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Proceedings of the Nineteenth Annual Meeting of the Berkeley Linguistics Society: Special Session on Syntactic Issues in Native American Languages (1993), pp. 107-120

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The Annual Proceedings of the Berkeley Linguistics Society is published online via eLanguage, the Linguistic Society of America's digital publishing platform.

The syntax and semantics of pronominal clitics in Coastal Carib*

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1. Introduction.

The formal properties of pronominal clitics in Coastal Carib[1] reflect a relation between person markers and the tense/mood environment in which they are found. Under standard approaches to bound pronominal morphology this relation is unexpected; person values are not generally analyzed as relating to tense or mood in any systematic way. However, from the point of view that inflectional morphology is information increasing (Steele 1992), the properties of the Carib clitics can be seen as a natural consequence of the grammatical organization of Carib. That is the position taken in this discussion.

Carib grammar is proposed to be organized in part by the epistemic contrast **Certain/Not Certain**. The relative certainty of an utterance reflects an evidential distinction defined by whether or not speaker and hearer can evaluate the facts described by the utterance. The following semantic distinctions provide the parameters along which expressions can be evaluated: **i)** whether an expression refers to events in **This world** or to **Possible worlds**, **ii)** whether an expression is a **Proposition** or a **Nonproposition**, **iii)**whether an expression refers to **Nonpast** or **Past time** and **iv)** whether an expression refers to **Non3rd** person or **3rd** person agent, or **Affector**[2]. The linguistic information associated with Carib tense/mood morphology is proposed to reflect the Certain/Not Certain contrast, and the representation and distribution of Carib clitics are not accidentally related to tense and mood, but in fact derive from the role of the Non3rd/3rd contrast within the larger system.

In the discussion that follows I adopt Steele's (1990, 1992) model of the relationship between features and category labels. I take feature:value pairs to comprise categorial distinctions; they are not simply additions to more basic categories. I also assume that inflectional operations are one-place processes which apply to representations and return modified representations (e.g. Steele 1992, Stump 1991, Anderson 1992, Matthews 1991). I assume, following Steele (1992) that the modification is an increase in the representation's morphosyntactic information [3]. An information increasing process is schematized in (1):

(1) **FORM:[F1:a F2:b] → FORM:[F1:a F2:b F3:c]**

Under Steele's approach, lexical entries are proposed to be impoverished feature structures, which are enriched by morphological operations. An operation may add a feature:value pair, or fill in a value for an existing feature that does not have a specified value.

2. The data.

All facts are taken from Hoff (1968). As a preliminary analysis, I consider Hoff's account of the Carib bound pronominals:

(2) Carib bound pronominals

appearing on Transitive forms

a.	**si-**"1st p. acts on 3rd p. "	**kIni-** '3rd acts on 3rd p. "
	mi-"2nd p. acts on 3rd p. "	**ni -** '3rd acts on 3rd p. " (irrealis)
	kIsi- '1&2 act on 3rd p. "	
b.	**k-**"1st acts on 2nd p. " **or**	**y-** '3rd p. acts on 1st p. "
	'2nd p. acts on 1st p. "	**a-** '3rd p. acts on 2nd p. "

appearing on Intransitive forms

c.	**k-** '1st and 2nd p'	**kIni-** '3rd p'
	y- '1st p'	**ni -** '3rd p' (irrealis)
	a- '2nd p'	

Note Hoff's analysis of the clitic **k-** (in 2b and 2c). On intransitive forms **k-** translates as 'We (inclusive)", with both participants associated with a single role (2c). On transitive forms the participants are still identified as 1st and 2nd persons, but they are associated with different semantic roles. However, **k-** expressions formed on the basis of transitive verbs do not specify which participant is associated with which role.

