient are equally referential, the Referentiality Constraint stated in (13) is not violated.

5. The "Ergative Split" across Clauses.

We turn now to the second observation, the fact that the "ergative split" is also "suspended" in nominal clauses. There is no ergative $-s$ after the transitive verb $x̄ci-t$ in (21).

- (21) niɿ cə swəy²qə² k^w x̄ci-t
 $F_1(x) \cdot ix(F_2(x)) \cdot ix(F_3(x,y))$

"That's the man who knows someone."

In (F_3) the agent is the bound variable and the patient (y) variable is left open for further binding:

- (22) niɿ cə swəy²qə² k^w x̄ci-t sə sɿeni²
 $(F_1(x) \cdot ix(F_2(x)) \cdot ix(F_3(x,y)) \cdot ix(F_4(x)))$

"That's the man that knows the woman."

However, the $-s$ does appear in the following:

- (23) niɿ cə swəy²qə² k^w x̄ci-t-s
 $F_1(x) \cdot ix(F_2(x)) \cdot iy(F_3(3/y))$

"That's the man that he knows."

The nominal based on (F_3) is patient centered, "the one that 3 knows". We can now see a clear parallel in form and meaning between the structures in (24) and (25):

- (24) x̄ci-t-s "3 knows someone"
 (25) cə x̄ci-t-s "the one such that '3' knows him."

We propose that $-s$ serves the same function in nominals as it does in finite clauses: to provide information about coindexing. The phonologically overt third person $-s$ suggests that the agent has a more specified reference than the NULL patient argument. It is always a NULL (or ZERO) variable that is bound by the iota operator that builds the nominal. The $-s$ serves to signal that the nominal is patient centered, and that the agent is some third person.

It is always possible, however, to add more information about some specified referent by the addition of a nominal:

- (26) niɿ cə swəy²qə² k^w x̄ci-t-s sə sɿeni²
 $F_1(x) \cdot ix(F_2(x)) \cdot ix(F_3(3/x)) \cdot ix(F_4(x))$

"That's the man that the woman knows."

In (22), the agent-centered (F_3) nominal is coreferential with the agent argument of its predicate; the agent argument is bound within the nominal.

The patient variable is then free to be bound by the following nominal (F_4). In (26), the patient-centered nominal (F_3) is coreferential with the patient argument of its predicate; the patient argument is bound within the nominal, and the agent argument is then free to be bound by the following (F_4) nominal.

6. The Nominal Coindexing Rules.

Let us call the argument on which a nominal is "centered", that argument with which the nominal is coreferential -- subject, agent or patient -- the bound argument. The generalizations that express the observations made above on coindexing between nominals are as follows:

(27) Transitive based nominals

When a nominal based on a transitive predicate is followed by another nominal, the bound argument of the second nominal is coreferential with (binds) the unbound argument of the first.

Rule (27) covers coindexing in (22) $\overset{c_a}{x}ci-t\ s\ s\lrcorner i\lrcorner i$, "the one such that he knows the woman", and (26) $\overset{c_a}{x}ci-t-s\ s\ s\lrcorner i\lrcorner i$ "the one such that the woman knows him" above. Coindexing following an intransitive based nominal is easier to state:

(28) Intransitive based nominals

When an intransitive based nominal is followed by another nominal, the bound arguments are coreferential.

Rule (28) covers examples such as:

(29) a. $c\ s\ w\lrcorner y\lrcorner q\lrcorner s\ k^w\ ye\lrcorner$
the man that left

$$\underbrace{ix(F_1, x) \cdot ix(F_2, x)}$$

b. $c\ s\ w\lrcorner y\lrcorner q\lrcorner s\ k^w\ x\lrcorner ci-t$
the man that knows x

$$\underbrace{ix(F_1, x) \cdot ix(F_2, x, y)}$$

c. $c\ s\ w\lrcorner y\lrcorner q\lrcorner s\ k^w\ x\lrcorner ci-t-s$
the man that '3' knows

$$\underbrace{ix(F_1, x) \cdot iy(F_2, 3, y)}$$

We may now restate the coindexing rule for finite clauses and nominals given in Section 3 above:

(30) A nominal following a finite clause is coreferential with (binds) the unbound argument of the finite clause.

We have now stated coindexing across finite clauses and possible combinations of nominals. Coindexing across propositional clauses (nominalizations, hypotheticals) present a different set of problems and will be discussed in a later paper.

7. Extensions of the Analysis.

Although we feel that the proposals advanced here fit the facts of Lummi grammar with some plausibility, there is still the perplexing question of why other Salish languages -- closely as well as distantly related -- show such wide variation in the kind and number of constraints on arguments. An appeal to historical change does not help to answer the interesting questions about possible causes of the loss, survival, or development of particular features. If referentiality is the factor that finds syntactic expression in the constraints on arguments in Lummi, then referentiality should be relevant to the constraints found on arguments elsewhere. In this section, we offer some conjectures on this question.

