Agreement and Anti-Agreement

A Syntax of Luiseño

Susan Steele

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To
Dick, Olivia, and Aaron

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CHAPTER ONE

THE ISSUES – ANALYTICAL AND THEORETICAL

0. INTRODUCTION

Competing analyses of Warlpiri have made explicit what is, I think, a relatively common assumption in regard to agreement, to wit: Agreement plays no role in syntactic composition. In Warlpiri, two (or more) elements which share certain formal properties and which are (intuitively, at least) members of a single expression need not be adjacent to one another. Example (1) from Hale (1981) illustrates this:

(1) kurdujarrarlu kapala maliki wajilipinyi witajarrarlu
child:dual:erg aux dog:abs chase:non:past small:dual:erg

The two small children are chasing the dog.
[Hale's example (2)]

Hale analyzes *kurdujarrarlu* and *witajarrarlu* as members of a single semantic, but not syntactic, expression, by which he means that the two are not members of a single constituent which does not also include the other words in a sentence. Although the two words share dual and ergative marking, the crucial consideration, apparently, in this analysis is the fact that they need not be contiguous. That is, CONSTITUENT is implicitly defined as a contiguous sequence dominated by a single node. The formal similarities are what allow them to be joined together in an operation termed MERGER, which applies in the semantic component, as members of a single semantic expression.

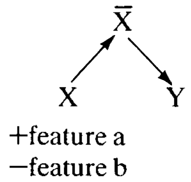
(2) Merger: Semantic expressions sharing identical categorial signatures may be merged.

For example:

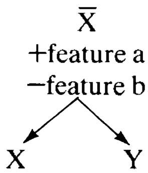
(3)
$$
\begin{array}{ccc}
(\text{kurdujarrarlu})^{(\text{N, dual, erg})} & \ldots & (\text{witajarrarlu})^{(\text{N, dual, erg})} \\
| & & | \\
\{a\ \text{CHILD}\}^{(\text{N, dual, erg})} & & \{a\ \text{SMALL}\}^{(\text{N, dual, erg})} \\
 & \searrow\ \swarrow & \\
 & \left\{\begin{array}{l} a\ \text{CHILD} \\ a\ \text{SMALL} \end{array}\right\}^{(\text{N, dual, erg})} &
\end{array}
$$

The more traditional position in regard to formal similarities of the type illustrated in the Warlpiri example is that they are a consequence of the elements at issue being dominated at some point in the analysis by a single node. Either the properties of the head are distributed to other members of the constituent (4a) or the dominating node itself is associated with features which may distribute across (some of) its members (4b).

(4) a.



b.



Carlson (1983) argues that the problem which discontinuities as in (1) pose for such an analysis can be resolved by an operation termed INTERLEAVE, defined as in (5).

(5) If A is a constituent consisting of $w_1, w_2, \ldots, w_i$ and B is a constituent consisting of $w_{i+1}, w_{i+2}, \ldots, w_n$, then $F_I(A, B)$ results in a constituent C consisting of any arrangement of $w_1, \ldots, w_n$ such that w_j always precedes w_{j+1} for $j = 1, \ldots, i$ and w_k always precedes w_{k+1} for $k = i + 1, \ldots, n$.

Whether we take Hale's analysis or the more traditional one plus Interleave, agreement is syntactically uninteresting. For the traditional analysis, where the adjacent members of a syntactic constituent agree, agreement is simply a consequence of their constituency. For Hale, where the (non-obligatorily) nonadjacent members of a semantic expression agree, agreement similarly has no syntactic consequences. This book argues that this view of agreement is wrong; more strongly, it replaces this view with a theory of the syntactic role of agreement.

1. THE ANALYTICAL PROBLEM

Although the theory advanced here has general application, it will be measured and tested against the data of a single language — Luiseño, a Uto-Aztecan language spoken in Southern California.[1]

Consider the contrast between the Luiseño sentences in (6). (6a) contains a clitic sequence labelled *aux:past* and (6b), a different clitic sequence labelled *aux:future*.[2] Accompanying this difference is yet another. *chaqalaqi* 'tickle' has the 'past' suffix *qus̸* in (4a) and the 'future' suffix *n* in (6b).

(6) a. noo nil chaqalaqi-qus̸ hengeemali
I aux:past tickle-past boy:object

I was tickling the boy.

b. noo nupo chaqalaqi-n hengeemali
I aux:future tickle-future boy:object

I will tickle the boy.

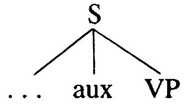
Replacing the aux in (6b) with that in (6a) and vice versa yields unacceptable sentences.

(6′) a. *noo nupo chaqalaqi-qus̸ hengeemali
I aux:future tickle-past boy:object

b. *noo nil chaqalaqi-n hengeemali
I aux:past tickle-future boy:object

In short, the aux and the temporal properties of another element in the sentence covary. Now, if there were a VP in Luiseño and if there were reason to argue that the aux and the VP were both dominated by S as in, for example, (7):

(7)

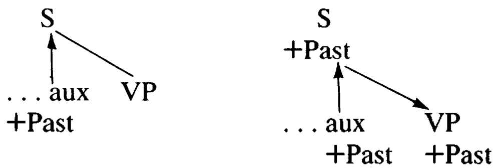


this covariance might seem unexceptionable. Coming from the top down, we could say that the features associated with S are distributed appropriately across its daughters. For example:

(8)

Or, alternatively, we could say that one of these — presumably aux — is the head of S. As a head, the aux contributes its features to S and these features are distributed (appropriately) to the other members of S.

(9)



However, if contiguity is an essential property of constituency, the postulation for Luiseño of a VP as a single node dominated by S is problematic. The 'objects' of the presumed V have no fixed position relative to it (or to each other) nor need they be contiguous to it. For example, each of the sentences in (10) is a perfectly good rendition of 'I was tickling the boy' — in fact, is semantically indistinguishable from (6).

(10) a. noo nil hengeemali chaqalaqiqus̸
I aux boy:object was:tickling

b. hengeemali nil noo chaqalaqiqus̸
boy:object aux I was:tickling

Note in particular (as illustrated in (10b)) that the sister to VP on the account sketched in (8) and (9) can be internal to the supposed VP. This possibility for the presumed VP is particularly noteworthy when we consider the behavior of other constituents. The sentence in (11) has two object-marked arguments.

(11) noo nil hengeemali noteelay huu'unax
I aux boy:object my:language:object taught

I taught the boy my language.

Now, if one of these is complex, it cannot be interrupted by its sister argument.[3] (12b) is not a possible rendition of 'I taught the good-looking boy my language'; it could mean only 'I taught the boy my beautiful language.'

(12) a. noo nil hengeemali yawaywichi
I aux boy:object beautiful:object

noteelay huu'unax
my:language:object taught

I taught the good-looking boy my language.

b. noo nil hengeemali noteelay
I aux boy:object my:language:object

yawaywichi huu'unax
beautiful:object taught

*I taught the good-looking boy my language.

I taught the boy my beautiful language.

Not only can the supposed VP be interrupted by its presumed sister — unlike other constituents — it doesn't present a domain for the position of the aux, while they do. The Luiseño aux occurs generally after the first word, but the first constituent is also possible, although less favored. Consider another possible rendition of (12a), where the complex constituent is initial. In the first of the sentences in (13), the aux occurs after *hengeemali* 'boy', and in the second, after *hengeemali yawaywichi* 'good-looking boy'.

(13) a. hengeemali nil yawaywichi noo
boy:object aux beautiful:object I

noteelay huu'unax
my:language:object taught

I taught the good-looking boy my language.

b. hengeemali yawaywichi nil noo
boy:object beautiful:object aux I

noteelay huu'unax
my:language:object taught

I taught the good-looking boy my language.

The aux in (14), however, has available only the position immediately following *chaqalaqius̸* 'was tickling', not *chaqalaqius̸ hengeemali* 'was tickling the boy'.

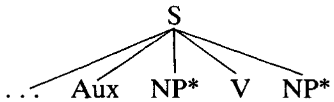
(14) a. chaqalaqius̸ mil hengeemali wunaalum
was:tickling aux boy:object they

They were tickling the boy.

b. *chaqalaqius̸ hengeemali mil wunaalum
was:tickling boy:object aux they

In the dichotomy offered us in much current theory, if Luiseño lacks a VP then it has the flat structure in (15), i.e. is non-configurational.

(15)



The problem for (15) is how to account for the compatibility between the aux and the V, while also accounting for another aspect of the relationship between the aux and its complement.

It appears from an examination of the contrast between (6a) and (14) that the aux varies in person and number with a single one of the NP arguments. In (6a) we find the form *noo* accompanied by *n* in the aux; in (14), on the other hand, we find *wunaalum* accompanied by *m* in the aux. Compare (16) where we vary for number the other argument in (6a) — replacing *hengeemali* 'boy' with *henge'malmi* 'boys' — without affecting the aux.

(16) noo nil chaqalaqius̸ henge'malmi
I aux was:tickling boys:object

I was tickling the boys.

The contrast between (14) and (16) suggests that the aux varies for person and number with the subject NP, where the subject NP is the single NP outside the VP. This conclusion is obviously inconsistent with the structure in (15): If the aux reflects properties of its sisters, all NP's are equally available.

However, we haven't resolved the problems posed for the VP analysis — and we can add to them. The subject NP is the sole non-obligatory argument. So, 'I was tickling the boy.' (cf. (6a) and (10)) and 'They were tickling the boy.' (cf. (14)) can also appear as in (17) and (18) respectively.

(17) chaqalaqiquś nil hengeemali
was:tickling aux boy:object

I was tickling the boy.

(18) chaqalaqiquś mil hengeemali
was:tickling aux boy:object

They were tickling the boy.

In the absence of an NP subject in the complement to aux, the aux can covary in number and person with elements in the VP. Least problematically on the VP analysis, some tense inflections also involve number. So, the form in (19) is compatible with a plural aux:

(19) a. chaqalaqi-wun cha hengeemali
tickle-pl:present aux:1pl boy:object

We are tickling the boy.

b. chaqalaqi-wun pum hengeemali
tickle-pl:present aux:3pl boy:object

They are tickling the boy.

but not a singular aux.

(20) *chaqalaqi-wun up hengeemali
tickle-pl:present aux:non1sg boy:object

These facts could probably be handled by (8) or (9), simply by adding a feature for number to the tense feature. More complicated is the fact that the aux also has access to non-subject arguments to the V. So, (21) with *notaax* '1sg reflexive' and a first singular aux is fine, but (22) with *potaax* '3sg reflexive' and a first singular aux is not.

(21) notaax nil chaqalaqiquś
1sg:reflexive aux:1sg was:tickling

I was tickling myself.

(22)

*potaax	nil	chaqalaqiqus̸
3sg:reflexive	*aux:1sg*	*was:tickling*

If we maintain a VP, these facts require that some properties of non-heads behave like the properties of heads indicated in (8) or (9). How we might distinguish between the non-subject argument in (16) and the reflexive in (21) remains, of course, to be explained.

Both these cases deal with values that have to do, in an intuitive sense at least, with the subject, however we might handle this observation. That is, we have seen evidence that the aux covaries with tense and with the subject in its (set-theoretic) complement. The final issue in regard to the relationship between the aux and its complement is the existence of cases where the aux doesn't covary with a subject or subject value: While the aux contains a single number and person marking, it need not always reflect the value of the subject. The sentence in (23) shares with (6a) and (16) the form *noo* 'I', but the aux is 'pl' as in (14).

(23)

noo	mil	pahchum	nos̸waamayum	qalqus̸
I	*aux:pl*	*three*	*my:daughters*	*had*

I had three daughters.

The contrast between (23) and (24) suggests that the aux is covarying with the form for 'daughter(s).' In (23) we find *nos̸waamayum* 'my daughters'; in (24) we find *nos̸waamay* 'my daughter' and a 'sg' aux.[4]

(24)

noo	upil	nos̸waamay	'aw'qus̸
I	*aux:non1sg*	*my:daughter*	*had*

I had a daughter.

If there is a VP in Luiseño, we might want it to be associated with a '1sg' value in (23) and (24), just as it is in (21). In (23) and (24), however, another number value is present. How do we insure that the aux is sensitive to its presence, while simultaneously insuring that it ignores the number variation in (14) and (16)?

In short, the aux covaries with a temporal value in its complement and a single person and number value, often but not exclusively that associated with the subject. The analytical problem is to provide an account of why these properties — alone among those available — are selected. The flat structure in (15) runs afoul of the covariation in number and person between the aux and a *single* argument, but the hierarchical structure in (7) has to be supplemented with accounts of how the subject can interrupt the VP, why the VP is different from other constituent types, why the aux does not reflect exclusively the number and person of the subject, and how some non-subject number and person values in the VP are reflected in the aux but others aren't.

2. THEORETICAL PROPOSALS

2.1 *Background*

The theory within which these problems are resolved is a version of categorial grammar. I assume the two basic tenets of categorial grammar. One has to do with the analysis of an expression into a functor and an argument. The following quotation from Ajdukiewicz (1967) provides an elegant statement of this basic assumption.

> In every significant composite expression the relations of functions to their arguments have to be such that the entire expression can be divided into parts, of which one is a functor (possibly itself a composite expression) and the others are its arguments. This functor we call the *main functor* of the expression . . . . When it is possible to divide a composite expression into its main functor and its arguments, we call such an expression *well articulated*. The main functor of an expression and its arguments we call *first-order parts* of this expression. If the first-order parts of an expression A either consist of single words, or, being composite, are themselves well articulated; and if, descending to the parts of parts and to the parts of parts of parts, etc. i.e., to the *n*th order parts, we always meet with single words or well articulated expressions, we call the expression A *well articulated throughout*.

Let me restate what I take to be the crucial elements of this proposal. First, every coherent expression composed of two or more parts (i.e. composite) has a functor and (at least) one argument. Second, the argument(s) must be compatible with the functor. Third, the functor and the argument(s) may themselves be composed of other (compatible) functor/argument pairs.

In contrast to what appears to be the direction in the quotation from Ajdukiewicz, the second assumption is that composition proceeds from the bottom up. Given a non-complex argument, we apply a functor, yielding an expression which is a combination of functor and argument — what Ajdukiewicz calls a composite expression. This functor/argument combination may serve in turn as a functor or an argument in a larger expression.

2.2 *Idea*

The proposal about agreement defended in this work depends on a rather liberal interpretation of FUNCTOR. The impetus to this idea is supplied by the separation developed in much recent theoretical work — categorial and otherwise — between dominance and linear order. Outside of categorial grammar, of course, there is the ID/LP division of Generalized Phrase Structure Grammar and its offshoots (e.g. Pollard (1985), Sag (1987) and Pollard and Sag (1988)). Within categorial grammar, there is, most importantly, the work of Curry (1981), Flynn (1983) and Steedman (1985). Although the proposals differ in particulars, the central concept is the same: hierarchical relationships and ordering relationships are distinct. Steedman, for example, proposes a categorial grammar consisting of two components. One states the kind of constituent with which a word can combine and the other states the order in which the combination occurs.

The place in this dichotomy for languages in which linear order is relatively unimportant is largely ignored. (One exception is Pullum (1982), but he doesn't take the existence of such languages seriously.) However, once dominance and order have been separated and assuming that dominance is essential, it is entirely reasonable to ask whether order has a functional equivalent in languages in which order is unimportant, as we have seen it is in Luiseño. The answer, I propose, is yes, and this functional equivalent is agreement. This answer leads to the extended interpretation of functors defended here.

The following definition of category taken from Bach (1983a: 103) is relatively standard in categorial grammar.

CAT is the smallest set such that:
i. a, b, . . . $\in$ CAT (where a, b . . . is a finite set of primitive categories)
ii. If a, b $\in$ CAT, so are a/b, b\a.

This definition requires that all functors and arguments belong to categories. A category is generally taken to be an expression. Thus, generally, a functor must be an expression. If we expand the notion of functors to non-expressions the suggested equivalence between agreement and order is easily stated. Say that functors can be global conditions that take an argument expression (or expressions) and yield a result expression which is categorially distinct.[5] So, for example, given combinations of functors and arguments represented as in (25):

(25) Functor: Argument $\rightarrow$ Result

the functor can be an expression as in the relatively traditional:

(26) V: NP $\rightarrow$ VP

or a condition across its arguments. Very schematically:

(27) Condition: [V, NP] $\rightarrow$ VP

A combination where the functor is a non-expression like order might look roughly like (28).

(28) Order: $\{\text{Expression}_1\ \text{Expression}_2\} \rightarrow$
$[\text{Expression}_1\ \text{Expression}_2] \in \text{Category}_i$

Corresponding to (28) for a language like Luiseño is:

(29) Agreement: $\{\text{Expression}^{+n} \ldots \text{Expression}^{+n}\} \rightarrow$
$[\text{Expression}^{+n} \ldots \text{Expression}^{+n}] \in \text{Category}_j$

The body of this work is devoted to elaborating on this proposal specifically as it applies to agreement and showing how it resolves the problems introduced in Section 1 above. Aside from the equivalence between order and agreement it allows, the critical idea is that functors which are not expressions always yield a category of a particular type and, thus, play a specific role in a grammar.

2.3 *Theoretical Framework*

Before I sketch the further extension of categorial grammar within which this idea is embedded, a bit more background is necessary.

2.3.1. *Assumptions*

We assume two modifications of standard categorial grammar. These modifications are not peculiar to this work, however.

Following the work of Bach (1983b) and Oehrle (1987a) and (1987b), I take a category to be a triple involving a phonological value, a formal value, and a semantic value. (Pollard and Sag (1988) make similar proposals for Head-driven Phrase Structure Grammar. Zeevat, Klein, and Calder (1987) adapt Pollard's and Sag's proposals in a categorial grammar framework.)

(30) ⟨phonological value⟩
⟨formal value⟩.
⟨semantic value⟩

The character of a category's formal value is the first modification of categorial grammar. I propose, along with a growing number of theoreticians, that such values are not unanalyzable units. They are rather a collection of features, much like traditional phonological labels are to be analyzed as a set of distinctive features. So, we might state (30) more precisely as in (31).

(31) ⟨phonological value⟩
$\langle f_1 \ldots f_n \rangle$
⟨semantic value⟩

This conclusion about features in regard to syntax is most explicit in Generalized Phrase Structure Grammar and its offshoots, but it also finds expression in more purely categorial treatments (e.g. Bach (1983a) and (1983b).) The idea adopted here is closest in spirit to Bach. As does Bach, I propose that the feature system of a language depends on its closed class elements. I differ from Bach, however, in the relationship between features and categorial labels. Bach's feature sets are accretions to standard category labels such as IV or CN. Here the features themselves comprise the categorial distinctions; they are not additions to a more basic distinction. Thus, for example, the word *poheelaqalay* 'he is singing (object)' is associated with a feature set representing the presence of a '3sg' possessive form *po*, an aspectual suffix *qala* 'changing' and the object suffix *y* 'object'.

We assume then that the formal value in our category is non-monadic, where the features comprising the formal value depend on the distinctions given by closed class elements. The second modification of standard categorial grammar has to do with the role of an argument category in the result and is a necessary consequence of the extension of functors introduced above. The fundamental rule schema by which categories as in Bach's definition are combined is functional application. Functional application combines a functor (e.g. a/b) and an argument of the appropriate category (e.g. b) yielding as a result the other category specified in the functor (e.g. a).

(32) functional application(a/b b) = a

Recent modifications of categorial grammar allow the argument to contribute to the result, providing the analogue of GPSG 'foot features' or what has been less systematically treated as percolation in other phrase structure accounts (cf. e.g. Lieber (1981)). Bach (1983b) classifies functors into the three types in (31) — respectively, those which take a category of one type to a category of the same type; those which take a category of one type to a category at a higher level within the same projection class; and those which take a category of some type to a category of a different type entirely.

(33) I. A/A

II. A_F/A_G, where $F \neq G$

III. A/B, where $A \neq B$

In endocentric constructions (Type I), the argument supplies the value of the result. "In type II constructions all features of the argument are 'passed up' unless specifically excluded; in type III constructions no features are passed up unless specifically included." (p. 108)

The modification of categorial grammar adopted here extends the possibility that the argument will contribute to the result. The functors which are condtions are reasonably classified as type III in Bach's classification; their results are categories of a different type than their arguments. Yet such a functor, because it is not an expression, has no features to contribute to the result. Thus, the features of the result must depend on the features of the argument(s).[6] (34) represents schematically one interpretation of this. In (34) the result has the feature value shared by the members of its arguments.

$$\text{(34)}\quad \text{Condition: } \begin{matrix}\langle\ldots\rangle \\ \langle\ldots F_a \ldots F_i\rangle \\ \langle\ldots\rangle\end{matrix} \quad \begin{matrix}\langle\ldots\rangle \\ \langle\ldots F_i \ldots F_k\rangle \\ \langle\ldots\rangle\end{matrix} \rightarrow$$

$$\begin{matrix}\langle\ldots\rangle \\ \langle\ldots F_i \ldots\rangle \\ \langle\ldots\rangle\end{matrix}$$

Given the assumption of (1) a featural analysis of categories and (2) the possibility that an argument may contribute to the result, the theoretical framework has three parts.

2.3.2 *Functor Types*

The idea that functors are of different types is found in Bach's work as represented in (33) above. For Bach, a functor is typed by the relationship it requires between an argument and a result. So, we have a major division between endocentric functors (Type I) and exocentric functors and, within exocentric functors, between those that raise the bar level (Type II) and those that change the categorial value entirely (Type III). The basis of the division proposed here is quite different and, as a result, there is no simple match between the results.

Three very simple notions determine our classification. First, some functors are obligatory to the expression type in which they occur, while others are not.

(35) Functors:

+obligatory
−obligatory

A non-obligatory functor is reasonably equivalent to an endocentric functor — if a functor isn't obligatory to the expression type in which it occurs, it doesn't change the category of its argument. Think of VP adverbs as a simple example. A functor obligatory to its expression must be, as well, exocentric, since the category of the result and the argument are distinct. But it is the divisions internal to this class which are most important, not this generalization across them.[7]

Internal to the set of obligatory functors is yet a second division. Some such belong to open classes; some do not and are therefore listable. This distinction between open (nonlistable) and closed classes (listable) is a tradition in linguistic literature, most recently explored in Carlson (1983), but touched on also in Pinker (1984).

(36) Functors:

+obligatory
+listable

+obligatory
−listable

−obligatory

Finally, internal to the set of obligatory and listable functors is another bifurcation. Some such functors are localizable: Their instantiations have a fixed position in the result. Some functors are not localizable: Their instantiations do not have a fixed position in the result.

(37) Functors

+obligatory
+listable
+localizable

+obligatory
+listable
−localizable

+obligatory
−listable

−obligatory

The classification is important because it has consequences: The functor type determines the character of its result. This claim depends on a classification of categories into category types.

2.3.3 *Category Types*

Functors can be divided into types; so can categories. In fact, categories can be classified into three different types — those whose members are phonologically and syntactically inaccessible; those whose members are phonologically accessible, but syntactically inaccessible; and those whose members are both phonologically and syntactically accessible.[8]

(38) −phonologically accessible
−syntactically accessible

+phonologically accessible
−syntactically accessible

+phonologically accessible
+ syntactically accessible

The phonologically inaccessible type is illustrated by any of the Luiseño sentences presented above. Take (23).

(23)	noo	mil	pahchum	noꞩwaamayum	qalquꞩ
	I	*aux*	*three*	*my:daughters*	*had*

I had three daughters.

The aux here is *mil* and its set-theoretic complement (which we term after Steele et al. (1981) a PROPOSITION) is *noo pahchum noꞩwaamayum qalquꞩ*. The aux *mil* occurs internal to the proposition *noo pahchum noꞩwaamayum qalquꞩ*, in fact, in second position in the proposition. That is, to properly position *mil*, we must have internal access to *noo pahchum noꞩwaamayum qalquꞩ*. But this access is necessarily phonological, not syntactic or semantic. The aux is positioned after the *first* element of the proposition, not after a part with a particular formal or semantic value. Compare (23) to (39), also an acceptable sentence but one where the complement to aux has a different internal order.

(39)	pahchum	mil	noꞩwaamayum	noo	qalquꞩ
	three	*aux*	*my:daughters*	*I*	*had*

I had three daughters.

In contrast, there is no rule which similarly accesses any *part* of the sentence *noo mil pahchum noꞩwaamayum qalquꞩ* — whether on phonological, syntactic, or semantic grounds. The sentence *noo mil pahchum noꞩwaamayum qalquꞩ* is phonologically (and hence syntactically) inaccessible; the proposition internal to this sentence is not.

The members of the proposition are, however, syntactically inaccessible. This category type may include subexpressions — as does (23) — but the whole has syntactic integrity. The aux form *mil* requires that its complement be associated with a non-singular value. The source of the critical number value is not localized to any particular subexpression in the proposition. In (23), its source is a non-subject argument to the verb *qalquꞩ*, i.e. *pahchum noꞩwaamayum*. But in (40a) its source is the subject, as witnessed by the unacceptability of (40b) with a 'sg' subject and a 'pl' "object".

(40)	a.	wunaalum	mil	hengeemali	chaqalaqiqušʼ
		they	*aux*	*boy:object*	*was:tickling*

They were tickling the boy.

	b.	*wunaal	mil	henge'malmi	chaqalaqiqušʼ
		he	*aux*	*boys:object*	*was:tickling*

If the entire complement to aux, the proposition, is associated with a number value, this variation is not so startling. But if the proposition is associated with a number value, the aux must be sensitive not to any particular part of its complement but to the number value of the whole. This is, perhaps, clearest in a sentence where more than a single number value is available to the aux, as in (41) where both subject and non-subject arguments are 'pl'. Even though two number values appear internal to the proposition, the aux continues to reflect a *single* non-'sg' value.