Certain distributional facts reported by Hoff are also relevant to the present discussion (158-179). These are summarized in (3):

(3) summary of clitic distribution with respect to tensed forms

a. the clitics **si-**, **mi-**, **kIsi-**, **kIni-**, and **ni-** combine only with tensed verb forms; **k-**, **a-**,and **y-** combine with both tensed and untensed forms
b. clitics which refer to 3rd person Affectors may not cooccur with one group of tense suffixes (Type 1 suffixes below)
c. all clitics may cooccur with a second group of tense suffixes (Type 2 below)
d. **kIni-** and **ni-**, which both refer exclusively to 3rd person participants, do not have the same distribution with respect to their cooccurrence with a third group of tense and modal suffixes (Type 3 below)

It is clear from the above summary that the Carib tense suffixes can be classified with respect to the set of pronominal clitics which each type may cooccur with:

(4) Carib tense classes

a. Type 1, e.g. -ya 'Present' : may cooccur with {si-, mi-, kIsi-, k-, y-, a-}
b. Type 2, e.g. -yaŋ 'Present": may cooccur with {si-, mi-, kIsi-, k-, y-, a-, kIni-, ni-}
c. Type 3, e.g. -rI , 'Irrealis": may cooccur with {si-, mi-, kIsi-, k-, y-, a-, ni-}

This fact about Carib tense suffixes provides the basis of the present account of the formal properties of Carib clitics. If inflectional processes are information-increasing operations, then tense suffixation must add information to an existing information structure. Three types of tense suffixes are therefore predicted to return three types of tensed verb forms, distinguished by differences in the information carried by each type. It remains to be demonstrated whether or not the formal distinctions that define the types listed in (4) also define coherent semantic types, as this paper proposes.

The semantic properties of expressions that include Type 2 suffixes and pronominal clitics provide the evidence necessary for a complete analysis of the Carib tense distinctions and the interaction between Carib clitics and Carib tensed forms. These data are presented in Figure (5):

(5) Carib tensed expressions: Type 2 forms

a. kIni:-kupi:-yaŋ 'S/he bathes him/her.'

b. ni-ku:pi-yaŋ 'Does he bathe her?'
'(I'm told)He bathes her.'

c. si-kupi:-yaŋ 'Do I bathe her?'
'(I'm told) I bathe her. '

d. a-ku:pi-yaŋ 'He bathes you. '
'Does he bathe you?'
'(I'm told)He bathes you. '

mi-, **kIsi-**, and **kI-** also return type **(c)**

y- also returns type **(d)**

Note that while the tense affix and the lexical verb are the same in every example, the possible interpretations associated with the expressions in (5) are not the same in each case. Expressions that include the clitic **kIni-** are always interpreted as propositions(5a). Expressions that include the clitic **ni-** are always interpreted as questions or as reported facts (5b). Expressions with Type Two verbs which refer to Non-3rd Affectors are always interpreted as questions or reported facts, never as propositions asserted from direct knowledge (5c). And finally, expressions which refer to 3rd person Affectors and Non-3rd person Affecteds are indeterminate in their interpretations(5d). These expressions may be interpreted as propositions, as questions, or as reported facts.

The differences in the interpretations of the expressions listed in (5) derive from properties of the pronominal clitics. However, the possibility for varied interpretation must derive from properties of the tense affixes involved. Only

forms which include Type 2 affixes exhibit indeterminacy in their interpretation. If an expression includes a Type 1 or a Type 3 tense affix, it has the same type of interpretation regardless of the clitic involved (Hoff 1968). Any analysis of the Carib facts must account for the semantic asymmetries presented above, as well as the distributional facts and the indeterminacy of **k-** also discussed in this section.

In the rest of this section I develop an analysis of the interaction of Carib tense and person morphology that accounts for all of the facts described above, and treats them as deriving from the same source: the semantics of Certainty.

2. 1. Tensed forms.