Referentiality is clearly relevant to the Argument Type Parameter; Pronominal Argument languages restrict arguments to pronominals -- the uniquely referential first and second person, and third person arguments with adjoined nominals that fix reference. The fact that (on the data we have seen) only Pronominal Argument languages have hierarchical ranking of arguments and restrictions on possible combinations of arguments is highly suggestive.

A constraint against first person plural agents and second person patients has been reported for several Salish languages: Shuswap (Kuipers 1974); Kalispel (Speck 1980) and Upper Chehalis (Kinkade (1984). This is true of Lummi also. This constraint is not consistent with (13) above, where it is assumed that first and second person are equal in referentiality, thus permitting sentences of the type 1 pl/2.

A possible clue to the exclusion of this sentence type is found in Kuipers' Shuswap grammar. In Shuswap there is a contrast between first person plural inclusive and exclusive. If, in the languages that exclude 1 pl/2 transitive sentences, the 1 pl form is interpreted as inclusive, then there is an overlap in the reference of 1 pl and 2, and the exclusion of this sentence type would be predicted. In Shuswap, both 1 pl/2 and 1 pl/3 transitive construction types are excluded, and passives are employed:

(31) $pi\lrcorner n-c-t$ "You sg. are squeezed" or "We squeeze you sg."

(32) $pi\lrcorner nt-lm-t$ "You pl. are squeezed" or "We squeeze you pl."

(33) $pi\lrcorner nt-m$ "He/they are squeezed" or "We squeeze him/them"

(These are passive forms that are used to fill gaps in the transitive paradigm.) In Shuswap, 1 pl appears to be inclusive with respect to both 2 and 3 person ("we" includes everyone); thus the use of passive forms. But in

the third person constructions, it is possible to mark a 1 pl exclusive by the addition of a particle $k^{\circ}x^{\circ}$.

(34) $p\acute{ic}$ -nt-m $k^{\circ}x^{\circ}$ "We (exclusive) squeeze him/them"

(35) $p\acute{ic}$ -n-s $k^{\circ}x^{\circ}$ "He/they squeeze us (exclusive)."

This particle that marks 1 pl exclusive follows a form that is morphologically a passive. Without $k^{\circ}x^{\circ}$, the sentence is ambiguous, as in (33); with the particle, the interpretation is only that shown in (34) and (35).

In Kalispel, passive and impersonal constructions are employed instead of transitive 1 pl/2 constructions. This suggests that the 1 pl forms are so inclusive as to be referentially vague. A possible parallel may be seen in contemporary substandard French, where on is said to be replacing nous.

In Upper Chehalis Kinkade shows that the excluded 1 pl/2 constructions are replaced not by passives, but by a transitive construction with a third person (variable) object argument in the finite clause, followed by a nominal that fixes reference to a second person.

(36) $s^{\lambda} \acute{a} \cdot l^{\lambda}$ stustawt tit n \acute{s} wi
CONTINUATIVE:look for:3 obj:1 pl:subj DET second person:sg
"We are looking for you."

This construction conforms to the Referentiality Constraint given in (13) above, and also succeeds in giving the 1 pl agent an exclusive interpretation. We don't know whether the inclusive/exclusive contrast is marked elsewhere in Upper Chehalis. Third person arguments are mostly phonologically overt in this language, unlike Lummi.

Gerdtz (1982) gives interesting data on the distribution of intransitive, transitive, passive, and anti-passive constructions in Halkomelem with respect to an animate/inanimate contrast in arguments. Compare:

(37) ni p \acute{a} n- \acute{a} t- \acute{a} s $k^{\circ}x^{\circ}$ sw \acute{s} y \acute{q} e \acute{t} $k^{\circ}x^{\circ}$ sq \acute{e} w \acute{e}
aux plant-tr-3erg det man det potato
"The man planted potatoes."

(38) ni p \acute{a} n \acute{t} - \acute{a} m $k^{\circ}x^{\circ}$ sw \acute{s} y \acute{q} e \acute{t} \acute{l} \acute{a} $k^{\circ}x^{\circ}$ sq \acute{e} w \acute{e}
aux plant-intr det man obl det potato
"The man planted the potatoes."

(39) ni p \acute{a} n- \acute{a} t- \acute{a} s $k^{\circ}x^{\circ}$ sw \acute{s} y \acute{q} e \acute{t} \acute{l} \acute{a} s \acute{l} éni \acute{t}
aux plant-tr-3erg det man det woman
"The man planted (i.e. buried) the woman."

(40) *ni p \acute{a} n - \acute{a} m $k^{\circ}x^{\circ}$ sw \acute{s} y \acute{q} e \acute{t} \acute{l} \acute{a} s \acute{l} éni \acute{t}
-intr obl

(The man planted the woman.)

While animacy is clearly involved here, so is referentiality. In (37) the agent is involved in the activity of potato-planting, while in (38) some actual potatoes are referred to. The next examples show that woman-planting is not an activity ordinarily pursued without reference to some particular woman. We tentatively suggest that Halkomelem is a Pronominal Argument language where there are constraints upon arguments that have been extended so as to mark animacy as well as referentiality. Since first and second person are normally both animate and human as well as uniquely referential, the elaboration of constraints that mark animacy/humanity as well as referentiality seems a likely developmental sequence. Halkomelem, like Squamish, permits 3/1 transitive sentences while excluding 3/2. We have no explanation for this.