(41)	wunaalum	mil	yawaywichum	miyqušʼ
	they	*aux:pl*	*beautiful:pl*	*were*

They were beautiful.

The complement to aux is, then, syntactically inaccessible. Its parts are not syntactically available; only the number value of the whole is available.[9]

The phonologically and syntactically accessible category type is best illustrated by expressions which, in the ID/LP framework, would be the result of ID rules only. For example, in Pollard and Sag (1988), a verb is combined with the full array of appropriate arguments, yielding a set of expressions which must be ordered according to the conventions of the language. Such a combination, one resulting from ID rules only, does not appear to have categorial status in the ID/LP framework. However, in the typology of categories being developed here, it would. The members of the set of categories resulting from ID rules only are, in our terms, syntactically accessible, as indicated by the necessity of being able to identify parts, e.g. the subject NP, for the purposes of the LP rule. It is more difficult to illustrate their phonological accessibility in the ID/LP framework, because it makes fewer distinctions than the framework informing this work. Consider, however, the sketch of Luiseño above against the background of the ID/LP framework. What we have termed the proposition is not simply a combination of the verb (e.g. *miyqušʼ* in (41)) and its appropriate arguments (e.g. *wunaalum* and *yawaywichum* in (41)). The proposition is this combination, *plus* whatever supplies this combination with a single number value. Linear order is relatively unimportant in Luiseño, as we have seen; the interesting possibility is that what yields a single number value in a proposition is the functional equivalent of an LP statement. Continuing with the terminology of Steele et al. (1981) we will term the combination of verb and appropriate arguments, *minus* what yields a single number value for the whole, the PROPOSITIONAL RADICAL. The propositional radical is syntactically accessible, because the number values of its members must be individually available to whatever makes them a single number value. The propositional radical is also phonologically accessible, because the proposition is and the difference between the proposition and the propositional radical is the single number value of the former versus the distribution of number values in the latter.

2.3.4 *The Interaction*

I have proposed, then, both a typology of functors and a typology of categories. The category type depends on — and can be predicted from — its defining functor. Functors which are obligatory and non-listable yield the phonologically and syntactically accessible category type. Functors which are obligatory and listable but non-localizable yield the phonologically accessible but syntactically inaccessible category type. Finally, functors which are obligatory, listable, and localizable yield the phonologically and syntactically inaccessible category type.[10]

(42)	Functor Type	Category Type
a.	+obligatory −listable	+syntactically accessible +phonologically accessible
b.	+obligatory +listable −localizable	−syntactically accessible +phonologically accessible
c.	+obligatory +listable +localizable	−syntactically accessible −phonologically accessible

Consider this proposal against the properties of Luiseño introduced above, formalized according to the schematic rules in (43).

(43) a. Verb: Argument Structure → Propositional Radical

b. Number Condition: Propositional Radical → Proposition

c. aux: Proposition → Sentence

These rules employ the labels used in the above discussion, but it is important to recognize that these labels are generalizations across sets of categories, where a category is a triple of phonological, formal, and semantic values as discussed above. Such labels are usually identified as category types, but we have appropriated this term for the higher order classification in (42). We will refer to them, therefore, as CATEGORY LABELS.

I suggested that the propositional radical is both syntactically and phonologically accessible. According to (42), we predict that the functor which yields it will be obligatory and nonlistable. (43a) states that a verb is the function from an argument structure to a propositional radical. In the absence of a verb, there is no propositional radical. Hence, the functor is obligatory to its result. The membership of the class Verb is unquestionably open; new members are freely created. Thus, the membership of this functor is nonlistable.

I also suggested above that the argument to an aux, the proposition, is syntactically inaccessible and phonologically accessible. According to (42) the functor which creates a proposition should be obligatory, listable, and non-localizable. Given (43b), this prediction is entirely correct. The function to a proposition is, I have suggested, a condition on the distribution of number values in its argument.[11] For a propositional radical to yield a proposition, it must meet this condition; hence, the functor is obligatory. The condition involves a small number of requirements; that is, the instantiations of the functor are listable. And, because the functor is a condition, not an expression, it is necessarily non-localizable.

Finally, I suggested that a Luiseño sentence is phonologically and syntactically inaccessible. The prediction, according to (42), is that it will have an obligatory, listable, and localizable functor. If we take the complement to the aux and analyze the aux as a function to sentence as in (43c), the prediction is entirely right. The aux isn't the only thing which can be added, but it is mutually exclusive with a small number of other particles. The aux occurs in sentential second position — i.e. is localizable — and the few other particles are similarly fixed in position. The membership of the aux is listable (see Steele et al. (1981) for a reasonable catalogue); the addition of a small number of other particles doesn't change this fact. Finally, some member of this set is obligatory to a sentence; that is, the proposition alone is not a sentence.

(44) summarizes the classification of the parts of the analytical sketch in (43), as illustration of the interaction claimed between functor type and category type.

(44)	Functor Type	Category Type
a.	+obligatory −listable	+syntactically accessible +phonologically accessible
	verb	Propositional radical
b.	+obligatory +listable −localizable	−syntactically accessible +phonologically accessible
	number condition	Proposition

(44) c.	+obligatory +listable +localizable	−syntactically accessible −phonologically accessible
	aux	Sentence

2.4 *Conclusion*

I have presented here a conception of grammatical architecture where functors and categories can be classified into types and where the properties of functors (their type) determine, in a general way, the character of the results of their action (the category type) on appropriate arguments. Embedded in this is the idea that functors can be conditions across their arguments. This extension of the concept of functor to conditions allows a natural place in syntactic theory for agreement — as well as other global conditions like order. The place of such functors is clear within this framework: Because they are obligatory, listable *and* non-localizable, they always yield syntactically inaccessible categories. In fact, without this functor type, the classification doesn't exist.

Further, the concept of category types allows considerable refinement in the notion of a constituent. Consider this concept against the practice of collecting words into phrases or phrases into larger phrases and supplying these phrases with a single categorial label as in standard phrase structure or categorial grammars. The proposal here requires three distinct category types. If each instance of every category label is also a constituent, we have a much wider range of possibilities than that expressed in the common practice, given the existence of a category whose parts are syntactically accessible, an idea which is not obviously representable in the more standard conception of structure at all. On the other hand, if we focus within this typology on categories typed as syntactically inaccessible, discontinuities present no difficulty. Under the theory developed here, elements which syntactically behave as a single unit need not be a single phonological sequence. That is, contiguity is not necessary to a syntactic unit; only those units which are phonologically inaccessible involve a necessary contiguity.[12]

3. CONSEQUENCES

Against this theoretical background, the resolution of the analytical problems introduced in Section 1 clearly turns on a careful consideration of the functor and the result in (43b). The functor here is not an expression, but rather is a condition across the members of its argument. Further, because the functor type is obligatory, listable, and non-localizable, the result will be the kind of unit which other analyses, e.g. Hale's at the beginning of this chapter, do not accommodate, that is, a single syntactic unit whose members are phonologically accessible.

One aspect of this book, then, argues in some detail for conditions as functors. Our sketch above considerably simplifies the condition yielding a proposition. Rather than merely a condition on the presence of number, this condition actually specifies both that number and person properties in its argument will not be distinct and that certain properties will appear no more than once — that is, it is a complex condition involving both AGREEMENT and what we will term ANTI-AGREEMENT. Our first task is to consider agreement and anti-agreement independently and argue that each has clear and identifiable results. Chapter Three shows what must be shown if agreement and anti-agreement are to be incorporated in the grammar as functors: Given an argument, the result of the application of either agreement or anti-agreement is predictable. Building on this demonstration, Chapter Four addresses the rule which yields a proposition. If agreement and anti-agreement have the effects proposed in Chapter Three, a proposition, as the result of a combination of both, must have certain formal properties. Chapter Five argues that these are precisely those required by the aux in the rule which yields a sentence. This result resolves one facet of the analytical problems presented in Section 1, the problems having to do with the covariation between the aux and members of its complement.

The second aspect of this book argues for the category type which results from obligatory, listable and non-localizable functors, the syntactically inaccessible but phonologically accessible category type. The argument for agreement and anti-agreement in Chapter Three requires the introduction of two other category labels — a SIMPLE CONSTITUENT and an ARGUMENT STRUCTURE, respectively. The typology of category types requires that simple constituents, argument structures, and propositions all be syntactically inaccessible but phonologically accessible. Their formal values meet the former requirement; the fact that none of them requires contiguity demonstrates the latter. This result resolves another facet of the analytical problems presented in Section 1, that having to do with the position of the aux. More interesting for the typology at issue is the idea that because all instances of these three category labels are all of the same type, they will exhibit other similarities. Two tests confirm our expectations. First, each can be the argument to a non-obligatory functor which replaces a person value in their formal value with a lexical item. This test is discussed at the appropriate places in both Chapters Three and Four. The second test has to do with embedding. The crucial point is simply this: Each of the proposition, the simple constituent and the argument structure defines a domain within which the variables of an embedded clause are fixed. The constituent defines the domain for a relative clause; the argument structure defines the domain for a complement. And, a proposition defines the domain within which the variables of an adjunct are determined. Chapter Six presents for the case for the parallel among these three categories.

(45) schematically represents the interaction of these two aspects of the investigation in the structure of this book.

(45)	Conditions as functors	Category type resulting from this functor type
	Chapter Three Sections 1—4	Chapter Three Section 5
	Chapter Four Sections 1—5	Chapter Four Section 6
	Chapter Five	Chapter Six

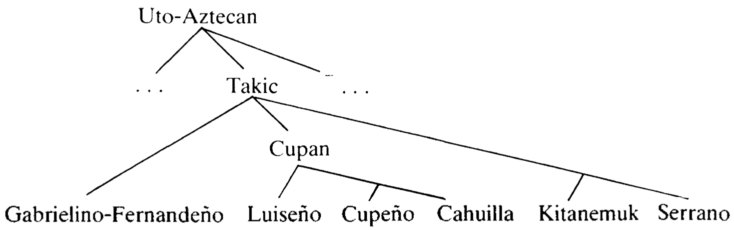
4. CONCLUSION

In contrast, then, to the view of agreement as having no syntactic consequences, this book argues that agreement has two very clear syntactic effects. First, it is a functor which takes a collection of elements and supplies them with a single value. Second, because it is a functor of the obligatory, listable, and non-localizable type, it yields a category of the type −syntactically accessible, +phonologically accessible. Further, agreement is not the only condition within this functor type. Conditions on linear order are an obvious candidate, but appear not to be relevant in Luiseño. Luiseño does, however, employ anti-agreement, a condition introduced here.

NOTES

[1] Luiseño is a member of the Takic branch of Uto-Aztecan, most closely related to Cupeño and more distantly to Serrano and Gabrielino, according to the following generally accepted classification. (See e.g. Jacobs (1975).)

i.



The language is taken to comprise four major dialects — Soboba, Pichanga, La Jolla, and Rincon. The data presented here are drawn from the speech of Mrs. Villiana Hyde, who identifies herself as a speaker of the Rincon dialect. The differences among these dialects, according to Jacobs (1975), are less dramatic than those among the dialects of other Cupan languages. At any rate, the speakers of the language, estimated by Bright (1968) to number 2,000 in pre-Columbian times, are now no more than 30. (In fact, Mrs. Hyde judges herself and her sister to be the only fully fluent speakers left.) Dialectal differences are, thus, no longer of any significance.

Luiseño has received at least as much attention as any of the Takic languages. The first published work, *La Lingua degli Indi Luiseños* (1926), was written by Pablo Tac (1822—1841), a native speaker of the language transplanted from Southern California to Italy. Chung (1974) intepretes his work in more modern terms. The other major descriptive work on the language is Kroeber and Grace (1960). This study is based on the notes of Philip S. Sparkman, who ran a store in Valley Center, California near where many Luiseños lived and who was mysteriously killed in 1907. In addition, there is Bright's (1968) dictionary, Hyde's (1971) pedagogical grammar, Davis' (1973) dissertation, and a few papers (Bright (1965), Munro and Benson (1973), Davis (1976), and Steele (1976), (1977), (1985), and (1987)), as well as Jacobs' (1975) discussion of Luiseño relative to the history of Cupan and the analysis of the Luiseño particle sequence in Akmajian, Steele, and Wasow (1979) and Steele et al. (1981). Finally, many of Langacker's comparative and theoretical publications refer to aspects of Luiseño, e.g. Langacker (1977a), Langacker (1977b), and Langacker and Munro (1975).

Luiseño examples are given in the orthography introduced in Hyde (1971). In general standard IPA symbols are used; however, a few symbols deserve comment. The sequences *sh, ch,* and *ng* represent /š/, /č/ and /ŋ/ respectively. A sequence of two identical vowels, e.g. *ee*, indicates a long vowel, ꞩ is a retroflex sibilant, and glottal stop is represented as '.

[2] What is labelled *aux* is an instance of the cross-linguistic equivalence class AUX, as argued in Steele et al. (1981).

[3] Luiseño is more restricted in this regard than Warlpiri. As I understand it, the Warlpiri equivalent of (12b) would be perfectly acceptable.

[4] One way out of this problem is to analyze *noo noꞩwaamayum* in (24) and *noo pahchum noꞩwaamayum* in (23) as the subject NP. This analysis is based primarily on the observation that independent NP's can cooccur with possessive prefixes, as e.g.

(i) xwaan po-ꞩwaamay 'John's daughter'
John his-daughter

A major problem with this suggestion is that the presumed NP's do not act like single constituents. In a sentence where the form in (i) is the subject, the aux can occur in one of two positions.

(ii) a. xwaan upil poꞩwaamay heelaquꞩ
John aux his:daughter was:singing
John's daughter was singing.

b. xwaan poꞩwaamay upil heelaquꞩ
John his:daughter aux was:singing
John's daughter was singing.

But the aux in (23) and (24) does not have both options.

(iii) a. *noo pahchum noꞩwaamayum mil qalquꞩ
I three my:daughters aux were sitting

b. *noo noꞩwaamay upil 'aw'quꞩ
I my:daughter aux was:sitting

For a discussion of the properties of these sentences (but a conclusion with which I would no longer agree) see Steele (1977).

[5] It is important that these conditions not be thought of as filters. The conditions at issue here don't choose among good and bad instances of a category; the category doesn't exist in the absence of the application of the condition and its satisfaction.
[6] Even in more traditional combinations of functors and arguments, the analysis proposed here allows the possibility that the result will include properties of the argument, by an extension of functional application: The result of the application of a functor to its argument includes those properties of the argument which are not analyzed by the functor. Discussion of this can be found in Chapter Four.
[7] Given the complex idea of categories presumed here — where each is a set of features — non-obligatory functors also change the category of their arguments because they modify their feature values. Obligatory functors have a much more dramatic effect on the feature values of their arguments, essentially reorganizing them.
[8] Clearly a fourth logical possibility exists — a category type whose members are phonologically accessible but syntactically inaccessible. The idea here is that if the members of a category are phonologically inaccessible they are necessarily also syntactically inaccessible, eliminating this logical possibility.
[9] I differ then from Pollard and Sag (1988) in treating number values as syntactic, not semantic, properties.
[10] A simple expression — that is, an expression which is not composed of a functor and an argument — is also syntactically and phonologically accessible. Hence, even the category of a simple expression fits in the classification.
[11] Actually, the condition is more complicated than this sketch makes apparent. We will deal with the complexities at the appropriate place, in Chapter Four.
[12] The claim of Pullum and Zwicky (e.g. (1988)) that the syntax never accesses the phonology is consistent with the distinction made here between syntactically and phonologically accessible category types. But the basis of the two proposals is completely different.

CHAPTER TWO

LUISEÑO FEATURES: BACKGROUND

0. INTRODUCTION

Given its focus on agreement and other such conditions, this work is primarily concerned with phrasal units, i.e. with expressions potentially composed of more than a single word. However, the values available to such expressions are not independent of the values available to words. This is not of course an idea idiosyncratic to this work. X-bar theories claim a relationship between lexical and phrasal categories, as do unification-based theories. Thus, before we turn to the analysis of Chapters Three through Six, we must consider the values available to Luiseño words.

A Word is a category and is, hence, comprised of three parts.

(1) ⟨phonological value⟩
⟨formal value⟩
⟨semantic value⟩

(I identify the use as a category label of the pretheoretic term *word* with initial capitalization.) We are concerned here exclusively with the Word's formal value, as the repository of the non-idiosyncratic properties associated with individual Words. As noted in Chapter One, I adopt in regard to the formal value a notation inspired by the use of features in Bach (1983a) and (1983b), Generalized Phrase Structure Grammar (e.g. Gazdar, Klein, Pullum, and Sag (1985)), and unification-based formalism (e.g. Shieber (1986)). The formal value of a Word is a set of multi-valued features:

(2) $\langle F_i\text{: value}_a; F_j\text{: value}_b; \ldots\rangle$

The phonological and semantic values can be viewed for our purposes as variables, subsuming the various phonological sequences and meanings which differentiate one Word from another.

Against this reasonably familiar background, two aspects of the analysis of Luiseño Words should be highlighted. First, and in a clear parallel to Bach (1983a), every feature employed here has a morphological instantiation, as does every value for a feature. Other analyses depending on non-monadic categories, as e.g. Generalized Phrase Structure Grammar or

Head-driven Phrase Structure Grammar, employ features defined by the morphology, but this is not an explicit criterion by which features are measured. Second, the feature complexes comprising the formal values of all higher-level syntactic categories are ultimately projected from the feature complexes comprising the formal value of Words. This property cannot hold of a theory which allows features to originate in phrasal categories and "trickle down" to their lexical daughters. Nor does it extend to a theory that employs features like +lex/−lex, where the values for such a feature distinguish lexical versus phrasal categories respectively.

The formal value of a Luiseño Word is composed of four features — AD(jacent)AFF(ix), ASP(ect), NUM(ber), and RIGHTAN(alytical unit). Each feature is multi-valued, including for all but RIGHTAN, the possibility of being unspecified for the feature, a value I will represent as ⟨FEATURE: —⟩. Each feature identifies a set of morphological properties; the feature names are intended as mnemonic of these properties. The values label distinctions within this set, including (for all but RIGHTAN) the possibility that the morphological property at issue is absent. Table 2-I contains a complete listing of the values available to each of these four features.

TABLE 2-I

1. Feature: AD(jacent)AFF(ix)	2. Feature: ASP(ect)
Values: t	Values: changing
ta	unchanging
l	generic
la	changing past
sh	unchanging past
cha	changing future
ABS	unchanging future
	ASP
1sg	
2sg	—
3sg	
1pl	
2pl	
3pl	
unspec	
POSS	
—	

3. Feature: NUM(ber)

Values: sg
pl
number
#

—

4. Feature: RIGHTAN(alytical unit)

Values: object

sg
pl
number

sg-object
sg-no object
pl-object
pl-no object
number-object
number-no object

to
from
alone
with
on
in-front-of
behind

near-non-future-continuous-sg
near-non-future-continuous-pl
near-non-future-continuous
distant-non-future
distant-non-future-continuous
distant-non-future-complete
distant-non-future-habitual
future

imperative
pl-imperative

1sg
2sg
3sg
1pl
2pl
3pl

1sg reflexive
2sg reflexive
3sg reflexive
1pl reflexive
2pl reflexive
3pl reflexive

1sg generic
2sg generic
3sg generic
1pl generic
2pl generic
3pl generic

1sg try
2sg try
3sg try
1pl try
2pl try
3pl try

changing
unchanging

This chapter begins by sketching the relationship between the morphological properties claimed to underlie the proposed feature system and the feature system itself. The body of the chapter (Sections 2 through 5) discusses each of the four features, in turn, with particular emphasis on the special character of RIGHTAN. I must emphasize that this is by no means a full treatment of Luiseño Words. The discussion here is essential to the analysis of Chapters Three through Six, because the features and feature sets introduced here are manipulated in larger units. But it covers only what is necessary to this analysis, leaving much of the complexities of the analysis of Words to another study.

1. RELEVANT MORPHOLOGY

1.1 *Base Forms and Affixes*

The Word in (3) illustrates essential parts of a Luiseño Word.[1]

(3) po-heelaqala-y
he is singing (object)

heelaqala is a BASE FORM; *po* and *y* are AFFIXES. The definitions of these two terms are interdependent.

Definition 1: AFFIX includes those affixes identified as Tense/Aspect, Possessive, Postposition, Temporal, Imperative, Object, Plural, and Absolutive; all members of Affix fall into one of these eight subtypes.

As Definition 1 indicates, Affix is a technical term, referring to that subset of affixes subsumed under one of the eight types indicated. Each of these types is a set of mutually exclusive elements with related values. The affixes included under each label are listed in (4) through (11). (The difference between prefixes and suffixes are indicated by appropriately placed hyphens. Suffixes predominate, with prefixes being represented by the Possessive set only.)

(4) Tense/Aspect[2]

Non-Future			Future
Distant		Near	
-quś	'continuous'	-q/a/wun or -an 'continuous'	-an
-uk	'habitual'		
-ax or -'ya	'complete'		

(5) Possessive

no-	'1sg'	cham-	'1pl'
'o-	'2sg'	'om-	'2pl'
po-	'3sg'	pom-	'3pl'
'a-	'unspecified'[3]		

(6) Postposition[4]

-man or -'eesh	'(along) with'
-nga or -oto	'at, in, on, by'
-ngay or -ongay	'from'
-tal	'by means of, with'
-'eeman	'behind'
-ik	'to, into, toward'
-mkila	'before, in front of'
-xay	'alone'[5]

(7) Temporal

-nik 'preceding time'

(8) Imperative[6]
-am or -yam 'plural'

(9) Object
-i

(10) Plural[7]
-um

(11) Absolutive[8]
-la -ta -cha
-l -t -sh

The labels of all but the Absolutive are reasonably descriptive and were chosen with an eye to being mnemonic. The term ABSOLUTIVE is a traditional term in Uto-Aztecan studies, applied in Luiseño specifically to those suffixes in (11). Consider the following quotation from Kroeber and Grace (1960: 68).

> The overwhelming majority of nouns occur in two forms, absolute and construct. The absolute form is marked by certain suffixes which we call "absolutives", namely *-s, -t, -l* and their vocalically ending counterparts *-cha, -ta, -la*, of which one or the other is characteristic for a given noun stem. The suffix form is used when the noun is absolute or isolated from context — literally "nominative." It is also used when the noun is subject of a sentence .... The construct form is the noun without its absolutive suffix; in short, the noun stem.

Steele (1988) argues against the identification of absolutives with noun stems. But we maintain the term Absolutive for the suffixes in (11).

Given Definition 1, it is possible to define a Base Form. (For a partial analysis of Base Forms, see Steele (1988).)

Definition 2: A Base Form is any element which allows and which does not itself include an Affix.

Since (3) involves two Affixes (*po-* and *-y*, the form which -i takes after vowels), it is obviously not sufficient to define a Base Form as any element which allows an Affix. If *-y* attached to [*poheelaqala*], this form would be a Base Form, and if *po-* attached to [*heelaqalay*], this would be a Base form. Both such Bases include Affixes. The definition of Base Form we have adopted requires that the parts labelled Affix and Base Form are absolutely distinct classes.[9]

1.2 *Analytical Issues*

The Base Form *heelaqala* in (3) has two Affixes attached to it — the Object suffix and the Possessive prefix. However, their relationships to the

Base Form are unquestionably different. The Object suffix can be absent, while the Possessive prefix remains; but the converse is impossible.

(12) po-heelaqala
possessive-base: form

(while) he was singing

(13) *heelaqala-y
base: form-object

If we propose that these two Affixes attach to different types of elements, the difference between (12) and (13) is easily captured: the Possessive attaches to a Base Form; the Object attaches to the combination of a Possessive and a Base Form. The result of the application of the Object suffix yields a Word. Intervening, then, between a Base Form and a Word is another analytical unit, what we will term a LEFT-OCCURRING STRING, created for *poheelaqalay* by the application of a Possessive (*po-*) to a Base Form (*heelaqala*). A Left-Occurring String is open to further affixation, but the result of this affixation, the Word, is not.

(14) heelaqala = Base Form

po + heelaqala = Left-Occurring String

poheelaqala + y = Word

Although not all Words are as easily analyzed as *poheelaqalay*, we will assume that each has an identical internal analysis. Crucially, given a Base Form at its core, a Word involves a Left-Occurring String and a part that *closes the form off to any further affixation.*

The feature RIGHTAN(alytical unit) identifies the presence of such a part; the feature value refers to the value of the morphological property that has this effect. The formal value of the word *poheelaqalay*, then, includes the feature in (15), because the object Affix makes *poheelaqalay* a Word and precludes, thereby, further affixation.

(15) ⟨RIGHTAN: object⟩

Four of the Affixes introduced above (Tense/Aspect, Imperative, Temporal, and Postposition) are like Object in always and necessarily precluding further affixation. Given the lists of Affixes above, the feature RIGHTAN has a fair number of values. (16) provides a reasonable set of examples.

(16) a. [[Left-Occurring String] — Tense/Aspect]$_{\text{Word}}$

e.g. heela-qus̸ 'was singing'

⟨RIGHTAN: distant non-future continuous⟩

e.g. heela-uk 'sang'

⟨RIGHTAN: distant non-future habitual⟩

e.g. heela-'ya 'sang'

⟨RIGHTAN: distant non-future complete⟩

e.g. heela-q 'is singing'

⟨RIGHTAN: near non-future continuous sg⟩

e.g. heela-an 'will sing'

⟨RIGHTAN: future⟩

b. [[Left-Occurring String] — Imperative]$_{\text{Word}}$[10]

e.g. heelax-am 'sing!'