The clitics in (2a) above only occur with tensed forms, while those listed in (2b) are found with both tensed and untensed forms, e.g. :

(6)

a. **si-ku:pi-ya**	'I bathe him/her. '	b. ***si-ku:pi**	
c. **y-ene:-yaŋ**	'S/he sees me. '	d. **y-e:ne**	'be seen, 1st person'

If tense suffixation occurs prior to cliticization, then the absence of forms like (6b) and the presence of forms like (6a), (6c), and (6d) can be accounted for. The clitics in (2a) require arguments that are type **T(ensed)** and return forms such as those in (6a). The clitics in (2b) may combine with type **T** forms, or with verb forms of type **U(ntensed)**. These return forms such as those in (6c) and (6d). The three types of tense suffixes are presented in (7):

(7) Tense suffixes

a. Type 1: **-ya** 'Present'; **-e** 'Present'; **-sa** 'Present'; **-take** 'Future':
Type 1 cooccur only with clitics referring to Non3rd Affectors.

b. Type 2: **-yaŋ** 'Present'; **-no** 'Present'; **-saŋ** 'Present'; **-taŋ** 'Future';
-yakoŋ 'Past' ; **-sakoŋ** 'Past'; **-koŋ** 'Past'; **-yaine** 'Durative'; **-saine** 'Durative':
Type 2 cooccur with all clitics

c. Type 3: **-rI** 'Conditional/Counterfactual'; **-i** 'Emphatic/Optative';
-h 'Emphatic/Optative(counter factual)'; **-ne** 'Emphatic/Optative (same)';
-se 'Purposive':
Type 3 do not cooccur with **kIni-**

Two of the three classes listed above are clearly organized by common semantic properties, as well as the common distributional properties presented in (4) above. Type 1 suffixes (7a) are all 'Nonpast' temporal suffixes, and all cooccur only with clitics that refer to Non3rd Affectors:

(8) Type 1 suffix distribution with respect to clitics

mi-ku:pi-ya 'You bathe her ' **kIsi-ku:pi-take** 'You and I will bathe him '
a-tunda-e 'You arrive '

***aku:piya, *yene:ya, *kIni:ku:piya, *kIni:kupi:take, *niku:piya , *niku:piya**

Type 3 suffixes (5c) are all nontemporal suffixes. While most of the clitics are found with **Type 3** verb forms, **kIni-** is not, e.g. :

(9) Type 3 suffix distribution with respect to clitics

ni-ku:pi-i. 'Oh, may she bathe him!', also 'She really has bathed him!'
ni-ku:pi-rI 'She would bathe him'
si-ku:pi-ri 'I would bathe him'

***kIni-ku:pi-rI**, etc.

Type 2 suffixes are all temporal suffixes, but these refer to various temporal and aspectual distinctions, including Nonpast distinctions. However, recall the semantic asymmetries associated with expressions which include Type 2 suffixes. The Type 2 suffixes share the property that expressions formed on the basis of Type 2 tensed forms will be of various subtypes of the same semantic type, a **Realis Nonassertion**.

Any expression which includes a Type 2 suffix and refers to a Non3rd person Affector is interpreted as a question, or as reported fact. Recall also that Nonpast suffixes occur in both Type 1 and Type 2 classes:

(10) a. **si-ku:pi-ya** 'I bathe him/her. '
b. **si-ku:pi-yaŋ** 'Do I bathe him/her?'
'(I'm told) I bathe him/her. '

(10a) and (10b)can be analyzed as different types of expressions which contrast in whether or not the speaker and hearer have direct access to the facts at issue. Of course, having vs. lacking direct knowledge of an event are reasonably characterized as expressing differing degrees of certainty. If the contrast between (10a) and (10b) represents a contrast between an **Assertion**(10a) and a **Nonassertion**(10b), then we can exploit this contrast to account for other differences between the two suffix Types as well. Type 1 suffixes all refer to Nonpast time; Type 2 suffixes include those which refer to Past time. An interesting property of expressions with Past suffixes is that they are indeterminate with respect to whether they express propositions or questions when referring to Non3rd person Affectors, e.g. :

(11) **siku:piya:koɳ.** 'I bathed him/her. '
'Did I bathe him/her?'
'(I'm told)I bathed him/her. '

This fact may be analyzed as a consequence of the semantics of Certainty: any Past event is too removed from the moment of discourse to be expressed with certainty. Questions and propositions about Past events are equally uncertain; both refer to events in this world, but both include some uncertainty about whether one can claim direct knowledge of the events referred to. The fact that Type 1 suffixes never cooccur with clitics expressing 3rd person Affectors is accounted for if all expressions about 3rd person Affectors are inherently uncertain. If certainty is partially defined with respect to discourse participants, then 3rd person is too removed from discourse to be discussed with maximal certainty.