Many languages that permit only pronominal subjects do not permit an indefinite nominal to be adjoined to that pronominal; it has a definite interpretation. Arabic is an example, along with other languages spoken in Africa (Givon 1979). And in many languages, existential constructions are used to avoid indefinite subjects:

(41) There is a problem here.

*A problem is here.

(42) There was a policeman at the door.

Here we are more interested in referring to the class of policeman than to the particular policeman who happened to be there; his identify is irrelevant.

Kinkade (1984) reports a second constraint on arguments in Upper Chehalis. "...a predicate with a non-human subject may not have a human object expressed by one of the usual object suffixes....Instead, Upper Chehalis has an obviative suffix that is used in these instances to express a human object." Example:

(43) \acute{t} it xáy \acute{t} wali tat qáx \acute{a}
"The dog growled at him."

Here the obviative suffix -wali marks the human object. Kinkade adds the following note:

Note that with an obviative object suffix, a complement, when present, refers to the subject of the predication. With a regular third person object suffix, such a complement would

refer to the object, and with an intransitive predicate the complement refers to the subject; this is the usual Salishan pattern.

a. ²it ²axán tit qáxa² 'he saw the dog'

b. ²it wáq'í tit qáxa² 'the dog ran'

This, as far as I can tell, is as close as Upper Chehalis comes to ergative-type constructions.

There is a striking parallel here with the use of the obviative in Navajo. Navajo is a Pronominal Argument language with optional adjoined nominals. Navajo has an absolutive obviative prefix ho-; this "fourth person" marker fixes reference so explicitly (a particular person who is not named) that no nominal may be adjoined. When ho- is used to mark a patient, any adjoined nominal must be interpreted as coreferential with the agent argument of the verb:⁶

(44) at'ééd yizts'qs
girl 3PAT:3AGENT:kissed
"He/she kissed the girl."

(45) at'ééd hwizts'qs
girl 4PAT:3 AGENT:kissed
"The girl kissed (that certain) person."

The nominal immediately preceding the verb is coreferential with the patient in (44), with the agent in (45). No nominal coreferential with the patient may be adjoined in (45); reference is completely fixed. It appears that in Navajo, as in Upper Chehalis, obviative pronouns are used to "override" the coindexing rules that normally obtain.

In Navajo the obviative construction can be used to override the constraints on arguments embodied in the much written about "NP hierarchy":

(46) *tsff⁴i ashkii yishish
mosquito boy 3 PAT:3AGENT:bit
*"The mosquito bit the boy."

(47) tsff⁴i hwashish
mosquito 4PAT:3 AGENT:bit
"The mosquito bit that certain person."

In this situation, the speaker is referring to the patient as an individual, and in referring to the mosquito as a member of a class with certain attributes. It appears that the obviative has a similar function in Upper

Chehalis; it is employed when the patient has a higher referential value than the agent. Patients (and intransitive subjects) marked obviative are completely specified, nominals may not be adjoined, and the Referentiality Constraint does not apply.

The coindexing rules that state coreferentiality between pronominal arguments and adjoined nominals are language particular. It appears that once these rules have been stated for specific languages, we may have more insight into the various constraints upon argument combinations that have been described as representing an "agent hierarchy". The referentiality scale appears to be crucial in the statement of coindexing rules, in providing an explanation for the "suspension" of the ergative split and "agent hierarchy" in non-finite clauses, and in providing a unified account of constraints upon both pronominal arguments and nominal adjunction in these languages.

Notes

1. We would like to acknowledge our debt to the late Mr. Aloysius Charles, a speaker of Lummi who died in 1983, who provided most of the Lummi material on which our analysis is based. Mrs. Agatha McCluskey has also helped with her Lummi expertise, and we express our gratitude to her here. We are greatly indebted to Larry and Terry Thompson and Dale Kinkade for insights into Salish structure. We also thank Elizabeth Bowman for help and encouragement.
2. Pronominal argument languages have often been misleadingly termed "clitic doubling" languages because of the "cross-referencing" between pronominals and nominals. Some "mixed" languages, the so-called "pro-drop" languages, including the Arabic and Romance groups, restrict subjects to pronominal affixes, which take optional nominal adjuncts, while objects may be lexical:

(i) Oímos la música.	(ii) ?areyt ik-kitaab
heard:1 pl the music	read:1 sg the-book
We heard the music.	I read the book.
(Spanish)	(Egyptian Arabic)

When languages are mixed with respect to the argument type parameter, there are always more constraints upon subjects than objects.

3. A better notation would capture the fact that the first and second person pronominal clitics are also functions with semantic content. In the notation used here, which is closer to Lummi syntax, we reserve the function marker (F) for Lummi predicates.

4. This conspicuous feature of Salish syntax has been noted earlier by Kuipers, Kinkade, Thompson, Gerdts, and others.
5. This fact was pointed out to us several years ago by Larry Thompson, and we've been thinking about it ever since.
6. We thank Mary Havatone for these Navajo examples. See also discussion in Havatone 1985.

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