⟨RIGHTAN: imp pl⟩

c. [[Left-Occurring String] — Temporal]$_{\text{Word}}$

e.g. heelaqa-nik 'after singing'

⟨RIGHTAN: preceding⟩

d. [[Left-Occurring String] — Postposition]

e.g. potaana-yk 'to his blanket'

⟨RIGHTAN: to⟩

e.g. taana-nga 'on the blanket'

⟨RIGHTAN: on⟩

e.g. taana-ngay 'from the blanket'

⟨RIGHTAN: from ⟩

e.g. taana-tal 'with the blanket'

⟨RIGHTAN: with⟩

e.g. po-'eesh 'with him'

⟨RIGHTAN: with⟩

e.g. po-mkila 'in front of him'

⟨RIGHTAN: in front of⟩

e.g. po-'eeman 'behind him'

⟨RIGHTAN: behind⟩

e.g. po-xay 'by himself'

⟨RIGHTAN: alone⟩

The other three features (AD(jacent)AFF(ix), ASP(ect) and NUM(ber)) are defined rather by the morphological properties of what we have termed the Left-Occurring String. For example, although we have yet to say which feature of the three the value '3sg' is associated with, the feature set of *poheelaqalay* includes this value as well because of the presence of the Possessive *po*.

With this brief background, we turn to the specifics of the four features proposed for Luiseño Words and their values. Sections 2—4 discuss the features whose values are a property of the Left-Occurring String. Section 5 discusses the feature RIGHTAN, the feature whose values identify the part of a Word closing it off to further affixation.

2. THE FEATURE ADAFF

The Possessive prefix alternates with the Absolutive suffix. Even though they appear in different positions relative to the Base Form, the two Affix types never cooccur.[11]

(17) a. taana-t 'blanket'

po-taana 'his blanket'

*po-taana-t

b. huu-la 'arrow'

po-huu 'his arrow'

*po-huu-la

The two are to be distinguished from all the other Affixes listed in (4) through (11) in that they are always immediately adjacent to a Base Form, but do not preclude the appearance of other Affix types. (3) and its analysis in (14) illustrate both properties for the Possessive. Consider, then (18) as a parallel example for the Absolutive.

(18) hunwu-t-i
bear-absolutive-object

bear (object)

In contrast, the five Affixes Object, Imperative, Postposition, and Tense/Aspect, and Temporal all preclude further affixation. The Plural Affix, the one remaining Affix, is also different from the Possessive and the Absolutive. It may be adjacent to a Base Form but need not:

(19) hunwu-t-um
bear-absolutive-plural

bears

and its presence need not preclude further affixation. (20) is a simple illustration, because the plural suffix is internal to the object suffix.

(20) hunwu-t-um-i
bear-absolutive-plural-object

bears (object)

The feature ADAFF represents the alternation between the Possessive and the Absolutive and their potential absence. ADAFF is a multi-valued feature indicating a person value (from a Possessive prefix), an Absolutive value (from an Absolutive suffix), or the absence of both.

(21) $$\langle \text{ADAFF:} \left\{\begin{array}{l}\text{Person}\\ \text{Absolutive}\\ -\end{array}\right\} \rangle$$

'Person' in (21) is an abbreviation for the seven values associated with the Possessive (only six of which actually indicate a person value), and Absolutive is an abbreviation for the six Absolutive suffixes. (22) illustrates the instantiation of person in *po-heelaqala-y* 'he is singing' as in (3) and *po-taana-yk* 'to his blanket' as in (16d).

(22) ⟨ADAFF: 3sg⟩

(23) is the value for this feature for *hunwu-t-i* 'bear (object)' and *hunwu-t-um* 'bears' in (18) and (19) respectively, both of which bear an Absolutive.

(23) ⟨ADAFF: t⟩

And (24) is the value for this feature for *heela-quś* 'was singing' in (16a), *heelax-am* 'sing!' in (16b), and *heelaqa-nik* 'after singing' in (16c), where neither an Absolutive nor a Possessive is present.

(24) ⟨ADAFF: –⟩

3. THE FEATURE NUM

I have associated the Possessive and Absolutive with the feature ADAFF and the Object, Imperative, Postposition, Tense/Aspect, and Temporal Affixes with the feature RIGHTAN. Of the Affixes introduced in Section 1, only one remains: *-um* 'pl'. This Affix allows the identification of four distinct values for the feature NUM. (25) illustrates two of these: 'sg' and 'pl'. The contrast here is associated with the absence versus the presence respectively of the Plural Affix.[12]

(25) a. hunwut-i
bear-object
bear (object)

b. hunwutum-i
bear-plural-object
bears (object)

(26) gives the feature/value pair at issue for these two Words.

(26) ⟨NUM: sg⟩
⟨NUM: pl⟩

The Object Affix is what makes the forms in (25) Words, so the number contrast at issue is associated with the Left-Occurring String. There is also the possibility that a Left-Occurring String will have no number whatsoever. The Word *poheelaqalay* 'he is singing (object)' in (3) is an example.

(27) ⟨NUM: –⟩

It isn't necessary to depend on English glosses to illustrate this point, although they do provide it with an initial plausibility. If the feature NUM includes either of the specifications in (26), this Word can appear in the simple modification structure illustrated in (28).

(28) a. hunwuti yuvaataanti
bear black
black bear (object)

b. hunwutumi yuvaataantumi
bears black
black bears (object)

But *poheelaqalay*, even though it bears the Object Affix like *hunwut-i* and *hunwutum-i* in (28), does not combine with a modifier.

(29) *poheelaqalay yuvaataanti
he:sings:object black

This difference can devolve to the different values for NUM; *poheelaqalay* is unspecified for NUM and *hunwuti* and *hunwutumi* are specified 'sg' and 'pl' respectively.

A fourth value for NUM is available. *hunwuti* is unacceptable with a plural modifier and *hunwutumi*, with a non-plural modifier.

(30) a. *hunwuti yuvaataantumi
bear black:pl

(30) b. *hunwutumi yuvaataanti
bears *black*

But Words which accept both are not difficult to find. The Word in (31), for example:

(31) po-huu-y
possessive-arrow-object
his arrow/arrows (object)

is acceptable with either *yuvaataanti* or *yuvaataantumi.*

(32) a. pohuuy yuvaataanti
his:arrow *black*
his black arrow/arrows

b. pohuuy yuvaataantumi
his:arrow *black:pl*
his black arrows

As the glosses indicate, in the presence of a plural modifier, 'arrow' must be given a plural interpretation. But in the presence of a non-plural modifier, 'arrow' is open to both singular and plural interpretations. We can distinguish between *pohuuy* and *poheelaqalay* by assigning the first a particular number value; we can distinguish *pohuuy* from *hunwuti* by assigning it the value in (33).

(33) ⟨NUM: number⟩

This value for the feature NUM indicates that *pohuuy* has number but is neither specifically singular nor plural.

4. THE FEATURE ASP

One final morphological property of Left-Occurring Strings is not represented in the set of Affixes introduced above. While we have considered combinations of Base Form and Affixes, we have not considered the Base Form itself. The Base Form in (3) is internally complex.

(34) heela-qala
sing-suffix

Given Definition 2, we know that a Base Form can combine with an Affix and given the analysis of *poheelaqalay* as [[*po*[*heelaqala*]]*y*] we have a hypothesis as to the structure of such combinations. The string in (34) can combine, as in *poheelaqalay* in (3), with a Possessive, to yield a Left-Occurring String. In (35) is the same sequence, but in combination with an Absolutive.

(35) heela-qala-l
sing-suffix-absolutive
singing

Therefore, *heelaqala* is a Base Form and *qala* must be internal to the Base Form. Because we can hold *heela* constant, it is clear that *heelaqala* is internally analyzable. (36) differs from (34) by replacing the suffix *qala* with the suffix *x*.

(36) po-heela-x-i
possessive-sing-suffix-object
he sings (object)

For our purposes many Base Forms can remain unanalyzed wholes although they may very well be morphologically complex. However, the suffix type illustrated in the Base Forms in (3), (35), or (36) is essential to the analysis. All such complex Base Forms share a certain set of characteristics. Specifically, they can be analyzed as in (37) or (38) below.

(37)	Base Form +	Suffix	
	Type A	[Aspect]	
(38)	Base Form +	Suffix	+ Suffix
	Type A	[Aspect]	[Time]

where the value 'Aspect' refers to a temporal contour and identifies a particular set of suffixes and where the value 'Time' refers to a temporal location and identifies another suffix set. (*Type A* simply indicates that the Base Forms to which the Aspect suffixes attach are all of a single type.) Crucially, then, all such Base Forms include a suffix indicating a temporal contour — and, if that suffix is not final to the Base Form, a suffix indicating a temporal location will be. The inventory of suffixes involved is given in (39) below, with the value of each suffix indicated.[13]

(39) Suffix

Aspect

-qa	'changing'
-qala	'changing'
-qat	'changing'
-x/-Ø	'unchanging'
-an/-wun/-Ø	'unchanging'
-lo	'generic'
-ax	'generic'

Time

-lu/-ku	'future'
-pi	'future'
-mokwi	'past'
-vo	'past'

We will refer to all such suffixes as members of the class 'Suffix' and we will reserve this label for them, according to Definition 3.

Definition 3: The class of elements labelled Suffix includes seven suffixes which identify a temporal contour (*-qa, -qala, -qat, -x/-Ø, -an/-wun/-Ø, -lo, -ax*) and four suffixes which identify a temporal location (*-lu/-ku, -pi, -mokwi, -vo*).

All of the Suffixes labelled Aspect can occur in the sequence in (37) above, although they do not cooccur. Only two of these (*-x/-Ø* and *-qala*) can occur in the string in (38), however — again, not simultaneously. One of these two (*-x/-Ø*) can be followed by all the Suffixes labelled Time; the other (*-qala*) can be followed by all of these except for *-lu/-ku*. Thus, we have the following instantiations of the strings in (37) and (38).

(40) Base Form + Suffix

-qa
-qala
-qat
-x/-Ø
-an/-wun/-Ø
-lo
-x

(41) Base Form + Suffix + Suffix

	-x/-Ø	-lu/-ku -pi -mokwi -vo
	-qala	-pi -mokwi -vo

The members of Suffix are unlike other Base Form internal affixes in one important respect: They are entirely regular. Given a Base Form like *heela*, each member of the set above can attach and form a complex Base Form. (42) and (43) illustrate this point, using *heela* and another Base Form *'aamo* 'hunt'.

(42) Base Form + Suffix
[Aspect]

a. Base Form + qa

heela-qa-t 'sings'
'aamo-qa-t 'hunts'

b. Base Form + qala

heela-qala-l 'singing'
'aamo-qala-l 'hunting'

c. Base Form + qat

po-heela-qat 'he sings'
po-'aamo-qat 'he hunts'

d. Base Form + x/Ø

heela-x-sh 'sung'
'aamo-Ø-sh 'hunted'

e. Base Form + an/wun/Ø

heela-an-t '(while) singing'
'aamo-wun-t '(while) hunting'

(42) f. Base Form + lo

po-heeli-lo '(for someone) to sing'
po-'aamo-lo '(for someone) to hunt'

g. Base Form + ax

po-heela-ax 'he is good at singing'
po-'aamo-ax 'he is good at hunting'

(43) Base Form + Suffix [Aspect] + Suffix [Time]

a. Base Form + x/Ø + lu

heela-x-lu-t 'gonna sing'
'aamo-Ø-lu-t 'gonna hunt'

b. Base Form + x/Ø + pi

po-heela-x-pi 'he will sing'
po-'aamo-Ø-pi 'he will hunt'

c. Base Form + x/Ø + mokwi

heela-x-mokwi-sh 'sang'
'aamo-Ø-mokwi-sh 'hunted'

d. Base Form + x/Ø + vo

po-heela-x-vo 'he sang'
po-'aamo-Ø-vo 'he hunted'

e. Base Form + qala + pi

po-heela-qala-pi 'he will be singing'
po-'aamo-qala-pi 'he will be hunting'

f. Base Form + qala + mokwi

heela-qala-mokwi-sh 'was singing'
'aamo-qala-mokwi-sh 'was hunting'

g. Base Form + qala + vo

po-heela-qala-vo 'he was singing'
po-'aamo-qala-vo 'he was hunting'

We represent this property of a Left-Occurring String, again by using a multi-valued feature. The feature ASP may have any of the values associated with the sequences in (42) and (43), i.e.:

(44) a. ⟨ASP: changing⟩

e.g. heela-qa-t 'sings'
heela-qala-l 'singing'
po-heela-qat 'he sings'

b. ⟨ASP: unchanging⟩

e.g. heela-x-sh 'sung'
heela-an-t 'while singing'

c. ⟨ASP: generic⟩

e.g. po-heeli-lo 'for someone to sing'
po-heela-ax 'he is good at singing'

d. ⟨ASP: unchanging future⟩

e.g. heela-x-lu-t 'gonna sing'
po-heela-x-pi 'he will sing'

e. ⟨ASP: changing future⟩

e.g. po-heela-qala-pi 'he will be singing'

f. ⟨ASP: unchanging past⟩

e.g. heela-x-mokwi-sh 'sang'
po-heela-x-vo 'he sang'

g. ⟨ASP: changing past⟩

e.g. heela-qala-mokwi-sh 'was singing'
po-heela-qala-vo 'he was singing'

Since not all Base Forms include a Suffix, the feature ASP can also indicate their absence.

(45) ⟨ASP: –⟩

hunwuti 'bear' and *hunwutumi* 'bears' in (25) above are Base Forms lacking as aspectual Suffix.[14]

5. COMPLEXITIES TO RIGHTAN

Sections 2 through 4 introduce three different multi-valued features — ADAFF, NUM, and ASP. The values of the feature ADAFF identify the presence or absence of the Possessive and the Absolutive, the two Affixes that are necessarily immediately Base Form adjacent; the feature NUM has four values depending on the distribution of the Plural Affix; the values of the feature ASP refer to the value of an (aspectual) Suffix if one is present and otherwise identify the absence of such a Suffix. (46) offers a few forms fully specified for all three features.[15] They are listed in the order ASP — ADAFF — NUM, but this is an arbitrary choice. These three features comprise an unordered set.

(46) a. ⟨ASP: changing; ADAFF: 3sg; NUM: —⟩
e.g. poheelaqalay 'he is singing (object)'

b. ⟨ASP: —; ADAFF: t; NUM: sg⟩
e.g. hunwuti 'bear (object)'

c. ⟨ASP: —; ADAFF: t; NUM: pl⟩
e.g. hunwutumi 'bears (object)'

d. ⟨ASP: —; ADAFF: 3sg; NUM: number⟩
e.g. pohuuy 'his arrow/arrows (object)'

e. ⟨ASP: —; ADAFF: —; NUM: —⟩
e.g. heelaqus̸ 'was singing'

A Word involves, as we have seen, not only a Left-Occurring String, but also a part which closes off the form to further affixation — the property represented in the feature RIGHTAN. Given the analytical sketch of Words above, it appears that the value of RIGHTAN will be the value supplied by the rightmost Affix in a Word. So, the Word *poheelaqalay* is divided into the Left-Occurring String *poheelaqala* and the Object Affix *i* — occurring here as /y/ because of the preceding vowel. As noted above, other Affix types resemble Object on this score. Tense/Aspect, Temporal, Imperative, and Postposition are also always the rightmost Affix. These illustrate the simplest possible situation, but not the only situation. Not all Words contain one of the obligatorily rightmost Affixes. Consider, for example, the Word *hunwutum* 'bears'. This form can cooccur with the Object Affix — *hunwutumi* 'bears (object)' — but it need not. The feature RIGHTAN reflects not simply the values of obligatorily rightmost Affixes, but rather, as its name suggests, the Word's rightmost analytical unit. The rightmost analytical unit in a Word is the rightmost fixed property, the rightmost property which determines its combinational possibilities. By this criterion, an obligatorily rightmost Affix is also a rightmost analytical unit, since it precludes any further affixation. But a rightmost analytical unit extends to properties not identified by Object, Tense/Aspect, Imperative, Temporal, and Postposition, the five obligatorily rightmost Affixes.

Two situations concern us initially. First are sequences like *hunwutum* which can occur with an obligatorily rightmost Affix but need not.

(47) a. muutam 'owls' b. muutami 'owls (objects)'
tapashmalum 'mice' tapashmalumi 'mice (object)'

Second are sequences which are simply incompatible with any of the rightmost Affixes. (48) and (49) offer two different kinds of examples. In (48) are forms like *hunwutum* — i.e. forms which include the Plural Affix — but unlike *hunwutum* these are incompatible with the Object Affix. In (49) are forms incompatible not only with the Object Affix, but also with the Plural Affix.

(48)	waniicha-m 'rivers'	*waniicha-m-i
	huula-m 'arrows'	*huula-m-i
	toota-m 'rocks'	*toota-m-i
(49)	pomtaax 'themselves'	*pomtaax-um
		*pomtaax-i
	chamtaax 'ourselves'	*chamtaax-um
		*chamtaax-i

The reasons for these patterns lie in an analysis of Luiseño Words. Since this is not the focus of this study, we will simply accept these facts. The important point for our purpose is simple: Although these Words lack an obligatorily rightmost Affix, they will have a value for the feature RIGHTAN, *because* they have a rightmost fixed property.

In (47a) and (48), but for different reasons, the rightmost analytical unit is the Plural Affix, yielding (50).

(50) ⟨RIGHTAN: pl⟩

In (48), if the Plural Affix is added to the Left-Occurring String to yield a Word, the impossibility of the Object Affix follows automatically. That is, we analyze these Words as in (51).

(51) wanii = Base Form
wanii-cha = Left-Occurring String
wanii-cha-um = Word

An Object Affix takes a Left-Occurring String to a Word and, thus, will not apply when the Plural Affix functions identically. In (47), the Plural Affix must be part of the Left-Occurring String, because these forms accept the Object Suffix and this Suffix must be the rightmost analytical unit.

(52) hunwu = Base Form
hunwu-tum = Left-Occurring String
hunwu-tum-i = Word

Given the analysis in (52), the non-Object marked forms as in (47) are Left-Occurring Strings that are also Words.

(53) hunwu = Base Form
hunwu-tum = Left-Occurring String
hunwu-tum = Word

Although the Plural Affix is internal to the Left-Occurring String, it must be identified as the rightmost analytical unit: It is the rightmost fixed property. Thus, although *waniicham* 'rivers' and *hunwutum* 'bears' have different internal analyses, they have identical rightmost analytical units. And, they both have the value 'pl' for the feature RIGHTAN.

Words which, like those in (54), lack a Plural Affix but form a paradigmatic contrast with others including it will also have a number value for this feature.

(54) a.	hunwut 'bear'	hunwutum 'bears'
	muuta 'owl'	muutam 'owls'
	tapashmal 'mouse'	tapashmalum 'owls'
b.	waniicha 'river/rivers'	waniicham 'rivers'
	huula 'arrow/arrows'	huulam 'arrows'
	toota 'rock/rocks'	tootam 'rocks'

The contrast between the non-plural forms in (54a) and (54b) is that discussed in regard to the feature NUM above. The number value of the non-plural Words in (54a) is 'sg'; that of the non-plural Words in (54b) is 'number'.[16]

(55) ⟨RIGHTAN: sg⟩
⟨RIGHTAN: number⟩

The example in (53) illustrates the operational definition of a rightmost analytical unit: If there is an Affix which takes a Left-Occurring String to a Word, this Affix is necessarily the rightmost analytical unit; if there is no such Affix, the rightmost analytical unit is the rightmost fixed property of the Left-Occurring String. The Words in (49) offer yet another application of this definition. Given the impossibility of **chamtaaxum* or **chamtaaxi* as indicated there, the Word *chamtaax* is analyzed as in (56).

(56) taax = Base Form
cham-taax = Left-Occurring String
cham-taax = Word

Such a Word still has a rightmost analytical unit; in fact, I propose that the rightmost analytical unit is the entire form. The Base Form *taax* is morphologically simple; most importantly for our purposes, it does not include an aspectual form. Like a number of other Base Forms *taax* is compatible with Possessive forms only, never an Absolutive. Interestingly, in combination with the Possessive *'a-* as in (57), the result is compatible with both Plural and Object Affixes:

(57)	'ataax 'person'	'ataaxum 'people'
	'ataaxi 'person (object)'	'ataaxumi 'people (object)'

like almost all other combinations of a Possessive and simple Base Form.[17] Compare:

(58)	pośwaamay 'his daughter'	pośwaamayum 'his daughters'
	pośwaamayi 'his daughter (object)'	pośwaamayumi 'his daughters (object)'
	pokaamay 'his son'	pokaamayum 'his sons'
	pokaamayi 'his son (object)'	pokaamayumi 'his sons (object)'

The Base Form *taax* and a person-Possessive (like *cham-* '1pl') *together* yield a form incompatible with both plural and object. As such, *together* they comprise the rightmost analytical unit. The proposed value for RIGHTAN reflects the combination.[18]

(59) ⟨RIGHTAN: 3pl reflexive⟩
⟨RIGHT: 1pl reflexive⟩

These examples of the rightmost analytical part are not exhaustive. There are cases (a) where the rightmost analytical unit is the Possessive prefix, (b) where the rightmost analytical unit is a Suffix internal to the Base Form, and (c) where the rightmost analytical unit is a combination of Possessive prefix and Suffix.

(60) ⟨RIGHTAN: 3pl⟩
e.g. pom-heelaxpi '3pl future singing'

(61) ⟨RIGHTAN: changing⟩

e.g. pomheela-qala '(while) 3pl is singing'

(62) ⟨RIGHTAN: 3pl-generic⟩

e.g. pom-heeli-lo 'for someone to sing'

The evidence for such claims is far too complicated for this discussion. We consider — and only very briefly — cases as in (c), since its description includes (a) and (b). *heelilo* is a Base Form, like *taax*, that requires a Possessive (here *pom-*) and that is incompatible with any further affixation.

(63) *pomheelilo-um

*pomheelilo-y

However, unlike *taax, heelilo* is internally complex, containing the aspectual Suffix *-lo*. If we hold *-lo* constant and vary the Base Form that it attaches to, the properties just noted also remain constant.

(64) a. pomxaarilo 'for someone to growl'

*pomxaarilo-um

*pomxaarilo-y

b. pom'arilo 'for someone to kick'

*pom'arilo-um

*pom'arilo-y

On the model of *pomtaax* and other reflexives, the rightmost analytical unit in these forms involves the person value *and* the aspectual Suffix *lo-*. Together these are the rightmost fixed properties of the Left-Occurring String. Thus, *pomheelilo* has the value for RIGHTAN in (62).

As this brief discussion suggests, the details here are quite complex. The operational definition of RIGHTAN, however, is always the same: the rightmost analytical unit is the rightmost fixed part of the Word, the rightmost part that determines the combinational possibilities of the Word. So, every word has a positive value for RIGHTAN. The value need not be supplied by one of the obligatorily rightmost Affixes (Object, Imperative, Tense/Aspect, Temporal, and Postposition) and it can be supplied by properties internal to the Left-Occurring String.

One other situation demands attention. According to the examples of the rightmost analytical unit above, it might appear that the value for RIGHTAN in (65) should be as in (66).

(65) xaarimokwichum-i 'growled (pl and object)'

tooyaxmokwichum-i 'laughed (pl and object)'

(66) ⟨RIGHTAN: object⟩

and the value for RIGHTAN in the obviously related Words in (67) should be as in (68).

(67) xaarimokwichum 'growled (pl)'
tooyaxmokwichum 'danced (pl)'

(68) ⟨RIGHTAN: pl⟩

This would be identical to the values assigned the pair *hunwutumi/hunwutum* 'bears (object)/bears'. There is reason not to accept this conclusion, however. *hunwutumi* and *xaarimokwichumi* have very different distributional properties; similarly *hunwutum* does not appear in the same constructions as does *xaarimokwichum*. *hunwutumi* appears in sentences where forms marked for object are obligatory — regardless of number.

(69) a. 'ariquꞩ nil hunwutumi
was:kicking aux bears:object

I was kicking the bears.

b. 'ariquꞩ nil hunwuti
was:kicking aux bear:object

I was kicking the bear.

hunwutum appears in sentences where forms with a number value in RIGHTAN are obligatory. In (70), for example, *miyquꞩ* does not accept an object-marked form, but rather requires a number-marked form.

(70) a. miyquꞩ mil hunwutum
was aux bears

They were bears.

b. miyquꞩ upil hunwut
was aux bear

He was a bear.

c. *miyquꞩ upil hunwuti
was aux bear:object

xaarimokwichumi cannot replace *hunwutumi* in (69a), nor can *xaarimokwichum* replace *hunwutum* in (70a).

(72) a. *'ariquꞩ nil xaarimokwichumi
was:kicking aux growled:pl:object

b. *miyquꞩ mil xaarimokwichum
was aux growled:pl

Rather, these Words occur where it is necessary to have access to both the object and number value. Although *'ariquś* requires the feature/value pair ⟨RIGHTAN: object⟩, a modifier of this argument must bear a compatible number value. So, *xaarimokwichumi* can modify *hunwutumi* but not *hunwutum* or *hunwuti.*

(73) a.	'ariquś	nil	hunwutumi	xaarimokwichumi
	was:kicking	*aux*	*bears:object*	*growled:pl:object*

I was kicking the bears that growled.

b.	*ariquś	nil	hunwuti	xaarimokwichumi
	was:kicking	*aux*	*bear:object*	*growled:pl:object*

(74) a.	miyquś	mil	hunwutum	xaarimokwichum
	was	*aux*	*bears*	*growled:pl*

They were the bears that growled.

b.	*miyquś	mil	hunwutum	xaarimokwichumi
	was	*aux*	*bears*	*growled:pl:object*

The rightmost analytical unit, thus, is not simply the Object suffix in *xaarimokwichumi* nor the Plural suffix in *xaarimokwichum*; rather it is a combination of both that determines the combinational possibilities of these Words. The Words in (65) and (67) will, thus, have values for RIGHTAN referring to both number and object. 'Number' in (74) includes the number possibilities — 'sg', 'pl', and 'number' — and 'Object' includes 'object' and 'no object'.