The properties of Type 3 suffixes may also be characterized with respect to the semantic contrast Assertion/Nonassertion. All Type 3 suffixes are nontemporal suffixes, and expressions which include Type 3 suffixes may be analyzed as referring to possible worlds, rather than being restricted to this world. Reference to the possible is inherently less certain than reference to the actual. While expressions that include Type 2 or Type 3 suffixes are labeled Nonassertions, those which include Type 2 suffixes all refer to events in this world that are either realized or realizable. Expressions which include Type 3 suffixes do not entail that the events referred to are realizable. To capture these contrasts, expressions which include Type 2 suffixes are proposed to be Realis Nonassertions, while Type 3 suffixes are proposed to be **Irrealis Nonassertions**.

Since tense affixation must precede cliticization, clitics may be analyzed as selecting tensed verbs as their targets. The three types of tense suffixes are proposed to return three types of tensed verb forms:

(12)

a. Type 1, **Assertion** e.g. **ene:-ya** : combine with {**si-, mi-, kIsi-, k-, y-, a-** }
b. Type 2, **Realis Nonassertion**, e.g. **ene:-yaɳ** : combine with any clitic
c. Type 3, **Irrealis Nonassertion** e.g. **ene:-rI** : combine with any clitic except **kIni-**

This analysis of the Carib tensed forms accounts for the contributions of the tense affixes to the semantic properties of complex expressions. It also implies a relationship between the semantic type of a tensed verb form, and its combinatorial possibilities; each verb Type may combine with a distinct set of pronominal clitics. The next section formalizes the relation between tensed forms and the expressions that result from cliticization.

2. 2. Formal description of the distribution of the Carib clitics.

Some distributional facts about the Carib clitics emerged in the previous discussion:

(13) a. certain clitics combine only with Type T forms
b. certain clitics combine with any verb form
c. certain clitics combine with any Type T form
d. **kIni-** does not combine with Type 1 or with Type 3 forms
e. **ni-** does not combine with Type 1 forms

These facts may be analyzed as reflecting the fact that different clitics place different restrictions on their targets. However, these restrictions cannot be stated as selection of category Type 1, Type 2, or Type 3. Clitic distribution places restrictions on properties of categories, rather than on category types.

The restrictions on clitic distribution are proposed to be sensitive to the properties **Certain** and **Tense**. These properties are formalized as features which comprise the FORM of a verb, thereby distinguishing four verb types in all:

(14) Formal representations of Carib verb Types

Type 1: **FORM: [COMB:[(<Y: >) X:]; TNS:Realis; CERTAIN:+]**
Type 2: **FORM: [COMB:[(<Y: >) X:]; TNS:Realis; CERTAIN:-]**
Type 3: **FORM: [COMB:[(<Y: >) X:]; TNS:Irrealis; CERTAIN:-]**

Type U: **FORM: [COMB:[<X: >]]**

[CERTAIN] is a binary valued feature whose possible values are **{+,-}**. **[TNS]** is a binary valued feature whose possible values are **{Realis, Irrealis,}**. The formal information **[TNS]** and **[CERTAIN]** are proposed to be added to a representation by tense affixation. This represents the formal distinction between tensed and untensed verb forms. The feature **[COMB]** is a feature that takes feature structures as its values. The features **X** and **Y** indicate two distinct participants in an action, defined by their role in the event. These features take values such as 1,2,and 3, which refer to the Participants in an event. The feature [COMB] and its values represent the fact that tensed expressions in Carib must have values for up to two Participants in an event, depending on the lexical verb which is involved in a particular expression.

The restrictions on clitic distribution can now be stated in terms of the formal properties of their arguments. These restrictions are formalized as subcategorization conditions placed on the informational content of clitic targets:

(15) Clitic subcategorization conditions

a. **si-, mi-, kIsi-** : Target: **[<COMB: <Y: > X: >< TNS:any; CERTAIN:any>]**

b. **ni-**: Target: **[<COMB:(<Y: >)X: >< TNS:any; CERTAIN:->]**
kIni-: Target: **[<COMB:(<Y: >) X: >< TNS:Realis; CERTAIN:->]**

c. **kI, y-, a-**: Target:**[<COMB: <Y: >]**

The operations which define their distributional contrasts organize the clitics into three basic types. The clitics in (15a) require that their targets be transitive forms, with no values specified for **<Y>** or **X**. The targets' representations must include the features [TNS] and [CERTAIN]. The values of these features are irrelevant to clitic application. The clitics in (15b) require targets with minimally one feature in COMB whose value is unspecified. Targets of these clitics must be [CERTAIN:-]. **kIni-** further requires that its target be [TNS:Realis]. The clitics in (15c) are organized by the fact that they require targets with minimally one feature in COMB whose value is unspecified. There are no other restrictions on their targets.

2. 3. Clitic representations

None of the verb forms discussed above carry information about the participants in an event. The result of cliticization does include reference to both Affector and Affected members of an event structure. Therefore, the clitics must be represented as contributing this information to the result of cliticization.

The clitic **k-**, '1&2' has already been identified as the most problematic of the pronominal clitics. **k-** is always ambiguous in transitive constructions. Since the clitic does not specify which of the two participants involved in an event is associated with which semantic role in a transitive expression, the clitic does not refer to grammatical case distinctions. However, since a tensed form may combine with **k-** to yield a grammatical expression which is also a licit sentence in Carib (Hoff 1968:164), **k-** must supply values to both roles in a transitive construction. Therefore, **k-** expresses grammatical relations in terms of the participants' possible roles in an event structure, rather than in terms of the person value associated with syntactic argument positions.

If the Carib clitics are a system, and not a random collection of pronominal expressions, then the formal properties of **k-** should generalize to account for the representations of the rest of the clitics. In what follows I propose a representation of the clitic **k-** which does in fact generalize to the rest of the system. The representation exploits the contrast 'Non3rd/3rd' already demonstrated to be active in the Carib verbal system. More specific reference to person is not necessary to an accurate analysis of the formal properties of Carib

verbs. It is proposed then that **k-**'s indeterminacy also reflects the grammatical relevance of the contrast 'Non3rd/3rd Affector'.

The representation of **k-** is proposed in (16). Since the clitic is proposed to refer to thematic roles associated with participants, rather than verbal arguments, semantic[4] as well as formal information is included in the representation. The SEM of **k-**, and by extension any of the clitics, must include reference to the number and Type of Participants involved in an event, and the map from Participant Type to thematic relations. Participant Type refers to whether a Participant is 3rd or Non3rd. Participant does not refer exactly to real world participants in an event. Rather, it refers to whether the real world participants are **1**(Speaker),**2**(Hearer),or **3**(Not Speaker or Hearer). The actual number of people involved is irrelevant; the SEM encodes the number of distinct kinds of Participant involved. The FORM of **k-** is proposed to be a complete argument structure, which unifies with the **[COMB]** of the form that it combines with. Since **k-** may supply values for one or two features in **[COMB]**, **k-**'s FORM is represented as minimally referring to one participant, with the option of supplying the value of a second. The value within the angled brackets within COMB, <>, represents the value for Affected. The value appearing outside of the angled brackets is the Affector value. The values supplied by **k-** are Non3rd with distinct reference[5] :

(16) Formal representation of *k-* '1&2'

PHON: <k->
SEM: < Number of Participants = 2 ; Type = Non3rd >
<Affector, Affected = Non3rd>
FORM: [(<Non3rdi>)Non3rdj]

Recall that the indeterminacy of the clitic **k-**'1&2', posed a problem for any analysis that treated the Carib clitics as a system organized by case distinctions. **k-** does not specify the case of the arguments that it refers to. If the organization of the Carib system is driven by the nature of the Participants, rather than that of the syntactic Arguments of an event structure, **k-**'1&2' poses no problem for a systematic account of the Carib clitics. The representation in (16) captures all of the properties of **k-**, using formal mechanisms which find independent motivation in the verbal system. Furthermore, the representation generalizes to the rest of the clitics.