(75) ⟨RIGHTAN: Number-Object⟩

This value insures that such Words do not appear in the same places as Words like *hunwutumi* and *hunwutum.* The Words in (65) and (67) have the values for RIGHTAN in (76) and (77) respectively:

(76) ⟨RIGHTAN: pl-object⟩

(77) ⟨RIGHTAN: pl-no object⟩

This combination of a number value and an object value is the only rightmost analytical unit involving two Affixes, either of which can also be a rightmost analytical unit independently.

6. COMBINATORIAL COMPLEXITIES

We have discussed independently each of the four features ASP, ADAFF, NUM, and RIGHTAN. The formal value of a Word involves all four. Although it might be reasonable to think of the four features as comprising an unordered set, differences between RIGHTAN and the other three are clear. The morphological properties identified with RIGHTAN are determined operationally; the morphological properties associated with the other three features are relatively straightforward properties of Left-Occurring Strings. As a result, and given the operational definition for RIGHTAN, only this feature need have a positive value, i.e. a value other than '—'. Furthermore, and related, the values of RIGHTAN function differently from the values of the other features. The values for RIGHTAN determine the major functional possibilities available to a WORD, while the values for ASP, ADAFF, and NUM finetune within these major divisions. The formal value of a Word will represent this asymmetry, by grouping ASP, ADAFF, and NUM together and separating them from RIGHTAN as in (80).

(80) ⟨ASP; ADAFF; NUM | RIGHTAN⟩

This organization for the formal value is a graphic representation that there are differences between RIGHTAN and the other three values, as well as the locale of the properties associated with each. The theoretical claim is that there are such differences; the representation chosen simply reflects this fact.

Regardless of how the four features are represented relative to one another, one issue having to do with sets of features has yet to be explored. The possibility that the rightmost analytical unit of a Word may be part of the Left-Occurring String has consequences for the three features ASP, ADAFF, and NUM, features whose values are based entirely on the properties of the Left-Occurring String. Where the rightmost analytical unit is part of the Left-Occurring String, the value is potentially reflected in two features. Consider, again, *hunwutum*. This Word's formal value would appear to be as in (81), according to Sections 2 through 5 — and the organization proposed above.

(81) ⟨ASP: –; ADAFF: t; NUM: pl | RIGHTAN: pl⟩

However, (81) does not represent the fact that the 'pl' value for RIGHTAN is a consequence of the 'pl' value in NUM. I propose that the feature set represent such interdependencies. The modification in (82) directly represents that the value of RIGHTAN is drawn from the value for NUM. The value # holds the place of 'pl' in the feature NUM.

(82) ⟨ASP: –; ADAFF: t; NUM: # | RIGHTAN: pl⟩

Maintaining the value for RIGHTAN and modifying the value for NUM, rather than modifying the value for RIGHTAN, is consistent with the idea that a Word must have a positive value for RIGHTAN, but not for the other three features.

NUM is not the only feature for which this modification is necessary, of course.[19] The cases discussed in Section 5 involve both ASP and ADAFF, the two remaining features. A person value in RIGHTAN must have ADAFF as its source. (83) supplies the complete formal value for the Words *pomtaax* and *chamtaax*, whose values for RIGHTAN were given in (59).[20]

(83) a. ⟨ASP: –; ADAFF: POSS; NUM: – | RIGHTAN: 3pl refl⟩

b. ⟨ASP: –; ADAFF: POSS; NUM: – | RIGHTAN: 1pl refl⟩

And (84) through (86) provide the same service for the examples in (60) through (62).

(84) ⟨ASP: unch fut; ADAFF: POSS; NUM: – | RIGHTAN: 3pl⟩

(85) ⟨ASP: ASP; ADAFF: 3pl; NUM: – | RIGHTAN: ch⟩

(86) ⟨ASP: ASP; ADAFF: POSS; NUM: – | RIGHTAN: 3pl generic⟩

The notation developed here makes the relationship between the RIGHTAN value and the values of the other features explicit. But it also introduces new values for each of the three features ASP, ADAFF, and NUM.

(87) ⟨ASP: ASP⟩
⟨ADAFF: POSS⟩
⟨ADAFF: ABS⟩
⟨NUM: #⟩

This value type is to be distinguished from that in (88).

(88) ⟨ASP: –⟩
⟨ADAFF: –⟩
⟨NUM: –⟩

In (88) we indicate the absence respectively of an aspectual Suffix, a Possessive or an Absolutive Affix, and a number value. In (87) we indicate respectively the presence of an aspectual Suffix, a Possessive Affix, and a number value, but we do not allow access in the feature at issue to any of the values these possibilities afford.

7. CONCLUSION

The goal of this work is a theory of agreement, not an analysis of Luiseño Words. Thus, the discussion here has been necessarily abbreviated, simply outlining the feature sets which comprise a Word's category and sketching their organization. However, the analysis of Luiseño to follow — upon which the theory of agreement is founded — tests what is baldly presented here. If rules which manipulate Words must refer to these features and no others, the feature sets proposed here are justified. We might note, in this regard, that the values associated with the feature sets bear an obvious resemblance to feature sets employed in other analyses. In particular, number, person, aspectual, and temporal values are a commonplace. Consider, for example, an extraction from the feature sets assumed for English by Gazdar, Klein, Pullum, and Sag (1985).

(89) GER $\{+, -\}$
PAST $\{+, -\}$
PER $\{1, 2, 3\}$
PLU $\{+, -\}$

However, missing from our feature set is any reference to the Platonistic features $\pm$N(oun) and $\pm$V(erb). As noted at the outset, all the features in this feature set are based on morphological properties. At best within this view of the feature/value system of Luiseño Words, such features as N(oun) or V(erb) could refer to collections of specific values, e.g. any of the values associated with Tense/Aspect Affixes might require a −N, +V. Still required is a demonstration that this second order generalization is both possible and necessary.

Finally, because I haven't presented an analysis of the category Word, I have ignored its place in the classification of categories offered in Chapter One. I merely note here, in conclusion, that a Word must be the category type termed phonologically and syntactically inaccessible. The functor that takes a Left-Occurring String to a Word is the rightmost analytical unit. The functor is, therefore, obligatory (no Word exists in its absence), listable (the right part values comprise a small set), and localizable (it always is the rightmost part). This typing of Words is interestingly consistent with Luiseño stress facts. In Luiseño, the largest stress unit is the Word; there is nothing like the stress phenomenon in English which extends across units larger than a single Word. Most Base Forms in Luiseño, but crucially not all, are stressable. In a stressable Base Form, stress regularly occurs on the first vowel, unless the second vowel is long, in which case that vowel is stressed. (Cf. Munro and Benson (1973) for a discussion of Luiseño stress and Ishihara (1987) for an updating.) So, we have:

(90) tuv*ii*-cha 'cloud'
w*aa*'i-sh 'meat'
kw*a*ꞩa-t 'fog'

With a non-stressable Base Form, there are two possibilities. Some such take a stress-bearing Possessive prefix and, therefore, occur in stress-bearing Left-Occurring Strings.

(91) p*o*-ꞩla 'his fingernail'
possessive-base:form

p*o*-mlu 'strong'
possessive-base:form

(Cf. Hill and Hill (1968) for a discussion of such forms in Takic.) Others take a stress-bearing Postpositional Affix and, therefore, occur in stress-bearing Words.

(92) po-'*ee*sh 'with him'
base:form-postposition

Stress placement in Words with a stress-bearing Postpositional Affix is not merely a function of the long vowel in the Postposition. The example in (93), where both the Postposition and the form to which it is attached contain long vowels and where the Postposition still bears stress, proves the point.

(93) poom-'*ee*sh 'with them'
base:form-postposition

In these cases, then, stress is a property not of a Base Form or of a Left-Occurring String, but rather is a property specifically of a Word. The Postpositional Affixes are among those affixes which preclude any further affixation and, thus, yield a Word. Because of these and because stress does not alter in a larger domain, we must say that stress is a property of Words in Luiseño. This conclusion is consistent with classifying Words as phonologically inaccessible. This is the unit within which stress must be determined (unlike a Base Form or a Left-Occurring String) and, once determined, it is not modifiable.

NOTES

[1] Some pretheoretic words are not to be analyzed into Base Form and Affix, e.g. *wuꞩkapi* or *man* as in the sentences below.

(i) wuꞩkapi nawitmal ngeeq pokiyk
wuꞩkapi girl is:going to:her:house

I wonder if the girl went home.

(ii) wunaal ꞩu karikat man tengalkat
he aux musician man doctor

Is he a musician or a doctor?

Such forms can be fairly easily listed.

[2] Listed under Near Non-Future are four forms with the same gloss: *-q*, *-a*, *-wun*, and *-an*. *-wun* and *-an* are plural forms; *-q* is a singular form; *-a* can be singular or plural.

(i) wunaalum pum tamayaawi-wun
*they aux Base:Form-**wun***

They are answering.

(ii) wunaalum pum heela-an
*they aux Base:Form-**an***

They are singing.

(iii) wunaal up heela-q
*he aux Base:Form-**q***

He is singing.

(iv) wunaalum pum mariyi hakimonaa-a
*they aux Mary Base:Form-**a***

They are carrying Mary.

(v) wunaal up mariyi hakimonaa-a
*he aux Mary Base:Form-**a***

He is carrying Mary.

The alternation between *-wun* and *-an* depends on the Base Forms to which the affix is attached. So, Base Forms which have as the final segment anything but /a/ will take *-wun*; and most but not quite all Base Forms which end in the segment /a/ take *-an*. The alternation between the Affix *-a* and the remainder also depends on the preceding Base Form. Only a very few Base Forms require *-a* and, by and large, these have as their final segment the long vowel *aa*; one exception is *qala-a* 'is setting'. (The presence of the form *-a* on Base Forms with a short final vowel, as *qala*, is indicated by its protection from deletion and on Base Forms with a long final vowel, as *hakimonaa*, by its protection from shortening or from both shortening and deletion.) The general pattern is illustrated in examples (i) through (v) above. Finally, I should note in regard to Near Non-Future forms that *-q* can occur as *-qa*. The conditions governing this alternation are unclear to me.

Listed under Distant Non-Future are two forms with the same gloss: *-ax* and *-'ya*. Base Forms which take *-an* in the Near Non-Future, that is, the majority of Base Forms which end in the segment /a/, take *-'ya* — and lose their final segment.

(vi) wunaal upil heel-'ya
*he aux Base:Form-**'ya***

He sang.

Many, but not all of the remainder, take *-ax*, again with phonological effects. (Compare (i) and (viii).)

(viii) wunaalum mil tamayaaw-ax
*they aux Base:Form-**ax***

They answered.

However, a fair number of Base Forms take neither of these forms; rather they exhibit some internal change, usually reduplication.

(ix)	tengal-q 'is giving medicine'	tetengal 'gave medicine'
	samsa-q 'is buying'	sasamsa 'bought'
	naxaachu-q 'is getting old'	nanxaachu 'got old'
	huulu-q 'is making arrows'	huhlu 'made arrows'

I will assume without further comment here that this type of reduplication is a member of the class Affix, specifically an Affix alternating with *-ax* and *-'ya*. This is purely a simplifying assumption. (See Munro and Benson (1973) and Marantz (1982) for discussion of reduplication in Luiseño.)

One Affix doesn't appear in this list. With certain forms, specifically those referring to movement, the Affix *-ym* is possible and indicates directional movement.

(x) noo n pisayk poluucha-ym
*I aux outside walk-**ym***
I walked outside.

This Suffix appears to alternate with the set labelled 'near non-future uncompleted':

(xi) noo n pisayk poluucha-q
*I aux outside walk-**q***
I walked (around) outside.

and does not appear to carry any specific number value.

(xii) wunaalum pum pisayk moyaaka-ym
*they aux outside walk-**ym***
They walked outside.

[3] The Possessive *'a-* requires some comment. Roughly, it appears that at some point in the past *'a-* was required where the possessor was unspecifiable and was possible where the possessor was inanimate. Now, however, there is a small set of Base Forms which must be specified as idiosyncratically requiring *'a*. Consider the words in (i).

(i) 'a-no 'coyote'
'a-hiichu 'orphan'
'a-macha 'tick'
'a-waal 'dog'
'a-taax 'person'

At least 'orphan' — and perhaps 'tick' and 'dog' — are consistent with the semantic range suggested to previously apply to *'a-*. But, in only the last of these cases can be Base Form occur with another Possessive form.

(ii) po-taax 'himself/herself'

The stress pattern of words such as those in (i) argues that the *'a-* is segmentable — even though most must be specified as requiring this particular form of the Possessive Affix and no other. Stress is, most commonly, a property of Base Forms in Luiseño; that is, the Affix types do not receive stress. (There are two sets of exceptions to this generalization. Cf. Hill and Hill (1968) for a discussion of one of them. These exceptions and their importance are discussed briefly at the end of this chapter.) Stress regularly occurs on the first vowel of Base Forms such as those in (i), unless the second vowel is long, in which case that vowel is stressed. (Cf. Munro and Benson (1973) and Ishihara (1987) for a discussion of Luiseño stress.) Stress in (iii) is indicated by italics.

(iii) tuv*ii*-cha 'cloud'
w*aa*'i-sh 'meat'
kw*a*s̷a-t 'fog'

If the words in (i) were not segmentable as indicated, we might expect stress to be assigned as follows:

(vi) '*a*no

'ah*ii*chu

'*a*macha

'aw*aa*l

'at*aa*x

But, in the two crucial cases, the cases with short vowels in both the first and the second syllable, it is the second vowel which is stressed.

(vii) 'an*o*

'am*a*cha

There are other Base Forms which occur with *'a-* where *'a-* is less problematically segmentable, but a discussion of such cases would take us far afield. I assume, therefore, the existence of a prefix *'a* as given in (5) and I will comment on cases relevant to its character as appropriate.

[4] The Affixes *-oto*, *-ongay*, and *-'eesh* which alternate with *-nga*, *-ngay*, and *-man* respectively, occur on only a small set of Base Forms. These are given below.

(i)	no	e.g. nooto 'by me'
	'o	e.g. 'ooto 'by you'
	po	e.g. pooto 'by him'
	chaam	e.g. chaamoto 'by us'
	'oom	e.g. 'oomoto 'by you (pl.)'
	poom	e.g. poomoto 'by them'

The Affixes *nga*, *ngay*, and *man* occur with the remainder.

[5] Langacker (1976) calls *xay* an emphatic reflexive pronoun and analyzes it as occurring with the Possessive prefixes. The Possessive prefixes bear certain obvious resemblances to the (special) Base Forms in note 4 which cooccur always with (certain of) the Postpositions, the difference being that the plural forms of the former contain short vowels while the plural forms of the latter contain long vowels — e.g. *cham* versus *chaam*. My consultant is quite definite that the forms with which *xay* occurs have long vowels. That is, *xay* does not occur with the Possessive Affix type, but rather with forms that otherwise cooccur with the Postpositional Affix type. Hence, I analyze *-xay* as a Postposition.

[6] The alternation in the Imperative Affix type between *-am* and *-yam* depends on the shape of the preceding Base Form. Base Forms which end in the segment /x/ — actually a *suffix -x*, as discussed later in this chapter — take the Affix *-am*. All other Base Forms which occur with the Imperative take *-yam*.

(i) heelax-am
*base:form-**am***
sing (pl.)!

(ii) naachaxan-yam
*base:form-**yam***
eat (pl.)!

[7] Two other plural forms have a relatively limited distribution. First, *-kun* attaches to some forms referring to number (e.g. *pah-kun* 'third' (cf. *pahay* 'three')) and to *muyuk* 'many' (*muyuk-kun* 'many times'), resulting in a word identifying a limited type of plurality. Second, *-yam* attaches to forms referring to place, resulting in a word identifying people from that place — e.g. *moom-yam* (ocean-*yam*) 'people from the ocean, white people'. The

last should perhaps be analyzed as *ya* + *um*, but the first member of this analysis never occurs independently, to identify a single person from some place. The analysis that I propose does not include *kun*, but *-yam* can be incorporated relatively non-problematically.

[8] In (11) I give six forms, but they are not distinguished from one another by gloss. Essentially, a Base Form which occurs with the Absolutive allows only one of these, although some Base Forms take both members of the pairs *-l/la*, *-t/ta*, and *-sh/cha*. There are certain regularities to which of the six a Base Form may take. However, an intractable core remains, and for each of these we must specify which of the Absolutive forms it may take. (Cf. Kroeber and Grace (1960) for discussion of the forms of the Luiseño Absolutive and Manaster-Ramer (1985) for discussion of the distribution of Absolutive forms in Takic.)

[9] Definition 2 says simply that *every* Base Form *allows* an Affix; it does not say that every occurrence of a Base Form *entails* the presence of an Affix. In fact, it is generally the case that every Base Form, when it occurs in a sentence, will be accompanied by an Affix. However, there are a limited number of cases where a Base Form can occur in a sentence without an Affix. One such case is illustrated in (i).

(i)	hengeema-l	xupo	heelax
	base:form-affix	*aux*	***base:form***
	boy		*sing*
	The boy should sing.		

A consideration of (ii) will argue that *heelax* meets Definition 2 and, therefore, is a member of the class Base Form, since in (ii) *heelax* occurs with the Imperative Affix.

(ii) heelax-am
*base:form-**imperative***
Sing!

Therefore, in (i) is a Base Form without any associated Affix. The situations under which Base Forms may so occur are specifiable, and I will discuss those conditions at the appropriate points. The important issue, at the moment, is that elements which in a particular occurrence are not accompanied by an Affix may still meet Definition 2 and, thus, be identified as Base Forms.

[10] The non-plural imperative is a Left-Occurring String without an Affix. (i) can be addressed to a single individual or a group of individuals.

(i) heelax
sing!

We will say that this has the value 'imp' for the feature RIGHTAN.

[11] Forms exist which would appear to violate this claim of non-cooccurrence.

(i) po-heelaxvota-q
possessive:3sg**-can:sing-**tense/aspect
he can sing

(ii) po-ŝwaamaymawi-sh
possessive:3sg**-full:of:daughters-**absolutive
full of his daughters

I will analyze such forms as involving two Base Forms (*heelax* 'sing' and *vota* 'can' in the first and *ŝwaamay* 'daughter' and *mawi* 'full of' in the second), each of which occurs with its own Affix. The analysis is somewhat more complicated than this summary suggests but it will do for our purposes.

[12] Some forms are 'sg' or 'pl' in the absence of the possibility of occurring with the plural *um*. The suppletive alternations in (i) are illustrative.

(i) a. 'aw' 'sit (sg)'
qal 'sit (pl)'

b. qala 'set (sg)'
wun 'set (pl)'

However, this alternation has a morphological reflex: The second member of these pairs can occur with the Tense/Aspect Affix *-wun*, but the first cannot.

(ii) qal-wun 'are sitting' *'aw'-wun
wun-wun 'are setting' *qala-wun

This Affix also marks 'pl', albeit in association with a temporal value, 'distant non-future continuous'.

[13] Three alternations are represented in (39). The alternation between *-lu* and *-ku* has to do with number; *-lu* is 'sg' and *-ku* is 'pl'.

(i) heelax-lu-t 'gonna sing (sg)'
heelax-ku-tum 'gonna sing (pl)'

The alternation between *-x* and -Ø turns on the final segment of the preceding Base Form. With minimal exceptions *-x* occurs on Base Forms ending in the segment /a/ and Ø occurs on all others.

(ii) heela-x 'singing'
'aamo-Ø 'hunting'

The alternation *-an/wun/Ø* involves this distinction cross-cutting another. The pair *-an* and *-wun* appear on non-stative Base Forms, varying with the final segment.

(iii) heela-an-t 'singing'
'aamo-wun-t 'hunting'

The pair *-an* and -Ø appear on stative Base Forms, varying with the final segment.

(iv) 'av'a-an-t 'red'
konokni-Ø-sh 'green'

For a related discussion see Steele (1985).

The multiplicity of forms associated with a single gloss might be troubling at first glance. The forms are distinguished from one another by their combinational possibilities. For example, a Base Form with *-qa* is compatible with an Absolutive, but not a Possessive; a Base Form with *-qala* is compatible with both; and a Base Form with *-qat* is compatible with a Possessive only. See Steele (1988) for further discussion.

[14] This brief discussion of aspectual Base Forms presumes an analysis which is beyond the scope of this work. An examination of other works on Luiseño as Jacobs (1975) or Kroeber and Grace (1960) will find mention of some, but not all, of these forms. And none notes the regularity which the sketch above suggests.

Indeed, one property of the sketch of aspectual Base Forms presented here is open to question. I indicated that Base Forms can include up to two aspectual Suffixes. Although the first of these aspectual Suffixes occurs independently, it might be better to analyze such forms as containing a single (complex) Suffix.

[15] It is possible that a few Base Forms are best analyzed as presenting only part of this triple. I am thinking in particular here of the pronominal forms that combine with Postpositions. They might better simply involve a person value, e.g.:

(i)	no	⟨1sg⟩
	'o	⟨2sg⟩
	po	⟨3sg⟩
	chaam	⟨1pl⟩
	'oom	⟨2pl⟩
	poom	⟨3pl⟩

[16] One set of forms exist where the value assigned to RIGHTAN is not so straightforwardly read off the rightmost analytical unit. Consider (i):

(i)	waniish 'river/rivers'	*waniish-um
		*waniish-i
	huul 'arrow/arrows'	*huul-um
		*huul-i
	toot 'rock/rocks'	*toot-um
		*toot-i

Here the rightmost analytical unit is the Absolutive, a form internal to the Left-Occurring String. Of critical interest is the contrast in form and distribution between these and (54). Some Base Forms accept both short and long forms of an Absolutive pair. The Base Form with the long form always behaves as in (54) and that with the short form as in (i). Most importantly, the short form always appears where otherwise an object-marked form is expected. Consider:

(ii) a. nawitmali upil 'ariqus̸
girl:object aux was:kicking
He was kicking the girl.

b. *nawitmal upil 'ariqus̸
girl aux was:kicking

(iii) a. toot upil 'ariqus̸
rock aux was:kicking
He was kicking the rock.

b. *toota upil 'ariqus̸
rock aux was:kicking

Although the rightmost analytical unit is clearly the Absolutive, on the basis of this observation the value assigned to the feature RIGHTAN for these forms is as in (iv).

(iv) ⟨RIGHTAN: object⟩

[17] One set of forms which behaves like *pomtaax* and *chamtaax* is Possessive-*yaax*:

(i)	pomyaax 'they try'	*pomyaax-um
		*pomyaax-i
	chamyaax 'we try'	*chamyaax-um
		*chamyaax-i

[18] The plural reflexive forms function as reciprocals as well. The sentence in (i) is ambiguous between a reflexive and a reciprocal reading.

(i) pomtaax pum chaqalaqiwun
3pl *aux* *are:tickling*

They are tickling themselves. *or*

They are tickling each other.

I will have nothing to say about the reciprocal possibilities.

[19] I should note the existence of other interdependencies among feature values. Note 12 comments on the existence of forms with an inherent 'sg' or 'pl' value, in the absence of the possibility of their cooccurring with the plural Affix. Such forms in combination with an aspectual Suffix may combine with a Possessive prefix. But the Possessive must always be of the same number as the Base Form.

(i) a. po'aw'qalay 'he is sitting (object)'
*pom'aw'qalay

b. *poqalqalay
pomqalqalay 'they are sitting (object)'

The formal value of such forms represents this dependency as indicated in (ii).

(ii) a. ⟨ASP: changing; ADAFF: 3sg; NUM: # | RIGHTAN: object⟩
b. ⟨ASP: changing; ADAFF: 3pl; NUM: # | RIGHTAN: object⟩

In both these formal values the value for NUM is 'bound', but not by the value for RIGHTAN.

[20] I abbreviate a number of the value terms as follows: unch (for unchanging), ch (for changing), fut (for future), pst (for past), cont (for continuous), dist (for distant), obj (for object), imp (for imperative), prec (for preceding), hab (for habitual), comp (for complete), and refl (for reflexive).

APPENDIX TO CHAPTER TWO
THE FORMAL VALUES OF WORDS

I. ⟨. . . | RIGHTAN: imp⟩

a. ⟨ASP: unch; ADAFF: –; NUM: – | RIGHTAN: pl imp⟩

e.g. heela-x-am 'sing!'
naachaxan-Ø-yam 'eat!'

b. ⟨ASP: unch; ADAFF: –; NUM: ≠ | RIGHTAN: pl imp⟩

e.g. waraava-x-am 'stand up!'
waraava-x 'stand up!'

c. ⟨ASP: unch; ADAFF: –; NUM: – | RIGHTAN: imp⟩

e.g. heela-x 'sing!'
naachaxan-Ø 'eat!'

d. ⟨ASP: unch; ADAFF: –; NUM: sg | RIGHTAN: imp⟩

e.g. kwota-x 'stand up!'
'aw'-Ø 'sit!'