The representations proposed in (17) all encode the type of information proposed to be necessary for an adequate account of **k-**:

(17) Representations of the clitics

Schema:

PHON:<X->
SEM: < Number and Type of Participant; Affector= X Affected=Y>
FORM:[(<Y>) X]

a. Type 1 **(si-, mi-, kIsi-)**

PHON:<X->
SEM: < #of Participants > 1 Types = Non3rd/3rd; Affector= Non3rd Affectee=3rd>
FORM:[<3rd> 1,2,or 1&2]

b. Type 2

Type 2a (ni-)

PHON:<ni->
SEM: < # of Participants = 1 Type = 3rd ; Affector, Affected = 3rd>
FORM:[$<3rd_i>(3rd)_j$]

Type 2b (kIni-)

PHON:<kIni->
SEM: < # of Participants = 1 Type = Certain 3rd; Affector, Affected = 3rd>
FORM:[$<3rd_i>(3rd)_j$]

c. Type 3

Type 3a (k-)

PHON:<k->
SEM: < # of Participants = 2 Type = Non3rd; Affector, Affected = Non3rd>
FORM:[<Non3rdi>(Non3rdj)]

Type 3b (a-, y-)

PHON:<X->
SEM: < # of Participants = 2 Type = Non3rd/ (3rd); Affector=Any Affected = Non3rd>
FORM:[<1 or 2> (3rd)]

The clitics listed in (15) are organized into three types based on the informational distinctions among their targets. The different types of clitics also exhibit differences with respect to the information that they add to an expression. These

differences are captured in the representations in (17). The FORM value of each clitic encodes the value(s) which cliticization will contribute to the Argument Structure of the resulting expression. The clitics in (15a) and (17a) contribute specific, unambiguous information about the nature of both roles in a transitive relation. All three of these clitics refer to Non3rd Affectors, acting on 3rd person Affecteds. Type 1 clitics are represented as referring to an Argument Structure with two arguments. In contrast to Type 1, Type 2 clitics (15b and 17b) refer to 3rd person only. Furthermore, while they satisfy all of the COMB values for their targets, they may supply values for either one or two features in COMB. Type 2 clitics are represented as supplying the formal value of whatever roles must be specified. Type 3 clitics resemble Type 1 clitics, in that when there are two COMB features requiring values, these clitics supply different values to each feature. Type 3 clitics are also like Type 2 clitics, in that they may supply one or more COMB values. Type 3 clitics are represented as supplying the formal value of whatever role must be specified, but as filling in distinct values for each role when there are two features in COMB.

One problem remains. In Carib, there is no clitic which returns an expression with the Argument Structure '3rd acts on 1&2'. While I have accounted formally for this gap, I have not offered an account of why such a gap exists. It strikes me that the Carib clitic system is organized around the contrast 'Participant Type: 3rd/Non3rd', and that this organization reflects a hierarchy in which Non3rd persons are ranked higher than 3rd persons. This is not an unusual property of Native American languages. For example, in the Algonquian languages, an animacy hierarchy is proposed to account for certain gaps in the pronominal prefix system[6]. The nature of the gap in the Carib case may be a consequence of the fact that the Carib person hierarchy corresponds to an epistemic, rather than an animacy, hierarchy. Since Carib expresses '1&2' as a maximally certain argument structure, it would be incoherent to allow such a clitic to return an expression that included a 3rd person Affector. Since 1 or 2 alone is not maximally certain, Carib clitics do express relations such as '3rd acts on 1'.

3. Conclusion

The representations proposed in the previous section combine with the proposed restrictions on the arguments of cliticization to define all of the properties of the Carib clitics discussed in this paper. Under standard approaches (e.g. Anderson 1992, Lieber 1989, Jelinek 1984, 1992 Matthews 1991), the representation of **k-**, the distributional properties of Carib pronominals, and their interaction with tense morphology would be seen as accidental facts about Carib, and not as predictable from general principles of grammar. Most approaches to bound pronominal morphology treat person affixes as either agreement affixes (e.g. Anderson 1992) or bound verbal arguments (e.g. Jelinek 1984). Agreement affixes by definition refer to properties of the free nominals that they agree with,

such as person, number, case, etc. (e.g. Anderson 1992 on Georgian and Potawatomi). Bound arguments by definition satisfy subcategorization requirements of the verbs they combine with (Jelinek 1984, 1992), and their formal properties are proposed to derive from that fact. For example, Jelinek (1992) argues that the formal properties of pronominal arguments such as those found in Salish languages reflect the structural position of the relevant argument in a syntactic tree. Where the formal properties of person affixes are not proposed to derive from distinctions such as person or case, these properties are generally treated as the accidental consequence of the morphological system of a particular language. Lieber's (1989) discussion of Yavapai verbal morphology is an example of such treatment. Lieber proposes that the properties of Yavapai person affixes are a consequence of the morphological level at which they apply. Her analysis implies that the order of affixation in a morphological system is not internal to the system; the level or levels at which an affix applies is stated as a language particular choice, and so unpredictable from principles of grammar. While these various approaches differ in important respects, they all share the assumption that the formal representations, and in some cases the distribution, of bound pronominals either reflect properties of verbal arguments, or unsystematic idiosyncracies of a particular morphological system.

On the other hand, under the present approach the properties of bound pronominal affixes in a given language are predicted to reflect the informational distinctions that inhere in the categories that they combine with. Formal properties such as the features referred to by distributional restrictions on pronominal occurrence are predicted to be a subset of those features active elsewhere in the morphology and syntax of a given language. Under an information-increasing approach to inflection, such formal properties will never be simple accidents of a formal system; they will always follow naturally from the grammar of a particular language. The current proposal also makes clear predictions about the types of pronominal clitic systems that should be possible. It is evident from the Carib facts that the formal organization of bound pronominal systems may be driven by properties of event structures other than those usually associated with verbal arguments. However, it is not the case that just any semantic property of events may organize a pronominal system. The features that organize the Carib pronominals derive from the role of the Non3rd/3rd contrast in a larger set of epistemic distinctions. It is predicted that pronominal features will refer to those aspects of event structures that are defined in terms of Person only. So for example, it is predicted that no pronominal system would group 1st and 3rd person together as a natural class, if the formal system derived from an epistemic contrast similar to the one proposed for Carib. If such a clitic system exists, then its grammatical organization must derive from a semantic contrast different from that proposed for the Carib system[7].

Notes

* Special thanks to Sue Steele and David Basilico for their patient attention to the author's many analyses of these 8 little pronouns. Thanks also to Tom Bourgeois, Eloise Jelinek, Dick Oehrle and the participants of the Special Session of BLS 19 for their contributions to the present analysis.

1 Coastal Carib is a Cariban language spoken on the coast of Guiana.

2 I adopt the labels **Affector** and **Affected** from Langendoen (1989), in order to avoid implicit claims about the syntactic structure of grammatical relations in Carib. Carib person clitics can be analyzed as a split-ergative morphology, and consequently it is an open question as to whether Carib syntax is ergative or accusative (Marantz 1982). Since I make no presumptions about the semantics of Subject and Object arguments in Carib, I refer to thematic rather than syntactic roles in the ensuing discussion. The labels that I adopt refer to generalized thematic roles, with Affector corresponding roughly to Agent/Experiencer, and Affectee corresponding roughly to Patient/Theme.

3 In contrast to Steele's position, most processual theories of morphology assume that inflectional processes interpret fully specified morphosyntactic representations.

4 The semantic information discussed in this paper is encoded informally. See O'Connor (in prep) for formal representations of clitic semantics.

5 There are no pronominal reflexives in Carib, and participants in an event structure always have distinct reference. It is not clear to me whether this fact should be represented as a fact about the Carib clitics, or as a fact about the organization of Carib grammar. For purposes of this discussion I represent it as a fact about the clitics.

6 For a discussion of the Algonquian animacy hierarchy, see LeSourd 1976

7 Consequently, the semantic types of the complex expressions that result from cliticization in such a system are predicted to differ significantly from those of Carib matrix clauses.

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