II. ⟨. . . | RIGHTAN: prec⟩

a. ⟨ASP: –; ADAFF: –; NUM: sg | RIGHTAN: prec⟩

e.g. kwota-nik 'after standing up'

b. ⟨ASP: –; ADAFF: –; NUM: pl | RIGHTAN: prec⟩

e.g. waraava-nik 'after standing up'

c. ⟨ASP: –; ADAFF: –; NUM: – | RIGHTAN: prec⟩

e.g. heela-nik 'after singing'

d. ⟨ASP: ch; ADAFF: –; NUM: sg | RIGHTAN: prec⟩

e.g. kwota-qa-nik 'after standing up (for a while)'

e. ⟨ASP: ch; ADAFF: –; NUM: pl | RIGHTAN: prec⟩

e.g. warrava-qa-nik 'after standing up (for a while)'

f. ⟨ASP: ch; ADAFF: –; NUM: – | RIGHTAN: prec⟩

e.g. heela-qa-nik 'after singing (for a while)'

III. ⟨. . . | RIGHTAN: tense/aspect⟩

a. ⟨ASP: –; ADAFF: –; NUM: sg | RIGHTAN: dist non-fut cont⟩

e.g. kwota-quš 'was standing up'

b. ⟨ASP: –; ADAFF: –; NUM: pl | RIGHTAN: dist non-fut cont⟩
e.g. waraava-quṡ 'were standing up'

c. ⟨ASP: –; ADAFF: –; NUM: – | RIGHTAN: dist non-fut cont⟩
e.g. heela-quṡ 'was singing'

d. ⟨ASP: –; ADAFF: –; NUM: sg | RIGHTAN: dist non-fut hab⟩
e.g. kwota-uk 'used to stand up'

e. ⟨ASP: –; ADAFF: –; NUM: pl | RIGHTAN: dist non-fut hab⟩
e.g. waraava-uk 'used to stand up'

f. ⟨ASP: –; ADAFF: –; NUM: – | RIGHTAN: dist non-fut hab⟩
e.g. heela-uk 'used to sing'

g. ⟨ASP: –; ADAFF: –; NUM: sg | RIGHTAN: dist non-fut comp⟩
e.g. kwota-'ya 'stood up'

h. ⟨ASP: –; ADAFF: –; NUM: pl | RIGHTAN: dist non-fut comp⟩
e.g. waraava-'ya 'stood up'

i. ⟨ASP: –; ADAFF: –; NUM: – | RIGHTAN: dist non-fut comp⟩
e.g. heela-'ya 'sung'

j. ⟨ASP: –; ADAFF: –; NUM: ≠ | RIGHTAN: near non-fut sg⟩
e.g. kwota-q 'is standing up'

k. ⟨ASP: –; ADAFF: –; NUM: – | RIGHTAN: near non-fut sg⟩
e.g. heela-q 'is singing'

l. ⟨ASP: ADAFF: –; NUM: –; ≠ | RIGHTAN: near non-fut pl⟩
e.g. waraava-an 'are standing up'

m. ⟨ASP: –; ADAFF: –; NUM: – | RIGHTAN: near non-fut pl⟩
e.g. heela-an 'are singing'

n. ⟨ASP: –; ADAFF: –; NUM: sg | RIGHTAN: fut⟩
e.g. kwota-an 'will stand up'

o. ⟨ASP: –; ADAFF: –; NUM: pl | RIGHTAN: fut⟩
e.g. waraava-an 'will stand up'

p. ⟨ASP: –; ADAFF: –; NUM: – | RIGHTAN: fut⟩
e.g. heela-an 'will sing'

IV. ⟨. . . | RIGHTAN: obj|

a. ⟨ASP: —; ADAFF: Absolutive; NUM: sg | RIGHTAN: obj⟩
e.g. hunwu-t-i 'bear'

b. ⟨ASP: —; ADAFF: Absolutive; NUM: pl | RIGHTAN: obj⟩
e.g. hunwu-t-um-i 'bears'

c. ⟨ASP: —; ADAFF: ABS; NUM: number | RIGHTAN: obj⟩
e.g. too-t 'rock/rocks'

d. ⟨ASP: —; ADAFF: Possessive; NUM: sg | RIGHTAN: obj⟩
e.g. po-ŝwaamay-i 'his daughter'

e. ⟨ASP: —; ADAFF: Possessive; NUM: pl | RIGHTAN: obj⟩
e.g. po-ŝwaamay-um-i 'his daughters'

f. ⟨ASP: —; ADAFF: Possessive; NUM: number | RIGHTAN: obj⟩
e.g. po-taana-y 'his blanket/blankets'

g. ⟨ASP: ch; ADAFF: Possessive; NUM: # | RIGHTAN: obj⟩
e.g. po-kwota-qala-y 'he is standing up'

h. ⟨ASP: ch; ADAFF: Possessive; NUM: — | RIGHTAN: obj⟩
e.g. po-heela-qala-y 'he is singing'

i. ⟨ASP: unch; ADAFF: Possessive; NUM: # | RIGHTAN: obj⟩
e.g. po-kwota-x-i 'he stands up'

j. ⟨ASP: unch; ADAFF: Possessive; NUM: — | RIGHTAN: obj⟩
e.g. po-heela-x-i 'he sings'

k. ⟨ASP: . . . fut; ADAFF: Possessive; NUM: # | RIGHTAN: obj⟩
e.g. po-kwota-xpi-y 'he will stand up'
po-kwota-qalpi-y 'he will be standing up'

l. ⟨ASP: . . . fut; ADAFF: Possessive; NUM: — | RIGHTAN: obj⟩
e.g. po-heela-xpi-y 'he will sing'
po-heela-qalpi-y 'he will be singing'

m. ⟨ASP: . . . pst; ADAFF: Possessive; NUM: # | RIGHTAN: obj⟩
e.g. po-kwota-xvo-y 'he stood up'
po-kwota-qalvo-y 'he was standing up'

n. ⟨ASP: . . . pst; ADAFF: Possessive; NUM: — | RIGHTAN: obj⟩
e.g. po-heela-xvo-y 'he sang'
po-heela-qalvo-y 'he was singing'

V. ⟨. . . | RIGHTAN: Postposition⟩

a. ⟨ASP: —; ADAFF: Possessive; NUM: number | RIGHTAN: with⟩
e.g. po-taana-tal 'with his blanket/blankets'

b. ⟨ASP: —; ADAFF: —; NUM: number | RIGHTAN: with⟩
e.g. taana-tal 'with the blankets'

c. ⟨ASP: unch; ADAFF: Possessive; NUM: — | RIGHTAN: with⟩
e.g. po-lovi'i-tal 'with (what) he is making'

d. ⟨ASP: . . . pst; ADAFF: Possessive; NUM: — | RIGHTAN: with⟩
e.g. po-lovi'i-vo-tal 'with (what) he made'

e. ⟨ASP: —; ADAFF: Possessive; NUM: number | RIGHTAN: from⟩
e.g. po-taana-ngay 'from his blanket/blankets'

f. ⟨ASP: —; ADAFF: —; Number:number | RIGHTAN: from⟩
e.g. taana-ngay 'from the blanket/blankets'

g. ⟨ASP: unch; ADAFF: Possessive; NUM: — | RIGHTAN: from⟩
e.g. po-lovi'i-ngay 'from (what) he is making'

h. ⟨ASP: . . . pst; ADAFF: Possessive; NUM: — | RIGHTAN: from⟩
e.g. po-lovi'i-vo-ngay 'from (what) he made'

i. ⟨ASP: —; ADAFF: Possessive; NUM: number | RIGHTAN: with⟩
e.g. po-taana-man 'with his blanket/blankets'

j. ⟨ASP: —; ADAFF: —; Number:number | RIGHTAN: with⟩
e.g. taana-man 'with the blanket/blankets'

k. ⟨ASP: unch; ADAFF: Possessive; NUM: — | RIGHTAN: with⟩
e.g. po-lovi'i-man 'with (what) he is making'

l. ⟨ASP: . . . pst; ADAFF: Possessive; NUM: — | RIGHTAN: with⟩
e.g. po-lovi'i-vo-man 'with (what) he made'

m. ⟨ASP: —; ADAFF: Possessive; NUM: number | RIGHTAN: on⟩
e.g. po-taana-nga 'on his blanket/blankets'

n. ⟨ASP: –; ADAFF: –; Number:number | RIGHTAN: on⟩
e.g. taana-nga 'on the blanket/blankets'

o. ⟨ASP: unch; ADAFF: Possessive; NUM: – | RIGHTAN: on⟩
e.g. po-lovi'i-nga 'on (what) he is making'

p. ⟨ASP: . . . pst; ADAFF: Possessive; NUM: – | RIGHTAN: on⟩
e.g. po-lovi'i-vo-nga 'on (what) he made'

q. ⟨ASP: ch; ADAFF: –; NUM: – | RIGHTAN: on⟩
e.g. naachaxan-qala-nga 'eaten'

r. ⟨ASP: –; ADAFF: Possessive; NUM: number | RIGHTAN: to⟩
e.g. po-taana-ik 'to his blanket/blankets'

s. ⟨ASP: –; ADAFF: –; Number:number | RIGHTAN: to⟩
e.g. taana-ik 'to the blanket/blankets'

t. ⟨ASP: unch; ADAFF: Possessive; NUM: – | RIGHTAN: to⟩
e.g. po-lovi'i-ik 'to (what) he is making'

u. ⟨ASP: . . . pst; ADAFF: Possessive; NUM: – | RIGHTAN: to⟩
e.g. po-lovi'i-vo-ik 'to (what) he made'

v. ⟨Person | RIGHTAN: to⟩
e.g. chaam-ik 'to us'

w. ⟨Person | RIGHTAN: at⟩
e.g. chaam-oto 'at us'

x. ⟨Person | RIGHTAN: from⟩
e.g. chaam-ongay 'from us'

y. ⟨Person | RIGHTAN: with⟩
e.g. chaam-'eesh 'with us'

z. ⟨Person | RIGHTAN: in front of⟩
e.g. chaam-mkila 'in front of us'

aa. ⟨Person | RIGHTAN: for⟩
e.g. chaam-kwaan 'for us'

bb. ⟨Person | RIGHTAN: only⟩
e.g. chaam-xay 'by ourselves'

cc. ⟨Person | RIGHTAN: behind⟩
e.g. chaam-'eeman 'behind us'

VI. ⟨. . . | RIGHTAN: Number⟩

a. ⟨ASP: –; ADAFF: Absolutive; NUM: ≠ | RIGHTAN: sg⟩
e.g. hunwu-t 'bear'

b. ⟨ASP: –; ADAFF: Absolutive; NUM: ≠ | RIGHTAN: pl⟩
e.g. hunwu-t-um 'bears'

c. ⟨ASP: –; ADAFF: Absolutive; NUM: ≠ | RIGHTAN: number⟩
e.g. taana-t 'blanket'

d. ⟨ASP: –; ADAFF: Possessive; NUM: ≠ | RIGHTAN: sg⟩
e.g. po-ś́waamay 'his daughter'

e. ⟨ASP: –; ADAFF: Possessive; NUM: ≠ | RIGHTAN: pl⟩
e.g. po-ś́waamay-um 'his daughters'

f. ⟨ASP: –; ADAFF: Possessive; NUM: ≠ | RIGHTAN: number⟩
e.g. po-taana 'his blanket/blankets'

g. ⟨ASP: unch fut; ADAFF: t; NUM: ≠ | RIGHTAN: sg⟩
e.g. heela-xlu-t 'gonna sing (sg)'

h. ⟨ASP: unch fut; ADAFF: t; NUM: ≠ | RIGHTAN: pl⟩
e.g. heela-xku-t-um 'gonna sing (pl)'

i. ⟨ASP: unch; ADAFF: t/sh; NUM: ≠ | RIGHTAN: number⟩
e.g. heela-an-t 'singing'
yawaywi-Ø-sh 'beautiful'

j. ⟨ASP: unch; ADAFF: t; NUM: ≠ | RIGHTAN: sg⟩
e.g. kwota-an-t 'standing up (sg)'

k. ⟨ASP: unch; ADAFF: t/sh; NUM: ≠ | RIGHTAN: pl⟩
e.g. waraava-an-t-um 'standing up (pl)'
yawaywi-Ø-sh-um 'beautiful (pl)'

l. ⟨ASP: ch; ADAFF: t; NUM: – | RIGHTAN: sg⟩
e.g. heela-qa-t 'was singing'

m. ⟨ASP: ch; ADAFF: t; NUM: — | RIGHTAN: pl⟩
e.g. heela-qa-t-um 'were singing'

n. ⟨ASP: ch; ADAFF: t; NUM: # | RIGHTAN: sg⟩
e.g. kwota-qa-t 'was standing up'

o. ⟨ASP: changing; ADAFF: t; NUM: # | RIGHTAN: pl⟩
e.g. waraava-qa-t-um 'were standing up'

p. ⟨ASP: generic; ADAFF: Possessive #; NUM: — | RIGHTAN: sg⟩
e.g. po-heela-ax 'he is good at singing'

q. ⟨ASP: generic; ADAFF: Possessive #; NUM: — | RIGHTAN: pl⟩
e.g. pom-heela-ax 'they are good at singing'

r. ⟨ASP: generic; ADAFF: Possessive; NUM: — | RIGHTAN: pl⟩
e.g. pom-heela-ax-um 'they are good at singing'

s. ⟨ASP: generic; ADAFF: Possessive #; NUM: # | RIGHTAN: sg⟩
e.g. po-kwota-ax 'he is good at standing up'

t. ⟨ASP: generic; ADAFF: Possessive #; NUM: # | RIGHTAN: pl⟩
e.g. pom-waraava-ax 'they are good at standing up'

VII. ⟨. . . | RIGHTAN: Number-Object⟩

a. ⟨ASP: —; ADAFF: Absolutive; NUM: # | RIGHTAN: sg-no obj⟩
e.g. yo-t 'big (sg)'

b. ⟨ASP: —; ADAFF: Absolutive; NUM: # | RIGHTAN: sg-obj⟩
e.g. yo-t-i 'big (sg)'

c. ⟨ASP: —; ADAFF: Absolutive; NUM: # | RIGHTAN: pl-no obj⟩
e.g. momka-t-um 'big (pl)'

d. ⟨ASP: —; ADAFF: Absolutive; NUM: # | RIGHTAN: pl-obj⟩
e.g. momka-t-umi 'big (pl)'

d. ⟨ASP: ch; ADAFF: t; NUM: — | RIGHTAN: sg-no obj⟩
e.g. heela-qa-t 'sings'

e. ⟨ASP: ch; ADAFF: t; NUM: — | RIGHTAN: sg-obj⟩
e.g. heela-qa-t-i 'sings'

f. ⟨ASP: ch; ADAFF: t; NUM: # | RIGHTAN: sg-no obj⟩
e.g. 'aw'-qa-t 'sits'

g. ⟨ASP: ch; ADAFF: t; NUM: # | RIGHTAN: sg-obj⟩
e.g. 'aw'-qa-t-i 'sits'

h. ⟨ASP: ch; ADAFF: t; NUM: — | RIGHTAN: pl-no obj⟩
e.g. heela-qa-t-um 'sing'

i. ⟨ASP: ch; ADAFF: t; NUM: — | RIGHTAN: pl-obj⟩
e.g. heela-qa-t-umi 'sings'

j. ⟨ASP: ch; ADAFF: t; NUM: # | RIGHTAN: pl-no obj⟩
e.g. qal-qa-t 'sit'

k. ⟨ASP: ch; ADAFF: t; NUM: # | RIGHTAN: pl-obj⟩
e.g. qal-qa-t-i 'sits'

l. ⟨ASP: unch; ADAFF: Absolutive; NUM: # |
RIGHTAN: number-no obj⟩
e.g. yawaywi-∅-sh 'beautiful'

m. ⟨ASP: unch; ADAFF: Absolutive; NUM: # |
RIGHTAN: number-obj⟩
e.g. yawaywi-∅-sh-i 'beautiful'

n. ⟨ASP: unch; ADAFF: Absolutive; NUM: # |
RIGHTAN: pl-no obj⟩
e.g. yawaywi-∅-sh-um 'beautiful (pl)'

o. ⟨ASP: unch; ADAFF: Absolutive; NUM: # | RIGHTAN: pl-obj⟩
e.g. yawaywi-∅-sh-umi 'beautiful (pl)'

p. ⟨ASP: unch fut; ADAFF: t; NUM: # | RIGHTAN: sg-no obj⟩
e.g. heela-xlu-t 'will sing (sg)'

q. ⟨ASP: unch fut; ADAFF: t; NUM: # | RIGHTAN: sg-obj⟩
e.g. heela-xlu-t-i 'will sing (sg)'

r. ⟨ASP: unch fut; ADAFF: t; NUM: # | RIGHTAN: pl-no obj⟩
e.g. heela-xku-t-um 'will sing (pl)'

s. ⟨ASP: unch fut; ADAFF: t; NUM: # | RIGHTAN: pl-obj⟩
e.g. heela-xku-t-umi 'will sing (pl)'

t. ⟨ASP: . . . pst; ADAFF: sh; NUM: — | RIGHTAN: sg-no obj⟩

e.g. heela-xmokwi-sh 'sang'
heela-qalmokwi-sh 'was singing'

u. ⟨ASP: . . . pst; ADAFF: sh; NUM: — | RIGHTAN: sg-obj⟩

e.g. heela-xmokwi-sh-i 'sang'
heela-qalmokwi-sh-i 'was singing'

v. ⟨ASP: . . . pst; ADAFF: sh; NUM: # | RIGHTAN: sg-no obj⟩

e.g. kwota-xmokwi-sh 'stood up'
kwota-qalmokwi-sh 'was standing up'

w. ⟨ASP: . . . pst; ADAFF: sh; NUM: # | RIGHTAN: sg-obj⟩

e.g. kwota-xmokwi-sh-i 'stood up'
kwota-qalmokwi-sh-i 'was standing up'

x. ⟨ASP: . . . pst; ADAFF: sh; NUM: — | RIGHTAN: pl-no obj⟩

e.g. heela-xmokwi-sh-um 'sang'
heela-qalmokwi-sh-um 'were singing'

y. ⟨ASP: . . . pst; ADAFF: sh; NUM: — | RIGHTAN: pl-obj⟩

e.g. heela-xmokwi-sh-umi 'sang'
heela-qalmokwi-sh-umi 'were singing'

z. ⟨ASP: . . . pst; ADAFF: sh; NUM: # | RIGHTAN: pl-no obj⟩

e.g. waraava-xmokwi-sh-um 'stood up'
waraava-qalmokwi-sh-um 'were standing up'

aa. ⟨ASP: . . . pst; ADAFF: sh; NUM: # | RIGHTAN: pl-obj⟩

e.g. waraava-xmokwi-sh-umi 'stood up'
waraava-qalmokwi-sh-umi 'were standing up'

bb. ⟨ASP: ch; ADAFF: Possessive; NUM: — | RIGHTAN: sg-no obj⟩

e.g. po-heela-qat 'he sings'

cc. ⟨ASP: ch; ADAFF: Possessive; NUM: — | RIGHTAN: sg-obj⟩

e.g. po-heela-qat-i 'he sings'

dd. ⟨ASP: ch; ADAFF: Possessive; NUM: — | RIGHTAN: pl-no obj⟩

e.g. po-heela-qat-um 'he sings'

ee. ⟨ASP: ch; ADAFF: Possessive; NUM: — | RIGHTAN: pl-obj⟩

e.g. po-heela-qat-umi 'he sings'

ff. ⟨ASP: ch; ADAFF: Possessive; NUM: # | RIGHTAN: sg-no obj⟩

e.g. po-'aw'-qat 'he sits'

gg. ⟨ASP: ch; ADAFF: Possessive; NUM: # | RIGHTAN: sg-obj⟩

e.g. po-'aw'-qat-i 'he sits'

hh. ⟨ASP: ch; ADAFF: Possessive; NUM: # | RIGHTAN: pl-no obj⟩

e.g. pom-qal-qat-um 'they sit'

ii. ⟨ASP: ch; ADAFF: Possessive; NUM: # | RIGHTAN: pl-obj⟩

e.g. pom-qal-qat-umi 'they sit'

jj. ⟨ASP: . . . fut; ADAFF: Possessive; NUM: — | RIGHTAN: number-no obj⟩

e.g. po-heela-xpi 'he will sing'
po-heela-qalpi 'he will be singing'

kk. ⟨ASP: . . . fut; ADAFF: Possessive; NUM: — | RIGHTAN: number-obj⟩

e.g. po-heela-xpi-i 'he will sing'
po-heela-qalpi-i 'he will be singing'

ll. ⟨ASP: . . . fut; ADAFF: Possessive; NUM: — | RIGHTAN: pl-no obj⟩

e.g. po-heela-xpi-um 'he will sing'
po-heela-qalpi-um 'he will be singing'

mm. ⟨ASP: . . . fut; ADAFF: Possessive; NUM: — | RIGHTAN: pl-obj⟩

e.g. po-heela-xpi-umi 'he will sing'
po-heela-qalpi-umi 'he will be singing'

nn. ⟨ASP: . . . fut; ADAFF: Possessive; NUM: # | RIGHTAN: sg-no obj⟩

e.g. po-'aw'-pi 'he will sit'

oo. ⟨ASP: . . . fut; ADAFF: Possessive; NUM: # | RIGHTAN: sg-obj⟩

e.g. po-'aw'-pi-i 'he will sit'

pp. ⟨ASP: . . . fut; ADAFF: Possessive; NUM: # | RIGHTAN: pl-no obj⟩

e.g. pom-qal-pi-um 'they will sit'

qq. ⟨ASP: . . . fut; ADAFF: Possessive; NUM: # |
RIGHTAN: pl-obj⟩

e.g. pom-qal-pi-umi 'they will sit'

rr. ⟨ASP: . . . pst; ADAFF: Possessive; NUM: — |
RIGHTAN: number-no obj⟩

e.g. po-heela-xvo 'he sang'
po-heela-qalvo 'he was singing'

kk. ⟨ASP: . . . pst; ADAFF: Possessive; NUM: — |
RIGHTAN: number-obj⟩

e.g. po-heela-xvo-i 'he sang'
po-heela-qalvo-i 'he was singing'

ll. ⟨ASP: . . . pst; ADAFF: Possessive; NUM: — |
RIGHTAN: pl-no obj⟩

e.g. po-heela-xvo-um 'he sang'
po-heela-qalvo-um 'he was singing'

mm. ⟨ASP: . . . pst; ADAFF: Possessive; NUM: — |
RIGHTAN: pl-obj⟩

e.g. po-heela-xvo-umi 'he sang'
po-heela-qalvo-umi 'he was singing'

nn. ⟨ASP: . . . pst; ADAFF: Possessive; NUM: # |
RIGHTAN: sg-no obj⟩

e.g. po-'aw'-vo 'he sat'

oo. ⟨ASP: . . . pst; ADAFF: Possessive; NUM: # |
RIGHTAN: sg-obj⟩

e.g. po-'aw'-vo-i 'he sat'

pp. ⟨ASP: . . . pst; ADAFF: Possessive; NUM: # |
RIGHTAN: pl-no obj⟩

e.g. pom-qal-vo-um 'they sat'

qq. ⟨ASP: . . . pst; ADAFF: Possessive; NUM: # |
RIGHTAN: pl-obj⟩

e.g. pom-qal-vo-umi 'they sat'

VIII. ⟨. . . | RIGHTAN: unch⟩

a. ⟨ASP: ASP; ADAFF: —; NUM: — | RIGHTAN: unch⟩

e.g. heela-x 'sing'

b. ⟨ASP: ASP: ADAFF: –; NUM: sg | RIGHTAN: unch⟩
e.g. kwota-x 'stand up'

c. ⟨ASP: ASP; ADAFF: –; NUM: pl | RIGHTAN: unch⟩
e.g. waraava-x 'stand up'

IX. ⟨. . . | RIGHTAN: Person refl⟩

a. ⟨ASP: –; ADAFF: POSS; NUM: – | RIGHTAN: 1sg refl⟩
no-taax 'myself'

b. ⟨ASP: –; ADAFF: POSS; NUM: – | RIGHTAN: 2sg refl⟩
'o-taax 'yourself'

c. ⟨ASP: –; ADAFF: POSS; NUM: – | RIGHTAN: 3sg refl⟩
po-taax 'himself'

d. ⟨ASP: –; ADAFF: POSS; NUM: – | RIGHTAN: 1pl refl⟩
cham-taax 'ourselves'

e. ⟨ASP: –; ADAFF: POSS; NUM: – | RIGHTAN: 2pl refl⟩
'om-taax 'yourselves'

f. ⟨ASP: –; ADAFF: POSS; NUM: – | RIGHTAN: 3pl refl⟩
pom-taax 'themselves'

X. ⟨. . . | RIGHTAN: Person try⟩

a. ⟨ASP: –; ADAFF: POSS; NUM: – | RIGHTAN: 1sg try⟩
no-yaax 'I try'

b. ⟨ASP: –; ADAFF: POSS; NUM: – | RIGHTAN: 2sg try⟩
'o-yaax 'you try'

c. ⟨ASP: –; ADAFF: POSS; NUM: – | RIGHTAN: 3sg try⟩
po-yaax 'he try'

d. ⟨ASP: –; ADAFF: POSS; NUM: – | RIGHTAN: 1pl try⟩
cham-yaax 'we try'

e. ⟨ASP: –; ADAFF: POSS; NUM: – | RIGHTAN: 2pl try⟩
'om-yaax 'you try'

f. ⟨ASP: –; ADAFF: POSS; NUM: – | RIGHTAN: 3pl try⟩
pom-yaax 'they try'

XI. ⟨. . . | RIGHTAN: Person generic⟩

a. ⟨ASP: ASP; ADAFF: POSS; NUM: – | RIGHTAN: 3sg generic⟩
e.g. po-heeli-lo '(for someone) to sing'

b. ⟨ASP: ASP; ADAFF: POSS; NUM: – | RIGHTAN: 3pl generic⟩
e.g. pom-heeli-lo '(for someone) to sing'

c. ⟨ASP: ASP: ADAFF: POSS; NUM: # | RIGHTAN: 3sg generic⟩
e.g. po-kwoti-lo '(for someone) to stand up'

d. ⟨ASP: ASP; ADAFF: POSS; NUM: # | RIGHTAN: 3pl generic⟩
e.g. pom-waraavi-lo '(for someone) to stand up'

XII. ⟨. . . | RIGHTAN: ch⟩

a. ⟨ASP: ASP; ADAFF: Possessive; NUM: – | RIGHTAN: ch⟩
e.g. po-heela-qala 'while he is singing'

b. ⟨ASP: ASP: ADAFF: Possessive; NUM: # | RIGHTAN: ch⟩
e.g. po-kwota-qala 'while he is standing up'

XIII. ⟨. . . | RIGHTAN: Person⟩

a. ⟨ASP: unch; ADAFF: POSS; NUM: – | RIGHTAN: 1sg⟩
e.g. no-heela-x 'I sing'

b. ⟨ASP: unch; ADAFF: POSS; NUM: – | RIGHTAN: 2sg⟩
e.g. 'o-heela-x 'you sing'

c. ⟨ASP: unch; ADAFF: POSS; NUM: – | RIGHTAN: 3sg⟩
e.g. po-heela-x 'he sing'

d. ⟨ASP: unch; ADAFF: POSS; NUM: – | RIGHTAN: 1pl⟩
e.g. cham-heela-x 'we sing'

e. ⟨ASP: unch; ADAFF: POSS; NUM: – | RIGHTAN: 2pl⟩
e.g. 'om-heela-x 'you sing'

f. ⟨ASP: unch; ADAFF: POSS; NUM: – | RIGHTAN: 3pl⟩
e.g. pom-heela-x 'they sing'

g. ⟨ASP: unch; ADAFF: POSS; NUM: # | RIGHTAN: 1sg⟩
e.g. no-kwota-x 'I stand up'

h. ⟨ASP: unch; ADAFF: POSS; NUM: # | RIGHTAN: 2sg⟩
e.g. 'o-kwota-x 'you stand up'

i. ⟨ASP: unch; ADAFF: POSS; NUM: # | RIGHTAN: 3sg⟩
e.g. po-kwota-x 'he stand up'

j. ⟨ASP: unch; ADAFF: POSS; NUM: # | RIGHTAN: 1pl⟩
e.g. cham-waraava-x 'we stand up'

k. ⟨ASP: unch; ADAFF: POSS; NUM: # | RIGHTAN: 2pl⟩
e.g. 'om-kwota-x 'you stand up'

l. ⟨ASP: unch; ADAFF: POSS; NUM: # | RIGHTAN: 3pl⟩
e.g. pom-kwota-x 'they stand up'

m. ⟨ASP: unch fut; ADAFF: POSS; NUM: — | RIGHTAN: 1sg⟩
e.g. no-heela-xpi 'I will sing'

n. ⟨ASP: unch fut; ADAFF: POSS; NUM: — | RIGHTAN: 2sg⟩
e.g. 'o-heela-xpi 'you will sing'

o. ⟨ASP: unch fut; ADAFF: POSS; NUM: — | RIGHTAN: 3sg⟩
e.g. po-heela-xpi 'he will sing'

p. ⟨ASP: unch fut; ADAFF: POSS; NUM: — | RIGHTAN: 1pl⟩
e.g. cham-heela-xpi 'we will sing'

q. ⟨ASP: unch fut; ADAFF: POSS; NUM: — | RIGHTAN: 2pl⟩
e.g. 'om-heela-xpi 'you will sing'

r. ⟨ASP: unch fut; ADAFF: POSS; NUM: — | RIGHTAN: 3pl⟩
e.g. pom-heela-xpi 'they will sing'

s. ⟨ASP: unch fut; ADAFF: POSS; NUM: # | RIGHTAN: 1sg⟩
e.g. no-kwota-xpi 'I will stand up'

t. ⟨ASP: unch fut; ADAFF: POSS; NUM: # | RIGHTAN: 2sg⟩
e.g. 'o-kwota-xpi 'you will stand up'

u. ⟨ASP: unch fut; ADAFF: POSS; NUM: # | RIGHTAN: 3sg⟩
e.g. po-kwota-xpi 'he will stand up'

v. ⟨ASP: unch fut; ADAFF: POSS; NUM: # | RIGHTAN: 1pl⟩
e.g. cham-waraava-xpi 'we will stand up'

w. ⟨ASP: unch fut; ADAFF: POSS; NUM: # | RIGHTAN: 2pl⟩
e.g. 'om-kwota-xpi 'you will stand up'

x. ⟨ASP: unch fut; ADAFF: POSS; NUM: # | RIGHTAN: 3pl⟩
e.g. pom-kwota-xpi 'they will stand up'

y. ⟨ASP: unch pst; ADAFF: POSS; NUM: — | RIGHTAN: 1sg⟩
e.g. no-heela-xvo 'I sang'

x. ⟨ASP: unch pst; ADAFF: POSS; NUM: — | RIGHTAN: 2sg⟩
e.g. 'o-heela-xvo 'you sang'

aa. ⟨ASP: unch pst; ADAFF: POSS; NUM: — | RIGHTAN: 3sg⟩
e.g. po-heela-xvo 'he sang'

bb. ⟨ASP: unch pst; ADAFF: POSS; NUM: — | RIGHTAN: 1pl⟩
e.g. cham-heela-xvo 'we sang'

cc. ⟨ASP: unch pst; ADAFF: POSS; NUM: — | RIGHTAN: 2pl⟩
e.g. 'om-heela-xvo 'you sang'

dd. ⟨ASP: unch pst; ADAFF: POSS; NUM: — | RIGHTAN: 3pl⟩
e.g. pom-heela-xvo 'they sang'

ee. ⟨ASP: unch pst; ADAFF: POSS; NUM: # | RIGHTAN: 1sg⟩
e.g. no-kwota-xvo 'I stood up'

ff. ⟨ASP: unch pst; ADAFF: POSS; NUM: # | RIGHTAN: 2sg⟩
e.g. 'o-kwota-xvo 'you stood up'

gg. ⟨ASP: unch pst; ADAFF: POSS; NUM: # | RIGHTAN: 3sg⟩
e.g. po-kwota-xvo 'he stood up'

hh. ⟨ASP: unch pst; ADAFF: POSS; NUM: # | RIGHTAN: 1pl⟩
e.g. cham-waraava-xvo 'we stood up'

ii. ⟨ASP: unch pst; ADAFF: POSS; NUM: # | RIGHTAN: 2pl⟩
e.g. 'om-kwota-xvo 'you stood up'

jj. ⟨ASP: unch pst; ADAFF: POSS; NUM: # | RIGHTAN: 3pl⟩
e.g. pom-kwota-xvo 'they stood up'

CHAPTER THREE

AGREEMENT AND ANTI-AGREEMENT

0. INTRODUCTION

This chapter turns on the rules in (1).

(1) a. Conditions on Agreement: Word* → Simple Constituent

b. Conditions on Anti-Agreement: Simple Constituent* → Agrument Structure

The functor labelled CONDITIONS ON AGREEMENT is a set of global compatibility conditions. Thus, (1a) says that a sequence of words must share, or at least not be different in regard to, certain (as yet unspecified) properties, if the result is to be a Simple Constituent.[1] The functor labelled CONDITIONS ON ANTI-AGREEMENT is also a set of global conditions, but one that specifies that in a collection of Simple Constituents maximally one may exhibit a particular characteristic, if the result is to be an Argument Structure.

In this chapter we are concerned, first, with one similarity between these rules. In both, global conditions are analyzed as functors in rules of the form in (2).

(2) Functor: Argument → Result

We are concerned, second, with a difference suggested in the description of the functors in the rules. The functors in (1a) and (1b) present two different kinds of global conditions, AGREEMENT and ANTI-AGREEMENT respectively. Agreement is a condition requiring compatibility among its members, yielding a unit with a single value regardless of the number of its members. Anti-agreement is a condition requiring a single instance of some property in its members, yielding a unit reflecting the values of its members but rearranging them. In short, this chapter presents the argument that functors need not be expressions and considers two distinct instantiations of this possibility.

We keep in mind, however, other similarities between (1a) and (1b). Each of the functors in (1) is of the type characterized in Chapter One as obligatory and listable, but non-localizable. A Simple Constituent does not exist in the absence of meeting the Conditions on Agreement, nor does an Argument Structure exist in the absence of satisfying the Conditions on Anti-Agreement. The membership of the set of conditions in each case is not only finite, but short. Finally, as a global condition, neither the Conditions on Agreement nor the Conditions on Anti-Agreement is an expression. Because of the functor type, the result in each rule in (1) is the category type identified as syntactically inaccessible, but phonologically accessible. That is, the result in both is to take the set of expressions which is the argument and to make it a single syntactic expression, but not one which is a unit of phonological analysis. At the end of this chapter we begin to develop tests of this category type in Luiseño.

1. SOME FACTS ABOUT SIMPLE CONSTITUENTS

Luiseño Words which are intuitively members of a single Constituent as in (3) have no fixed order relative to one another, as illustrated in (4).

(3) yawaywichi nawitmali
beautiful:object girl:object

beautiful girl (object)

(4) a. nawitmali yawaywichi nil chaqalaqiqus̸
girl:object beautiful:object aux was:tickling

I was tickling the beautiful girl.

b. yawaywichi nawitmali nil chaqalaqiqus̸
beautiful:object girl:object aux was:tickling

I was tickling the beautiful girl.

More interestingly, they also need not be contiguous.

(5) a. nawitmali nil yawaywichi chaqalaqiqus̸
girl:object aux beautiful:object was:tickling

I was tickling the beautiful girl.

b. nawitmali nil chaqalaqiqus̸ yawaywichi
girl:object aux was:tickling beautiful:object

I was tickling the beautiful girl.

c. yawaywichi nil chaqalaqiqus̸ nawitmali
beautiful:object aux was:tickling girl:object

I was tickling the beautiful girl.

In spite of the potential noncontiguity, sequences like *yawaywichi nawitmali* in (3) must not be treated as a collection of expressions, but rather as a single expression, a syntactic constituent. The evidence has to do, first, with the limits on noncontiguity. As noted in Chapter One and as illustrated again in (5), a sequence like (3) can be interrupted by the aux (5a) or the verb or both ((5b) and (5c)). (The interruption of such a sequence by the verb alone cannot be illustrated by (5) because the aux would not then occur in second position, but consider:

(5) d.	'okwaani	nil	nawitmali	chaqalaqiquꞩ	yawaywichi
	for:you	*aux*	*girl:object*	*was:tickling*	*beautiful:object*

I was tickling the beautiful girl for you.)

In contrast, the members of the set of arguments to a verb may not be intercalated; (6a) where *yawaywichi nawitmali* comprises a single (and contiguous) argument to *huu'uniquꞩ* is fine. But (6b) where *yawaywichi* and *nawitmali* are separated by *noteelay* is not a semantically equivalent alternative.[2]

(6) a.	huu'uniquꞩ	nil	yawaywichi	nawitmali
	was:teaching	*aux*	*beautiful:object*	*girl:object*
	noteelay			
	my:language:object			

I was teaching the beautiful girl my language.

b.	huu'uniquꞩ	nil	yawaywichi	noteelay
	was:teaching	*aux*	*beautiful:object*	*my:language:object*
	nawitmali			
	girl:object			

*I was teaching the beautiful girl my language.

I was teaching the girl my beautiful language.

A parallel contrast between (7a) and (7b) shows that the difficulty with (6b) has to do not simply with the presence of multiple object-marked forms. In (7a) one argument *notaanay yuvaataanti* 'my black blanket' involves two object-marked words (*notaana-.y* 'my blanket-object' and *yuvaataant-i* 'black-object'). The other argument *poyk* 'to him' is post-position-marked (*po-yk* 'him-to'). (7b) is unacceptable, because *notaanay yuvaataanti* and *poyk* are intercalated.

(7) a.	'ooviquꞩ	nil	notaanay	yuvaataanti	poyk
	was:giving	*aux*	*my:blanket:object*	*black:object*	*to:him*

I was giving my black blanket to him.

b.	*'ooviquꞩ	nil	notaanay	poyk	yuvaataanti
	was:giving	*aux*	*my:blanket:object*	*to:him*	*black:object*

If *yawaywichi nawitmali* in (3) is a single syntactic expression, we have to account for the discontinuities in (5). If *yawaywichi nawitmali* in (3) isn't a single syntactic expression, we have to account for the impossibility of the discontinuities in (6b) (and (7b)). The latter is clearly the more difficult task. If (3) isn't a single syntactic expression, and given Luiseño freedom of order, the impossibility of (6b) (and (7b)) is entirely unexpected. If (3) is a single syntactic expression, the account for (5) lies in exploiting the difference between sets of arguments on the one hand and the aux and a verb on the other.

The second piece of evidence for treating a sequence like *yawaywichi nawitmali* as a single expression has to do with sequences like (8), both members of which have a possessive prefix and which are, therefore, also associated with a person value (in the feature ADAFF) according to the proposals of Chapter Two.

(8) no-ma no-mlu
my-hand my-strong

my strong hand

(9) presents the categories of the two Words in (8) respectively, concentrating on the formal values.

(9) a. ⟨noma⟩
⟨ASP; –; ADAFF: 1sg; NUM: # | RIGHTAN: number⟩
⟨hand⟩

b. ⟨nomlu⟩
⟨ASP: –; ADAFF: 1sg; NUM: # | RIGHTAN: number-no obj⟩
⟨strong⟩

Although both *noma* and *nomlu* have a person value, only one independent form compatible with this value is possible.

(10) a. noo no-ma no-mlu
I my-hand my-strong

my strong hand

b. *noo no-ma noo no-mlu
I my-hand I my-strong

Such a situation is not predicted if the sequence *noma nomlu* is not a coherent syntactic expression. But if it is and if this expression is associated with a *single* '1sg' value, the situation is entirely unexceptionable.

The rule from a collection of Words to a Simple Constituent in (1a) takes a stronger position than identifying sequences like *yawaywichi nawitmali* or *noma nomlu* as single expressions; it says that a sequence of Words may become a single expression because they agree. 'Conditions on Agreement' is an abbreviation of the conditions which a sequence of Words must meet to become a single expression. 'Simple Constituent' is the name employed for the expression which results, although the discussion will use the shorter term 'Constituent', but reserve it specifically for the combination type at issue. We consider in this section the facts about Luiseño agreement internal to Constituents, leaving the analytical issues about agreement to Section 2. We are concerned therefore with the formal similarities required internal to a multi-Word sequence which is also a Constituent. (11) provides an operational test of constituency — under the presumption that there are Constituents which involve more than a single Word, given the evidence provided above — and simultaneously defines the use of 'agreement' in this chapter.

(11) **Agreement Principle**:

Agreement is the formal similarity required for a multi-Word sequence to freely alternate with a single-Word sequence.

A simple illustration of the alternation identified in the Agreement Principle involves the Word in (12) and the sequence which includes this Word in (13).

(12) tootal
rock:with

with a rock

(13) tootal yuvaataantal
rock:with black:with

with a black rock

Consider, now, the contrast between the sentences in (14). (14a) contains only the Word in (12), while (14b) contains the two Word unit in (13).

(14) a. noo n xechiq poy tootal
I aux is:hitting him ***rock:with***

I am hitting him with a rock.

b. noo n xechiq poy tootal yuvaataantal
I aux is:sitting him ***rock:with black:with***

I am hitting him with the black rock.

The two-Word sequence *tootal yuvaataantal* alternates with the single Word *tootal*. *tootal* is a Constituent; *tootal yuvaataantal* is also a Constituent. One similarity between the two Words *tootal* and *yuvaataantal* is obvious: Both include the Postposition *-tal* (*too-tal* 'arrow-with' and *yuvaataan-tal* 'black-with'). In the remainder of this section we examine the formal similarities of the members of like sequences.

1.1 *Identity*

(13) makes Luiseño agreement look very easy: The formal values of the

two Words share identical values for the feature RIGHTAN, the value contributed by the Postposition *tal.*

(15) a. ⟨tootal⟩
⟨RIGHTAN: with⟩
⟨rock⟩

b. ⟨yuvaataantal⟩
⟨RIGHTAN: with⟩
⟨black⟩

The examples in (16) through (19) illustrate the same simple match, but for Words with other values for RIGHTAN.

(16)

no'aach-um	'awaal-um
my:pet-pl	*dog-pl*
⟨*RIGHTAN: pl*⟩	⟨*RIGHTAN: pl*⟩

my dog

as in:

no'aachum	'awaalum	pum	xaariwum
my:pets	***dogs***	*aux*	*are:growling*

My dogs are growling.

(17)

xaari-wun	'iyi-wun
growl-near:non-future:pl	*too-near:non:future:pl*
⟨*RIGHTAN:near non-future pl*⟩	⟨*RIGHTAN:near non-future pl*⟩

are growling too

as in:

no'aash	hunwut	up	xaariq
my:pet	*bear*	*aux*	*is:growling*

pi'	no'aachum	'awaalum	xaariwun	'iyiwun
and	*my:pets*	*dogs*	***are:growling***	***too***

My bear is growling and my dogs are growling too.

(18)

no'aach-i	hunwut-i
my:pet-object	*bear-object*
⟨*RIGHTAN: obj*⟩	⟨*RIGHTAN: obj*⟩

my bear

as in:

wunaal	up	s̸e'iq	no'aachi	hunwuti
he	*aux*	*is:shooting*	***my:pet:object***	***bear:object***

He is shooting my bear.

(19)	nomiyx-i	huul
	my:thing-object	*arrow:object*
	⟨RIGHTAN: obj⟩	*⟨RIGHTAN: obj⟩*

as in:

wunaal	up	chipaq	nomiyxi	huul
he	*aux*	*is:breaking*	***my:thing:object***	***arrow:object***

He is breaking my arrow.[3]

The variety of these cases suggests the following very general statement: For a sequence of Words to freely alternate with a single Word (i.e. to be a Constituent), the members of the sequence must have identical values for the feature RIGHTAN. We can represent this as in (20).

(20) **Identity Condition for Constituents**

$$[\langle \text{RIGHTAN: value}^{i}\rangle_{\text{Word}^{1}} \ldots \langle \text{RIGHTAN: value}^{i}\rangle_{\text{Word}^{n}}]_{\text{Constituent}}$$

If all Constituents are described by the Identity Condition, the sequences in (21) and (22) cannot be Constituents, the first because the values for RIGHTAN are totally disjoint and the second because the values for RIGHTAN are not absolutely identical.

(21) a.	*too-tal	yuvaataan-ik
	rock-with	*black-to*
	⟨RIGHTAN: with⟩	*⟨RIGHTAN: to⟩*
b.	*no'aash	'awaal-um
	my:pet	*dog-pl*
	⟨RIGHTAN: sg⟩	*⟨RIGHTAN: pl⟩*

(22) a.	*xaari-wun	'iyi-quś
	growl-near:non:future:pl	*too-distant:non:future*
	⟨RIGHTAN:near non-fut pl⟩	*⟨RIGHTAN:dist non-fut⟩*
b.	*chamyaax	poyaax
	we:try	*he:try*
	⟨RIGHTAN: 1pl try⟩	*⟨RIGHTAN: 3sg try⟩*

One aspect of the Identity Condition is worth emphasizing. A consideration of sequences like *yawaywichi nawitmali* in (3) might lead to a presumption that agreement appears only in the Luiseño equivalent of English NP's. It is critical, therefore, to keep in mind the existence of Constituents like (17) (*xaariwun 'iyiwun* 'are growling too'.) The Identity Condition generalizes across all instances of formal identity for the feature RIGHTAN.[4]

1.2 *Overlap*

The Identity Condition covers all the cases introduced to this point, but the agreement facts are not this simple. Two (or more) Words can satisfy the alternation clause of the Agreement Principle even without an exact match in the value for RIGHTAN, given a partial overlap of a particular type.

Consider the string in (23). The value for RIGHTAN in the first Word there is 'object'; for the second Word it is 'pl-object'. The two share 'object'.

(23)	ꞩuꞩngalum-i	yawaywich-umi
	women-object	*beautiful-pl:obj*
	⟨*RIGHTAN: obj*⟩	⟨*RIGHTAN: pl-object*⟩

beautiful women

In (24) the first Word has the value 'pl' for RIGHTAN and the second has the value 'pl-no object'. The two share 'pl'.

(24)	ꞩuꞩngal-um	yawaywich-um
	women-pl	*beautiful-pl:no:object*
	⟨*RIGHTAN: pl*⟩	⟨*RIGHTAN: pl-no obj*⟩

beautiful women

The sentences in (25) and (26) for these sequences illustrate the alternation specified in the Agreement Principle. In (25a) a single Word with the value 'object' for RIGHTAN functions as what I will argue later in this chapter is an element in an Argument Structure; in (25b) the two Words in (23) together perform the same function.

(25) a.	noo	n	ꞩuꞩngalumi	chengiq	
	I	*aux*	***women:object***	*is:kissing*	

I am kissing the women.

b.	noo	n	ꞩuꞩngalumi	yawaywichumi	chengiq
	I	*aux*	***women:object***	***beautiful:pl:object***	*is:kissing*

I am kissing the beautiful women.

Similarly, in (26a) a single Word with the value 'pl' for RIGHTAN functions as what I will argue later in this chapter is an element in an Argument Structure; in (26b) the two Words in (24) together perform the same function.

(26) a.	wunaalum	mil	ꞩuꞩngalum	miyquꞩ
	they	*aux*	***women:pl***	*was*

They were women.

(26) b. wunaalum mil ʂuʂngalum yawaywichum miyquʂ
they *aux* ***women:pl*** ***beautiful:pl:no:object*** *was*

They were beautiful women.

In short, if a Word has either the value 'object' or any of the number values 'sg', 'pl', or 'number' (abbreviated by 'Number') for RIGHTAN, it can be part of a multi-Word Constituent containing another Word with one of the values for RIGHTAN abbreviated by 'Number-Object' (i.e. 'sg-object', 'sg-no object', 'pl-object', 'pl-no object', 'number-object', and 'number-no object'), as long as RIGHTAN involves compatible overlapping values. (27) states this condition more formally.

(27) **Overlapping Condition for Constituents**

If a sequence of Words $\langle x_1, \ldots, x_k \rangle$ is a Constituent, then there are compatible formal values A = $\langle$RIGHTAN: value$^i\rangle$ and B = $\langle$RIGHTAN: Number-Object$^j\rangle$ such that, for all i, $1 \leqslant i \leqslant k$, the formal value of x_i is either A or B.

The compatibility specified in (27) can be reduced to two statements. (1) Number Compatibility: If one number value for RIGHTAN is 'sg' another cannot be 'pl'.[5] (2) Object Compatibility: If the RIGHTAN of any Word contains the value 'object' all other values must also include the value 'object'. These two statements yield the following set of compatible values.

(28)

Value^i	Number-Object^j
object	sg-object
	number-object
	pl-object
sg	sg-no object
	number-no object
pl	pl-no object
	number-no object
number	number-no object
	sg-no object
	pl-no object

(24) illustrates identity of number values. The sequences in (29) and (30) illustrate non-distinct number values.

(29)

s̸ungaal	yawaywish
woman	*beautiful*
⟨*RIGHTAN: sg*⟩	⟨*RIGHTAN: number-no obj*⟩

beautiful woman

as in:

wunaal	upil	s̸ungaal	yawaywish	miyqus̸
she	*aux*	***woman:sg***	***beautiful:number:no:object***	*was*

She was a beautiful woman.

(30)

toonavish	yot
basket	*big*
⟨*RIGHTAN: number*⟩	⟨*RIGHTAN: sg-no obj*⟩

big basket

as in:

wunaal	upil	toonavish	yot	miyqus̸
that	*aux*	***basket:number***	***big:sg:no:object***	*was*

That was a big basket.

Compare the sequence of incompatible Words in (31) which is not, in fact, a Constituent.

(31)

momkatum	s̸ungaal
big:pl	*woman*
⟨*RIGHTAN: pl-no obj*⟩	⟨*RIGHTAN: sg*⟩
big (pl)	woman

*big (pl) woman

The examples offered of the Overlapping Condition have involved two Words only, but it should be clear that it accommodates also Constituents as in (32).

(32)

po'aach-i	hunwut-i
his:pet-object	*bear-object*
⟨*RIGHTAN: obj*⟩	⟨*RIGHTAN: obj*⟩

yuvaataant-i
black-number:object
⟨*RIGHTAN: number-obj*⟩

his black bear

No good argument exists for any subgrouping within this Constituent; that is, there is no reason to believe that *hunwuti* and *yuvaataanti* form a Constituent which then combines with *no'aachi* and, similarly, no reason to believe that *no'aachi* and *hunwuti* form a Constituent which then combines with *yuvaataanti*. Consider that the order of Words in a Constituent resulting from the Identity Condition, like (33):

(33)	kolaaw-tal	yo-tal	yuvaataan-tal
	stick-with	*big-with*	*black-with*
	⟨*RIGHTAN: with*⟩	⟨*RIGHTAN: with*⟩	⟨*RIGHTAN: with*⟩

with a big black stick

are entirely free relative to one another.

(34) a.	noo	nil	wotax	poy	kolaawtal	yotal	yuvaataantal
	I	*aux*	*hit*	*him*	*stick:with*	*big:with*	*black:with*

I hit him with a big black stick.

b. noo nil wotax poy yotal kolaawtal yuvaataantal

c. noo nil wotax poy yotal yuvaataantal kolaawtal

d. noo nil wotax poy kolaawtal yuvaataantal yotal

e. noo nil wotax poy yuvaataantal kolaawtal yotal

f. noo nil wotax poy yuvaataantal yotal kolaawtal

Consider, then, that the order of the three Words in (32) is also entirely free relatively to one another. The six sentences in (35) are semantically equivalent.

(35) a.	noo	nil	patax	po'aachi	hunwuti	yuvaataanti
	I	*aux*	*shot*	*his:pet:object*	*bear:object*	*black:object*

I shot his black bear

b. noo nil patax hunwuti po'aachi yuvaataanti

c. noo nil patax hunwuti yuvaataanti po'aachi

d. noo nil patax yuvaataanti hunwuti po'aachi

e. noo nil patax po'aachi yuvaataanti hunwuti

f. noo nil patax yuvaataanti po'aachi hunwuti

This is precisely as expected, given the Overlapping Condition as stated.

1.3 *Coalescence*

We have considered two Conditions on the values of RIGHTAN — the Identity Condition and the Overlapping Condition. Since identity is a special case of overlapping, it is clear that the two agreement conditions on RIGHTAN can be collapsed into a single statement. We need only remove the specification of the value 'Number-Object' from the Overlapping Condition and modify the statement of compatibility to include identity.

(36) **Agreement Condition for RIGHTAN**

If a sequence of Words $\langle x_1, \ldots, x_k \rangle$ is a Constituent, then there are compatible formal values $A = \langle \ldots \mid \text{RIGHTAN: value}^i \rangle$ and $B = \langle \ldots \mid \text{RIGHTAN: value}^j \rangle$ such that, for all i, $1 \leqslant i \leqslant k$, the formal value of x_i is either A or B.

where *compatible* values are either identical ($\text{value}^i = \text{value}^j$) or overlapping ($\text{value}^j$ = 'Number-Object') and satisfying Number and Object Compatibility.

In this single condition, the distinction between identical and overlapping RIGHTAN values is maintained, but it appears now in the compatibility statement. Thus, the single condition is not necessarily a simplification of the two conditions. But it does make a different sort of statement: Rather than two distinct conditions, we have one condition with two subparts. This seems preferable a priori and, on this basis, I adopt the single statement in (36).

1.4 *Beyond RIGHTAN*

The Agreement Condition refers exclusively to the feature RIGHTAN. In fact, the formal similarities included in the Agreement Principle extend to the other three features in the formal value of a Word.[6]

Recall that the remaining three features involve reference to three different properties — the presence or absence of Aspect (ASP); the presence of the Absolutive or the Possessive or the absence of both (ADAFF); and the presence or absence of a number value (NUM). So, for example, the formal value of *tootal* 'with a rock' in (12) and (13), the first example of the Agreement Principle, has the following three feature values.

(37) ⟨ASP: –; ADAFF: –; NUM: number⟩

where the first states the absence of aspect and the second, the absence of both a Possessive and an Absolutive, while the third indicates that its number value is 'number'. Each of the three plays a role in the requirement of formal similarities referred to in the Agreement Principle.

Such a situation is least surprising in regard to the feature NUM, since the values here ('sg', 'pl', and 'number') are relevant in the Condition on RIGHTAN values. A Constituent whose member Words all lack one of these three values for NUM is possible, as is one where some have one of these three while others lack such a value. (38) and (39) contain examples respectively. (Because we are concerned in this section with the three features ASP, ADAFF, and NUM and because these features are determined in the Left-Occurring String, Luiseño Words receive in this discussion a more complete morphological analysis, with all the relevant affixes introduced in Chapter Two identified.)

(38)

tooya-q	'iyi-q
laugh-near:non:future:cont:sg	*too-near:non:future:cont:sg*
⟨NUM: –⟩	*⟨NUM: –⟩*

is laughing too

as in:

hengeemal	up	tooyaq	'iyiq
boy	*aux*	***is:laughing***	***too***

The boy is laughing too.

(39)

kwota-qus̸	'iyi-qus̸
stand:up-distant:non:future:cont	*too-distant:non:future:cont*
⟨NUM: sg⟩	*⟨NUM: –⟩*

was standing up too

as in:

hengeemal	upil	kwotaqus̸	'iyiqus̸
boy	*aux*	***was:standing:up***	***too***

The boy was standing up too.

But so is one all of whose Words contain a specific number value for NUM:

(40)

no-'aach-i	hunwu-t-i
1sg-pet-object	*bear-absolutive-object*
⟨NUM: sg⟩	*⟨NUM: sg⟩*

my bear (object)

as in:

wunaal	up	s̸e'iq	no'aachi	hunwuti
he	*aux*	*is:shooting*	***my:pet:object***	***bear:object***

He is shooting my bear.

and, in such a situation, the number values must be compatible according to the statement of Number Compatibility above. In (40) both values for NUM are 'sg'. Compare, then, the Constituent in (41) where both are 'pl' and the unacceptable (42) where one is 'sg' and the other is 'pl'.

(41)

no-'aach-um-i	hunwu-t-um-i
my-pet-pl-object	*bear-absolutive-pl-object*
⟨NUM: pl⟩	*⟨NUM: pl⟩*

my bears

as in:

wunaal	up	ǥe'iq	no'aachumi	hunwutumi
he	*aux*	*is:shooting*	***my:pets:object***	***bears:object***

He is shooting my bears.

(42)

*no-'aach-um-i	hunwu-t-i
my-pet-pl-object	*bear-absolutive-object*
⟨NUM: pl⟩	*⟨NUM: sg⟩*

Interestingly, reference to aspectual and person values is also necessary.

The Words in a Constituent need not all have or all lack an aspectual value for ASP. In (43) is a Constituent where one has an aspectual value and the other does not.

(43)

hunwu-t-i	yuvaata-an-t-i
bear-absolutive-object	*black-aspect-absolutive-object*
⟨ASP: –⟩	*⟨ASP: unch⟩*

black bear

as in:

ǥe'iq	up	hunwuti	yuvaataanti
is:shooting	*aux*	***bear***	***black***

He is shooting the black bear.

Compare:

(44)

ǥe'iq	up	hunwuti
is:shooting	*aux*	*bear*

He is shooting the bear.

However, if a Constituent contains two (or more) Words, which all involve aspect, the aspectual values must be identical. Consider in this regard the contrast between the combinations in (45a) and (45b). Both involve RIGHTAN identity, but only (45a) is acceptable and only (45a) has two Words involving the same aspectual Suffix *-qa*.

(45) a.

heela-qa-nik	'iyi-qa-nik
sing-aspect-temporal	*too-aspect-temporal*
⟨ASP: ch⟩	*⟨ASP: ch⟩*

after singing too

(45) b. *heela-qa-t-umi   pella-xmokwi-ch-umi
sing-aspect-abs-pl:object   *dance-aspect-abs-pl:object*
⟨ASP: ch⟩   *⟨ASP: unch pst⟩*

The crucial point here is the presence of aspectual Suffixes in *all* Words in a Constituent. In (46) is a three-Word Constituent. Two of the Words contain an aspectual Suffix — two different aspectual Suffixes — *but* there is another Word in the Constituent which lacks aspect.

(46) yuvaata-an-t-i   hunwu-t-i
black-aspect-absolutive-object   *bear-absolutive-object*
⟨ASP: unch⟩   *⟨ASP: –⟩*

xaari-qalmokwi-sh-i
growl-aspect-absolutive-object
⟨ASP: ch pst⟩

black bear that was growling

as in:

noo nil patax yuvaataanti hunwuti xaariqalmokwichi
I aux shot black:object bear:object was:growling:object

I shot the black bear that was growling.

(47) completes the paradigm with a Constituent where both Words lack an aspectual value.

(47) no-'aach-i   hunwu-t-i
1sg-pet-object   *bear-absolutive-object*
⟨ASP: –⟩   *⟨ASP: –⟩*

my bear

The feature ADAFF can specify a person value or the presence of an Absolutive. There is no requirement, unsurprisingly, that two Words, both of which bear an Absolutive, must share identical Absolutives. Consider, for example, the sequence in (48).

(48) huu-la   yo-t
arrow-absolutive   *big-absolutive*
⟨ADAFF: la⟩   *⟨ADAFF: t⟩*

big arrow

The members of this string involve compatible overlapping values for RIGHTAN — *huula* has the value 'number' for RIGHTAN and *yot*, the value 'sg-no object'. The difference in Absolutive forms does not preclude its analysis as a Constituent, as the pair of sentences in (49) illustrates.

(49) a. huula up pithaq
arrow *aux is:breaking*

The arrow is breaking.

b. huula yot up pithiq
arrow big *aux is:breaking*

The big arrow is breaking.

However, the person value does play a role in agreement. Consider (50).

(50) no-ma-y no-plo-y
1sg-hand-object 1sg-right-number:object
⟨ADAFF: 1sg⟩ ⟨ADAFF: 1sg⟩

my right arm

as in:

chaqalaqiq up nomay noploy
is:tickling aux ***my:arm right***

He is tickling my right arm.

Each Word in (50) includes a '1sg' value for ADAFF. A change in the person value of either yields a non-Constituent.

(51) a. *no-ma-y po-plo-y
1sg-hand-object 3sg-right-number:object
⟨ADAFF: 1sg⟩ ⟨ADAFF: 3sg⟩

b. *po-ma-y no-plo-y
3sg-hand-object 1sg-right-number:object
⟨ADAFF: 3sg⟩ ⟨ADAFF: 1sg⟩

The instances of this kind of compatibility are admittedly limited. In (52), for example, we find a sequence with two different person values.

(52) po-'o'nan-i 'o-chaqalaqi-vo-y
3sg-friend-object 2sg-tickle-aspect-number:object
⟨ADAFF: 3sg⟩ ⟨ADAFF: 2sg⟩

his friend that you tickled (object)

as in:

noo n 'ayaliq po'o'nani 'ochaqalaqivoy
I aux know ***his:friend:object you:tickled:number:object***

I know his friend that you tickled.

The difference between (50) and (52) is the presence of an aspectual specification in the latter. (53) gives the full set of feature values for the two words in each.

(53) a. nomay 'my hand'

⟨ASP: –; ADAFF: 1sg; NUM: number | RIGHTAN: obj⟩

noploy 'right'

⟨ASP: –; ADAFF: 1sg; NUM: ≠ | RIGHTAN: sg-obj⟩

b. po'o'nani 'his friend'

⟨ASP: –; ADAFF: 3sg; NUM: sg | RIGHTAN: obj⟩

'ochaqalaqivoy 'you tickled'

⟨ASP:unchpst;ADAFF:2sg;NUM:–|RIGHTAN:number-obj⟩

That is, only when a Word with the feature/value pairs ASP: – and ADAFF: person cooccurs with another such Word String, must the two person values be compatible. That Aspect plays a role here is not an inexplicable fact. Luiseño embedding depends, as we will see in Chapter Six, on the presence of Aspect. Hence, in (52), but not in (50), one of the Words contains an embedded clause. Person values internal to a Constituent can be independent when they are in two separate clauses, but when they are not they must be compatible.[7]

In this section we've seen that agreement pertains not only to the value of RIGHTAN but also to the values of the other three Word features. (54) states the three requirements.

(54) **Conditions on Non-RIGHTAN values**

If a sequence of Words $\langle x_1, \ldots, x_k \rangle$ is a Constituent, then there are compatible values for the features ASP, ADAFF, and NUM:

i. If there is an x_i such that NUM(x_i) = 'sg', then there is no x_j such that NUM(x_j) = 'pl'.

ii. If for every x_i, ASP(x_i) ≠ '–', then for every x_i and x_j, ASP(x_i) = ASP(x_j).

iii. For every x_i and x_j, if ADAFF(x_i) and ADAFF(x_j) are person values and ASP = '–', ADAFF(x_i) = ADAFF(x_j).

1.5 *Refinements*

(55) combines the Agreement Condition in (36) and the Conditions on Non-RIGHTAN values in (54) into a single statement.

(55) **Conditions on Agreement**

If a sequence of Words $\langle x_1, \ldots, x_k \rangle$ is a Constituent, then there are compatible values for the features RIGHTAN, ASP, ADAFF, and NUM:

(55) a. **Agreement Condition for RIGHTAN**

Compatible RIGHTAN values are either identical ($value^i = value^j$) or overlapping ($value^j$ = 'Number-Object') and satisfying Number and Object Compatibility.

and:

b. **Conditions on Non-RIGHTAN Values**

i. If there is an x_i such that NUM(x_i) = 'sg', then there is no x_j such that NUM(x_j) = 'pl'.

ii. If for every x_i, ASP(x_i) $\neq$ '—', then for every x_i and x_j, ASP(x_i) = ASP(x_j).

iii. For every x_i and x_j, if ADAFF(x_i) and ADAFF(x_j) are person values and ASP = '—', ADAFF(x_i) = ADAFF(x_j).

Detailed as it is, (55) is not entirely adequate.

The problem with (55) is that, like our discussion to this point, it treats the values of the four features independently. In fact, there is an interaction between the feature RIGHTAN and the feature NUM. The sequence in (56) meets the Conditions on Agreement:

(56)	ɬuɬnga-l-um-i	po-chaqalaqi-qa-t-umi
	women-absolutive-pl-object	*3sg-tickle-aspect-absolutive-pl:object*
	⟨—; —; pl | object⟩	*⟨changing; 3sg; — | pl object⟩*

the women he tickled.

but so does that in (57).

(57)	*ɬungaa-l-i	po-chaqalaqi-qa-t-umi
	woman-absolutive-object	*3sg-tickle-aspect-absolutive-pl:object*
	⟨—; —; sg | object⟩	*⟨changing; 3sg; — | pl object⟩*

The contrast between the two suggests that number compatibility is global; that is, it is not feature dependent. Even though 'sg' is a value for NUM and 'pl' a value for RIGHTAN in (57), the values are incompatible. (58) is a modification of (55) incorporating this observation by adding a requirement that all number values must be compatible, regardless of their feature identification.

(58) **Conditions on Agreement**

If a sequence of Words $\langle x_1, \ldots, x_k \rangle$ is a Constituent, then there are compatible values for the features RIGHTAN, ASP, ADAFF, and NUM:

(58) a. **Agreement Condition for RIGHTAN**

Compatible RIGHTAN values are either identical ($value^i = value^j$) or overlapping ($value^j$ = 'Number-Object') and satisfying Object Compatibility.

and:

b. **Conditions on Non-RIGHTAN Values**

i. If for every x_i, ASP(x_i) $\neq$ '—', then for every x_i and x_j, ASP(x_i) = ASP(x_j).

ii. For every x_i and x_j, if ADAFF(x_i) and ADAFF(x_j) are person values and ASP = '—', ADAFF(x_i) = ADAFF(x_j).

and:

c. **Condition on Number**

i. If there is an x_i such that either NUM(x_i) or RIGHTAN(x_i) = 'sg' there is no x_j such that either NUM(x_j) or RIGHTAN(x_j) = 'pl'.

2. THE REPRESENTATION OF CONSTITUENTS

The Conditions on Agreement in (58) must be incorporated in a grammar of Luiseño; they distinguish between sequences of Words which are Constituents and sequences of Words which are not. The question is how. The usual answer to such a question involves identifying one Word in a Constituent as the 'head', associating the category label dominating the Constituent with the feature/value pairs of the 'head', and checking these pairs against those of the other daughters. One interpretation of this answer, i.e. (59a), would pass the feature/value pairs of the dominating category to the 'head' and then pass these to the other daughters to be checked against the Conditions on Agreement; another interpretation, i.e. (59b), would pass the feature/value pairs of the 'head' as well as those of the other daughters to the dominating category, in order to check for compatibility according to the Conditions on Agreement. (The second is the application of the control-agreement principle of Generalized Phrase Structure Grammar, but applied within a slightly different domain.)

(59) a. X' $\downarrow$ $\ldots X \ldots$ b. X' $\uparrow$ $\ldots X \ldots$

$$\text{(59) a.}\quad \begin{array}{c} X' \\ \downarrow \\ \ldots X \ldots \end{array} \qquad \text{b.}\quad \begin{array}{c} X' \\ \uparrow \\ \ldots X \ldots \end{array}$$

A standard categorial interpretation of this answer differs from these two primarily in that it would build the Conditions on Agreement into the categories of the functors. (See Bach (1983b).) For example, presuming that *yuvaataantal* 'with black' is a modifier in the sequence *yuvaataantal* *huutal* 'with a black arrow', we might specify that *yuvaataantal* requires an argument with the value 'with' for RIGHTAN — meeting (a) of the Conditions on Agreement.

(60) ⟨RIGHTAN: with⟩: ⟨RIGHTAN: with⟩ → Constituent

The answer proposed here is quite different. In none of these interpretations of the usual answer do the Conditions on Agreement have any syntactic consequences; they are simply addenda to the mechanisms by which Constituents are created. In contrast, I propose that the Conditions on Agreement *create* Constituents. Schematically:

(61) Conditions on Agreement: Word* → Constituent

(61) says that if a collection of Words satisfies the Conditions on Agreement (the functor) the result is a Constituent. Since the Conditions on Agreement, as written above, presume the Constituents (61) creates, they need to be formulated slightly differently. (62) provides a statement more in line with (61).

(62) Conditions on Agreement

a. $value^i$ and $value^j$ for RIGHTAN are compatible when:

i. identical ($value^i = value^j$);

ii. overlapping ($value^j$ = 'Number-Object') and satisfying Object compatibility

b. If for every x_i, ASP(x_i) ≠ '—', then for every x_i and x_j, ASP(x_i) = ASP(x_j).

c. For every x_i and x_j, if ADAFF(x_i) and ADAFF(x_j) are person values and ASP = '—', ADAFF(x_i) = ADAFF(x_j).

d. If there is an x_i such that either NUM(x_i) or RIGHTAN(x_i) = 'sg' then no x_j such that either NUM(x_j) or RIGHTAN(x_j) = 'pl' is possible.

We must also more carefully consider the argument. The rule in (61) could be a partial function. That is, in the event that a collection of Words does not meet the conditions specified in the functor, there is no result. It could also be a total function. One possibility here is that the collection of Words in the domain be chosen so as to meet the Conditions on Agreement. (In neither case, of course, are these Conditions to be interpreted as a filter, discarding ill-formed Constituents. In the absence of a sequence meeting the Conditions, there is no Constituent.) Nothing forces a decision between these possibilities for our particular purposes, but (61) presumes the total function interpretation as does its elaboration in (63) where Conditions on Agreement is an abbreviation for (62).

(63) Conditions on Agreement:

$\{\langle x_1, \ldots x_k \rangle \mid x_1$ and ... and x_k are compatible by the Conditions$\} \rightarrow$ Constituent

The really critical point for our purposes is the analysis of the Conditions on Agreement as a function from Words to Constituents.

If we are to treat agreement as a functor, it must be the case that the result of its application is determinable regardless of the character of the arguments. In the first part of this section I show that this requirement can be satisfied entirely non-problematically. In the second part of this section I consider the benefits of this treatment of agreement, as opposed to the alternatives sketched above.

2.1 *The Formal Value of Constituents*

A Constituent is not a collection of Words each of which has its own formul value, as in (64).

(64) ⟨phonological value⟩ ⟨phonological value⟩
⟨formal value⟩ ⟨formal value⟩
$\langle$semantic value$\rangle_{\mathrm{Word}^1}$ ... $\langle$semantic value$\rangle_{\mathrm{Word}^n}$

Rather the result is a category identified with a single formal value, as in (65).

(65) ⟨phonological value⟩
⟨formal value⟩
$\langle$semantic value$\rangle_{\mathrm{Constituent}}$

I base the set of features and feature values for a Constituent on the set of features and feature values for a Word. Thus, the formal value of a Constituent, like that of a Word, has the four features, ASP, ADAFF, NUM, and RIGHTAN (organized as in Chapter Two). These four features are multi-valued for a Constituent, as they are for a Word, involving the same set of values. Let's consider the simplest case — a single Word Constituent, e.g. *'otaanay* 'your blanket (object)' as in (66):

(66) noo p 'otaanay yawq
I aux your:blanket:object have

I have your blanket.

A single Word necessarily meets the Conditions on Agreement.[8] Hence:

(67) Conditions on Agreement:
⟨'otaanay⟩
⟨ASP: –; ADAFF: 2sg; NUM: number | RIGHTAN: obj⟩ →
$\langle$blanket$\rangle_{\text{Word}}$

⟨'otaanay⟩
⟨ASP: –; ADAFF: 2sg; NUM: number | RIGHTAN: obj⟩
$\langle$blanket$\rangle_{\text{Constituent}}$

The Conditions also apply non-problematically to the two-Word Constituent in (68):

(68) hengeemal upil tooyaquś 'iyiquś
boy *aux* ***was:laughing*** ***too***

The boy was laughing too.

The Words *tooyaquś* 'was laughing' and *'iyiquś* 'too' both have the formal value in (69).

(69) ⟨ASP: –; ADAFF: –; NUM: – | RIGHTAN: dist non-fut⟩

The formal value of the Constituent *tooyaquś 'iyiquś* is identical:

(70) ⟨ASP: –; ADAFF: –; NUM: – | RIGHTAN: dist non-fut⟩

But the possibility of multi-Word Constituents raises an obvious question: Is one Word in a Constituent the source of the Constituent's formal value? Which Word? More generally, how is the Constituent's formal value determined? The issue is moot when (as in (70)) the Words in a Constituent present identical formal values. But many combinations with non-identical members exist. In (71) the members of the Constituent vary in their values for the feature RIGHTAN in a fashion allowed by the Conditions on Agreement; in (72), the features ASP and ADAFF vary, also in an allowable fashion; and in (73) combinations of RIGHTAN and the other three features vary simultaneously.

(71) ⟨–; t; # | pl⟩ ⟨–; t; # | pl-no obj⟩

e.g. śuuka-t-um momka-t-um
deer-absolutive-pl *big-absolutive-pl*

big deer

(72) a. ⟨–; 1sg; # | pl⟩ ⟨–; t; # | pl⟩

e.g. no-'aach-um hunwu-t-um
1sg-pet-pl *bear-absolutive-pl*

my bears

(72) b. ⟨—; —; number | with⟩ ⟨unch; —; number | with⟩

e.g. taana-tal yuvaata-an-tal
blanket-with black-aspect-with

with the black blanket

(73) a. ⟨—; l; sg | obj⟩ ⟨unch; sh; ≠ | number-obj⟩

e.g. hengeema-l-i yawaywi-ch-i
boy-absolutive-object beautiful-absolutive-object

the handsome boy

b. ⟨—; t; pl | obj⟩ ⟨ch; 3sg; — | pl-obj⟩

e.g. nanatma-l-um-i po-chaqalaqi-qat-umi
girls-absolutive-pl-object 3sg-tickle-aspect-pl:object

the girls that he tickles (object)

The action of the Conditions on Agreement as the functor which creates a Constituent, then, must not only create a single set of values for the resulting Constituent, it must also select among the values of its argument in a regular fashion.

In a multi-Word Constituent with non-identical members, we need refer to two principles only to yield the right results — what we will call the CONTAINMENT PRINCIPLE and the MOST FULLY SPECIFIED PRINCIPLE. These two principles are reasonably viewed as a particular application of the more general idea of unification, as developed in Shieber (1986).

2.1.1 *RIGHTAN and Containment*

Compare the two sentences in (74). In (74a) a single-Word Constituent with the feature/value pair ⟨RIGHTAN: object⟩ functions as what I will argue later in this chapter is an element in the Argument Structure; in (74b) is a two-Word Constituent. Only one of the Words in (74b) — *ꞩuꞩngalumi* — could yield an identical feature/value pair. If the Constituent took its formal value from *yawaywichumi* the result would be ⟨RIGHTAN: pl-object⟩.

(74) a. noo n ꞩuꞩngalum-i chungiq
I aux ***women-object*** *is:kissing*

I am kissing the women.

b. noo n ꞩuꞩngalum-i yawaywich-umi chungiq
I aux ***women-object beautiful-pl:object*** *is:kissing*

I am kissing the beautiful women.

The sequence *ꞩuꞩngalumi yawaywichumi* must, therefore, take its value for RIGHTAN from *ꞩuꞩngalumi* and not from *yawaywichumi*. This example illustrates the Containment Principle.

> **Containment Principle**:
>
> The value for RIGHTAN in a Word's formal value is 'contained in' that of another compatible value for RIGHTAN if it involves the same or fewer specifications. The contained value yields the Constituent's formal value.

The value 'object' is 'contained in' 'pl-object', and the result is a Constituent with the value 'object'. (75) provides further illustration. Here we find a Word with ⟨RIGHTAN: pl⟩ accompanied by a Word with ⟨RIGHTAN: pl-no object⟩.

(75)	suꞩngal-um	yawaywich-um
	women-pl	*beautiful-pl*
	⟨RIGHTAN: pl⟩	*⟨RIGHTAN: pl-no obj⟩*

beautiful women

as in:

ꞩuꞩngalum	yawaywichum	pum	tooyaan
women	***beautiful:pl:no:object***	*aux*	*are:laughing*

The beautiful women are laughing.

According to the Containment Principle, the combination of the two should yield a Constituent with the value ⟨RIGHTAN: pl⟩ only; the value 'pl' is 'contained in' the value 'pl-no object'. A comparison with the sentence in (76) supports this prediction. In (76), the single-Word Constituent *ꞩuꞩngalum* must have the value ⟨RIGHTAN: pl⟩.

(76)	ꞩuꞩngalum	pum	tooyaan
	women:pl	*aux*	*are:laughing*

The women are laughing.

The above Constituents involve Words with overlapping values for RIGHTAN. The Containment Principle extends entirely non-problematically, of course, to Constituents including Words with identical values for RIGHTAN. According to the Containment Principle, the Constituents in (72) have the values for RIGHTAN in (77) respectively.

(77) a. ⟨RIGHTAN: pl⟩

b. ⟨RIGHTAN: with⟩

The sentences in (78) vary only in whether they contain one member of the Constituent in (72a) or both, illustrating the value in (77a).

(78) a. no'aach-um pum xaariwum
my:pet-pl aux are:growling

My pets are growling.

b. hunwut-um pum xaariwun
bear-pl aux are:growling

The bears are growling.

c. no'aach-um hunwut-um pum xaariwun
my:pet-pl bear-pl aux are:growling

My bears are growling.

(79) represents the effect of the Containment Principle for the feature RIGHTAN in a Constituent's formal value.

(79) Conditions on Agreement:

$\{\langle x_1, \ldots x_k \rangle \mid x_1$ and . . . and x_k are compatible by the Conditions$\}$

$\rightarrow$ ⟨RIGHTAN: contained value⟩$_{\text{Constituent}}$

There is one complication and it leads us directly to the first statement of the Most Fully Specified Principle. Two Words with compatible number values for RIGHTAN need not have identical number values. Consider (80):

(80) toonavish yot
basket big
⟨RIGHTAN: number⟩ ⟨RIGHTAN: sg-no obj⟩

big basket

According to (79) the Constituent should have the value in (81):

(81) ⟨RIGHTAN: number⟩

Yet there is reason to argue rather for the value in (82):

(82) ⟨RIGHTAN: sg⟩

where the value type 'Number' is taken, as expected, from *toonavish* 'basket', but the particular number value is taken from *yot* 'big'. The contrast between the sentences in (83) and (84) argue that *toonavish* may occur in syntactic situations where a plural value is allowed, but *toonavish yot* may not.

(83) a. toonavish up 'ip qala
⟨RIGHTAN: number⟩ *aux there is:setting*

The basket is there.

(83) b. toonavish pum 'ip wunwun
⟨***RIGHTAN: number***⟩ *aux* *there* *are:setting*

The baskets are there.

(84) a. toonavish yot up 'ip qala
⟨***RIGHTAN: sg***⟩ *aux* *there* *is:setting*

The big basket is there.

b. *toonavish yot pum 'ip wunwun
⟨***RIGHTAN: sg***⟩ *aux* *there* *are:setting*

The solution is quite simple: Where two Words have compatible number values and the number value is the contained value, the Word with the *most fully specified* number value contributes to the Constituent's value for RIGHTAN. The value 'number' is less fully specified than either 'sg' or 'pl'; 'sg' and 'pl' are equally well specified. We revise (79) to include specification of the most fully specified number value.

(79′) Conditions on Agreement:

$\{\langle x_1, \ldots x_k \rangle \mid x_1$ and . . . and x_k are compatible by the Conditions$\} \rightarrow$
$\langle$RIGHTAN: contained value, but most specific number$\rangle_{\text{Constituent}}$

2.1.2 *The Other Features and the Most Fully Specified Principle*

Determining the remaining three values of a Constituent's feature set follows quite simply from an extension of the Most Fully Specified Principle.

First, the definition of a more fully specified number value must be expanded. The feature NUM has the five values '—', '#', 'number', 'sg', and 'pl'. Our definition above includes only the last three: 'number' is less well-specified than 'sg' or 'pl' and 'sg' and 'pl' are equally well-specified. But given the relationship of these three to each other, the inclusion of '—' and '#' is obvious: '—' is less well-specified than '#' which is, in turn, less well-specified than 'number'. With this expansion of the most fully specified number value, the Most Fully Specified Principle is easily stated.

Most Fully Specified Principle:

One value set (*i*) for ASP, ADAFF, NUM is more fully specified than another (*j*)

(1) if the number value of *i* is more fully specified than the number value of *j*;

(2) when the number values of *i* and *j* are equally well specified and the values of RIGHTAN associated with *j* and *i* are identical, if

(a) *i* has a person value and *j* does not,

(b) *i* lacks an aspectual value while *j* has such a value; or

(3) when the number values of *i* and *j* are equally well specified and the value of RIGHTAN associated with *j* and *i* overlap, *i* is associated with the contained value of RIGHTAN.

(85) contains two examples of clause (1).

(85) a. ⟨—; l; sg | obj⟩ ⟨—; 3sg; # | number-obj⟩

e.g. nawitma-l-i po-mlu-y
girl-absolutive-object 3sg-strong-object

the strong girl

b. ⟨—; —; sg | dist non-fut⟩ ⟨—; —; — | dist non-fut⟩

e.g. 'aw'-quꞩ 'iyi-quꞩ
sit-distant:non:future too-distant:non:future

was sitting too

(85a) will be represented as in (86).

(86) ⟨ASP: —; ADAFF: l; NUM: sg | RIGHTAN: obj⟩

As we will see later in this chapter, some argument arrays must contain a Possessive-marked Constituent. However, the Constituent in (86) does not satisfy this requirement. That is, the Possessive in the word *pomluy* must not be part of the formal value of the Constituent, precisely as predicted. (85b) will be represented as in (87).

(87) ⟨ASP: —; ADAFF: —; NUM: sg | RIGHTAN: dist non-fut⟩

Consider the sentences in (88).

(88) a. noo nil kinga 'aw'quꞩ
I aux in:house was:sitting

I was in the house.

b. chaam chamil kinga qalquꞩ
we aux in:house were:sitting

We were in the house.

The first of these includes the singular form *'aw'qus̸*, accompanied by *noo* '1sg' and *nil* '1sg' aux; the second of these includes the plural pair to *'aw'qus̸* — the form *qalqus̸* — accompanied by *chaam* '1pl' and *chamil* '1pl' aux. The sentences in (89) reversing the forms *'aw'* and *qal* are unacceptable.

(89) a. *noo nil kinga qalqus̸
I aux in:house were:sitting

b. *chaam chamil kinga 'aw'qus̸
we aux in:house was:sitting

Such combinations will be considered in Chapter Four; for now it is important only to note that they exist and that they are unaffected if *'aw'qus̸* (or *qalqus̸*) occurs in a Constituent with a Word including the feature/value pair ⟨NUM: —⟩.

(90) a. noo nil kinga 'aw'qus̸ 'iyiqus̸
I aux in:house was:sitting too

I was sitting in the house too.

(90) b. *chaam chamil kinga 'aw'qus̸ 'iyiqus̸
we aux in:house was:sitting too

Thus, as required by clause (1) of the Most Fully Specified Principle the Word with the most fully specified number value (*'aw'qus̸* in (88a)) must contribute to the result. (87) is the correct result.

The examples in (91) and (92) illustrate the two subclauses of clause (2). In both these examples, the number values of the two Words are equally well specified and the RIGHTAN values are identical. But in (91) only the first Word has a person value, and in (92) the first Word lacks an aspectual value.

(91) ⟨—; 1sg; # | pl⟩ ⟨—; t; # | pl⟩

e.g. no-'aach-um hunwu-t-um
1sg-pet-pl bear-absolutive-pl

my bears

(92) ⟨—; —; number | with⟩ ⟨unch; —; number | with⟩

e.g. taana-tal yuvaata-an-tal
blanket-with black-aspect-with

with the black blanket

According to clause 2-a, the Constituent *no'aachum hunwutum* has the formal value in (93), the formal value of *no'aachum*.

(93) ⟨ASP: —; ADAFF: 1sg; NUM: # | RIGHTAN: pl⟩

According to clause 2-b, the Constituent *taanatal yuvaataantal* has the formal value in (94), the formal value of *taanatal.*

(94) ⟨ASP: –; ADAFF: –; NUM: number | RIGHTAN: with⟩

In support of clause 2-a, consider the sentences in (95).

(95) a. noo pum no'aachum hunwutum qalwun
I aux my:pets bears were:sitting

I have bears.

b. noo pum no'aachum qalwun
I aux my:pets were:sitting

I have pets.

c. *noo pum hunwutum qalwun
I aux bears were:sitting

Certain argument arrays obligatorily contain a Possessive-marked Constituent. The contrast between (95b) and (95c) — the first of which contains such an element and the second of which does not — argues that this construction is at issue here. The fact that both *no'aachum hunwutum* and *no'aachum* are acceptable but that *hunwutum* is not, supports the analysis in (93) required by clause 2-a. The status of clause 2-b turns on the analysis of embedding in Chapter Six. The critical point here is that the presence of an embedding is associated with a positive aspectual specification for the feature ASP. But for the purposes of the analysis of the Constituent, this fact about one of its members is totally irrelevant. Consider the Constituent in (96).

(96) ⟨–; –; number | with⟩ ⟨unch; 2sg; – | with⟩

e.g. taana-tal 'o-lovi'i-tal
blanket-with 2sg-make-with

with the blanket that you made

According to clause 2-a, this Constituent's values for ASP, ADAFF, and NUM must be as in (96), where the embedding is not represented.

(97) ⟨ASP: –; ADAFF: –; NUM: number | RIGHTAN: with⟩

Clause 2-b yields the same result for a Constituent both of whose members have a number value, as e.g. (92). Compare, then, the sentences in (98) and (99). (98) contains the Constituent in (96); (99), the Constituent in (92).

(98) noo nil xechik poy taanatal 'olovi'ital
I aux hit him ***with:blanket with:you:made***

I hit him with the blanket you made.

(99) noo nil xechik poy taanatal yuvaataantal
I aux hit him ***with:blanket with:black***

I hit him with the black blanket.

The two Constituents have identical distributions; the Most Fully Specified Principle predicts this fact.

Clause 3 of the Most Fully Specified Principle is illustrated by (100).

(100) ⟨—; 1sg; # | number⟩ ⟨—; 3sg; # | number-no obj⟩

e.g. no-ma po-mlu
1sg-hand 3sg-strong

my strong hand

Both formal values in (100) have the value '#' for NUM, but the RIGHTAN values are overlapping. According to (3), the Constituent *noma pomlu* has the formal value in (101), the formal value of *noma*.

(101) ⟨ASP: —; ADAFF: 1sg; NUM: # | RIGHTAN: number⟩

Clause 3 is tested by the possibility of adding an independent possessor to a Possessive-marked Constituent. With a Constituent like *no'aachum hunwutum* which according to clause 2-a has a '1sg' value for ADAFF, an independent form *noo* 'I' is possible.

(102) noo no'aachum hunwutum
I 1sg:pets bears

my bears

But an independent form which differs in person is unacceptable.

(103) *wunaal no'aachum hunwutum
he 1sg:pets bears

The Constituent in (100), with the value set in (101), similarly allows *noo*, but not *wunaal* — precisely as predicted by (3).

(104) a. noo noma pomlu
I 1sg:hand 3sg:strong

my strong hand

b. *wunaal noma pomlu
he 1sg:hand 3sg:strong

(105) adds the effects of the Most Fully Specified Principle to the Containment Principle. (The symbol *v* is an abbreviation for value.)

(105) Conditions on Agreement:

$\{\langle x_1, \ldots x_k\rangle \mid x_1$ and ... and x_k are compatible by the Conditions$\} \rightarrow$

$\langle$ASP: v^a; ADAFF: v^b; NUM: v^c | RIGHTAN: contained value$\rangle_{\text{Constituent}}$
most fully specified set but most specific number

The one complication to (105) has to do again with the most fully specified number value. Consider the sequence in (106).

(106) ⟨—; 3sg; number | object⟩ ⟨—; t; # | sg-obj⟩

e.g. po-taana-y yo-t-i
3sg-blanket-object big-absolutive-sg:object

his big blanket

As a Constituent this sequence has the number value of *yoti* — i.e. 'sg' — rather than that of *potaanay*. The test of this claim is offered by a reconsideration of the sentence in (66) above.

(66) noo p 'otaanay yawq
I aux your:blanket:object have

I have your blanket.

As noted, *yawq* in this sentence requires the presence of a Constituent as in (107).

(107) ⟨ASP: —; ADAFF: Person; NUM: non-pl | RIGHTAN: obj⟩

potaanay is an appropriate Constituent. *yawq* alternates with *'ayq*, which requires a Constituent that is non-singular. *potaanay* is an appropriate Constituent here as well.

(108) noo p potaanay 'ayq
I aux his:blanket:object have

I have his blankets.

But the Constituent *potaanay yoti* is good only with *yawq*.

(109) a. noo p potaanay yoti yawq
I aux his:blanket:object big:sg:object have

I have his big blanket.

b. *noo p potaanay yoti 'ayq
I aux his:blanket:object big:sg:object have

Hence, the formal value of the Constituent *potaanay yoti* 'his big blanket' must have the value 'sg' for NUM. That is, it must have the formal value in

(110), a formal value which draws all feature values other than the value of NUM from *potaanay.*

(110) ⟨ASP: –; ADAFF: 3sg; NUM: sg | RIGHTAN: obj⟩

The value for NUM is, however, the most specific number value among the members of the Constituent. To accommodate such cases we require that the most specific number requirement generalize beyond the value of RIGHTAN to NUM.

(111) Conditions on Agreement:

$\{\langle x_1, \ldots x_k \rangle \mid x_1$ and $\ldots$ and x_k are compatible by the Conditions$\} \rightarrow$

$\langle \text{ASP: } v^a\text{; ADAFF: } v^b\text{; NUM: } v^c \mid \text{RIGHTAN: contained value} \rangle_{\text{Constituent}}$

most fully specified set most specific number

This modification is entirely consistent with the fact that number agreement applies simultaneously to the features NUM and RIGHTAN in Constituents with overlapping values for RIGHTAN.[9]

No examples of the application of (111) have involved more than two Words. (112) has two examples of three-Word Constituents, each of which can be accommodated by (111). In (112a) the value of the Constituent must be the value of *no'aachum*. For RIGHTAN, 'pl' is the contained value. All three Words bear equally well-specified number values, so either clause 2 or clause 3 of the Most Fully Specified Principle is required. The RIGHTAN value of *yuvaataantum* overlaps with the RIGHTAN values of the other two Words and contains them, so by clause 3, this Word cannot yield the value set for ASP, ADAFF, and NUM. Finally, by clause 2-a *no'aachum* is more fully specified than *hunwutum*, because it bears a person value. In (112b) the value of the Constituent must be the value of *pommiixi.* For RIGHTAN, 'object' is the contained value. *xwaayaanti* bears a less well-specified number value, so according to clause 1, either *pommiixi* or *taanat* must supply the values for ASP, ADAFF, and NUM. Finally, by clause 2-a *pommiixi* is more well-specified than *taanat* because of its person value.

(112) a. ⟨ASP: –; ADAFF: 1sg; NUM: # | RIGHTAN: pl⟩

e.g. no-'aach-um hunwu-t-um
1sg-pet-pl *bear-absolutive-pl*
⟨–; 1sg; # | pl⟩ ⟨–; t; # | pl⟩

yuvaata-an-t-um
black-aspect-absolutive-pl
⟨unchanging; t; # | pl-no object⟩

my black bears

(112) b. ⟨ASP: –; ADAFF: 3pl; NUM: number | RIGHTAN: obj⟩

e.g. pom-miix-i | taana-t
3pl-thing-object | *blanket-absolutive*
⟨–; 3pl; number | obj⟩ ⟨–; ABS; number | obj⟩

xwaaya-an-t-i
white-aspect-absolutive-object
⟨unchanging; t; ≠ | number-obj⟩

their white blanket/blankets

2.2 *Extending the Argument*

I have shown that, given a collection of Words to which the Conditions on Agreement can apply, the properties of the Constituent containing these Words can be straightforwardly predicted. If we are to treat agreement as a functor, it must be the case that the result is determinable regardless of the character of the arguments. Thus, the regularity of the results is a partial argument for the analysis of agreement as a function. Further, against this background, another kind of argument is clear.

There is no 'head' in the argument to the Conditions on Agreement; no Word in the argument in (111) is assigned primary status. This is precisely what is required if *any* Word has the possibility of becoming a single-Word Constituent. Words cannot be divided into those which are potential 'heads' and those which are not. Further, this treatment is consistent with the fact that the order of Words in a Constituent is free. However, an intuitive asymmetry between the Words in a Constituent often exists. In (73), for example, (which I repeat below):

(73) a. ⟨–; l; sg | obj⟩ ⟨unch; sh; ≠ | number-obj⟩

e.g. hengeema-l-i | yawaywi-sh-i
boy-absolutive-object | *beautiful-absolutive-object*

the handsome boy

b. ⟨–; t; pl | obj⟩ ⟨ch; 3sg; – | pl-obj⟩

e.g. nanatma-l-um-i | po-chaqalaqi-qat-umi
girls-absolutive-pl-object | *3sg-tickle-aspect-pl:object*

the girls that he tickles (object)

the first Word in each case (*hengeemali* 'boy' and *nanatmalumi* 'girls') is intuitively identifiable as the necessary member, the 'head', and the second (*yawaywichi* 'handsome' and *pochaqalaqiqatumi* 'that he tickles') as the optional member, the 'modifier' or 'complement'. Given the principles developed above, the absence of a 'head' in the argument to the Constituent Functor is non-problematic for such intuitions. With the exception of the most fully specified number value, the formal value of a Constituent follows from the formal value of a *single Word* in the Constituent. While the 'head' is not identified in the argument to the Constituent Functor, it *is* identified by the formal value of the Constituent. And this identification follows simply and automatically for all Constituent types.

Consider examples (85), (92), and (100) discussed in the preceding section — *nawitmali pomluy* 'the strong girl' (85a), *'aw'quɨ̷ 'iyiquɨ̷* 'was sitting too' (85b), *taanatal yuvaataantal* 'with the black blanket' (92), and *noma pomlu* 'my strong hand' (100). Intuitively, the first Word in each of these Constituents would be termed the 'head'. And, the identification of the 'head' is forced in less intuitively obvious cases like (91) — *no'aachum hunwutum* 'my bears'. In sum, the principles governing the result of the rule which yields Constituents define the 'head' of a Constituent: The head is the Word which contributes its value to the result. Thus, no analytical difficulty is created by treating the set of agreement conditions as the functor which yields a Constituent.[10]

More strongly, the analysis avoids problems which a more traditional categorial grammar treatment confronts. Because Luiseño lacks a determiner system, the difference between a word (say, e.g., an N) and a phrase (say, e.g., an NP) cannot lie in the application of an obligatory functor to the former to yield the latter.[11] Let's suppose, however, that this more traditional alternative allows single-Word Constituents of the sort described above. For a multiple-Word Constituent as in (92) (*taanatal yuvaataantal*), this alternative would require us to identify one as the functor and the other as the argument, perhaps as in (113):

(113) Constituent: Constituent → Constituent

or:

Word: Constituent → Constituent

but more likely, as in (114).

(114) Constituent | Constituent: Constituent → Constituent

The choice of (114) requires that the system of formal values for Words be expanded to include categories which are specifically functors. So, in (92), *yuvaataantal* would have the (abbreviated) formal value in (115).

(115) ⟨⟨RIGHTAN: with⟩ | ⟨RIGHTAN: with⟩⟩

This is a considerable expansion of the system required in the analysis proposed here. On this expansion, presumed 'modifiers' as *yuvaataantal* must be available as both functor and argument, but so must forms which are less obviously 'modifiers' like *hunwutum* 'bears' in *po'aachum* *hunwutum* 'his bears'. That is, virtually every Word would be assigned multiple categories. More critically, there is no necessity in such a system for agreement between functor and argument. The application of *yuvaataantal* to a form ⟨RIGHTAN: with⟩ carries no inherent obligation that it will share properties with its argument.

(113) suffers from these same defects but in a more manageable form. Unless we want to allow any form to serve as either functor or argument in (113) — and presumably we do not — it must be possible to decide which is which. Say the Constituent in (92) *taanatal yuvaataantal* results from (116).

(116) ⟨yuvaataantal⟩ ⟨taanatal⟩
⟨ch; —; number | with⟩: ⟨—; —; number | with⟩ →
⟨black⟩ ⟨blanket⟩

⟨taanatal yuvaataantal⟩
⟨—; —; number | with⟩
⟨black blanket⟩

(116) incorporates Bach's (1983a) ideas about the application of endocentric functors: The result always has the value of the argument. The category of *yuvaataantal* certainly doesn't require that it be either a functor or an argument. However, we could say that if the formal values of two Constituents share a value for RIGHTAN and one is less fully specified than the other, the former applies to the latter. So *yuvaataantal* applies to *taanatal* and not *taanatal* to *yuvaataantal.* A Constituent like *po'aachum hunwutum* 'his bears' might, according to the same assumption about endocentric functors and a definition of less fully specified, result from the application of *hunwutum* to *po'aachum.*

(117) ⟨hunwutum⟩ ⟨po'aachum⟩
⟨—; t; # | pl⟩: ⟨—; 3sg; # | pl⟩ →
⟨bears⟩ ⟨his pets⟩

⟨po'aachum 'awaalum⟩
⟨—; 3sg; # | pl⟩
⟨his bears⟩

This alternative could work, but there are reasons to prefer the analysis adopted above. The two share the Containment and Most Fully Specified Principles. In our analysis these principles determine the character of the result; in the alternative they distinguish functor from argument. A Constituent like *henge'malum po'ayalivom* 'boys that he knew' might, according to the same assumptions about endocentric functors, result from the application of *po'ayalivom* to *henge'malum* as in (118).

(118) ⟨po'ayalivom⟩ ⟨henge'malum⟩
⟨past; 3sg; — | pl-no obj⟩: ⟨—; l; # | pl⟩ →
⟨know⟩ ⟨boys⟩

⟨henge'malum po'ayalivom⟩
⟨—; l; # | pl⟩
⟨boy⟩

But here we would say that if values for RIGHTAN of two Constituents overlap, that with the contained value is the argument.

In this alternative analysis the agreement conditions play a role, but not a central one. Assumedly, some kind of compatibility between functor and argument will be required in a rule like (113), but there is no obvious necessity that it would have to be the massive agreement I have argued exists in Luiseño. This point about the analysis advocated here and developed in the sections above is critical: It incorporates the rampant agreement found in Luiseño and gives it a central role in the grammar. If Constituents aren't created by the agreement properties shared by the Words which comprise them, no reason for the existence of agreement is forthcoming.

2.3 *Conclusion*

I've argued here that the conditions on agreement observed in Section 1 are to be incorporated in the grammar of Luiseño as the functor in the rule:

(119) Conditions on Agreement: Word* → Constituent

Rather than appending agreement to the members of a structure created by other principles, agreement itself is that which creates the structure. In terms of the typology of functors developed in Chapter One, this proposal about agreement requires that Luiseño Constituents are the result of the application of an obligatory, listable, and non-localizable functor to a collection of Words. The functor labelled Conditions on Agreement is obligatory because in its absence, there is no Constituent. The membership of the Conditions on Agreement is listable — (62) states the agreement conditions which comprise it. And, as a set of condition, the Constituent Functor is non-localizable. In the next two sections of this chapter we are concerned with another, yet distinct, instance of this functor type.

3. FACTS ABOUT ARGUMENT STRUCTURES

Consider the following Luiseño sentence.

(120) hengeemali upil 'ariqus̸
boy *aux* *was:kicking*

He was kicking the boy.

The Luiseño equivalent of the English verb in (120) (*'ariqus̸*) is accompanied by a Constituent (*hengeemali*) with the formal value:

(121) ⟨ASP: –; ADAFF: –; NUM: sg | RIGHTAN: obj⟩

Other such forms are accompanied by other Constituent types, e.g. *qalwun* in (122) is accompanied by a Constituent (*kinga*) with the formal value in (123).

(122) kinga pum qalwun
in:house *aux* *are:sitting*

They are in the house.

(123) ⟨ASP: –; ADAFF: –: NUM: number | RIGHTAN: in⟩

This section details the range of such Constituents and their combinational possibilities. The next proposes that these facts are to be accommodated in the grammar of Luiseño by the rule of the type in (124).

(124) Conditions on Anti-Agreement:
Constituent* → Argument Structure

The functor which creates the Argument Structure, like that which creates Constituents, is a condition across its arguments.

3.1 *Constituents in an Array*

Not every Constituent can function as an argument to the Luiseño equivalent of an English verb. Most important in this regard is the value of RIGHTAN. An examination of the Constituents so functioning yields the four general possibilities:

(125) a. ⟨RIGHTAN: object⟩
b. ⟨RIGHTAN: Number⟩
c. ⟨RIGHTAN: Person . . .⟩
d. ⟨RIGHTAN: Postposition⟩

where (125b) includes various number possibilities; (125c), various person possibilities and accompaniments (as e.g. ⟨RIGHTAN: Person reflexive⟩); and (125d), various postpositional specifications.[12] Examples of each are found in (126) through (129) respectively.

(126) a. notoonav-i upil 'ariqus̸
⟨RIGHTAN: obj⟩ aux was:kicking
He was kicking my basket.

b. huul upil 'ariqus̸
⟨RIGHTAN: obj⟩ aux was:kicking
He was kicking the arrow.

(127) a. yawaywich-um mil miyqus̸
⟨RIGHTAN: pl⟩ aux was
They were beautiful.

b. po'aamax pil miyqus̸
⟨RIGHTAN: sg⟩ aux was
He was good at hunting.

c. yawaywish pil miyqus̸
⟨RIGHTAN: number⟩ aux was
He was handsome.

(128) a. po-heelaxpi up miyq
⟨RIGHTAN: 3sg⟩ aux is
He has to sing.

b. potaax upil 'ariqus̸
⟨RIGHTAN: 3sg refl⟩ aux was:kicking
He was kicking himself.

c. poloov up po-wiiw-lo
good aux ⟨RIGHTAN: 3sg generic⟩
It's fun to make wiwish.

(129) a. noki-nga up 'aw'q
⟨RIGHTAN: at⟩ aux is:sitting
She is in my house.

b. po-yk upil taanat 'oovyax
⟨RIGHTAN: to⟩ aux blanket gave
He gave the blanket to her.

The formal possibilities in (125) include all the Constituent types listed in (130), where ASPECT stands for any of the aspectual values available to the feature ASP, PERSON stands for any of the person values available to the feature ADAFF, ABSOLUTIVE stands for any of the absolutive values available to the feature ADAFF, and NUMBER stands for any of the number values available to the feature NUM.

(130) a. ⟨RIGHTAN: object⟩
1. ⟨Aspect; Person; # | object⟩
2. ⟨Aspect; Person; — | object⟩
3. ⟨—; Person; Number | object⟩
4. ⟨Aspect; ABS; Number | object⟩
5. ⟨Aspect; ABS; — | object⟩
6. ⟨—; Absolutive; Number | object⟩
7. ⟨—; ABS; Number | object⟩

b. ⟨RIGHTAN: Number⟩
1. ⟨Aspect; Person #; # | Number⟩
2. ⟨Aspect; Person #; — | Number⟩
3. ⟨—; Person; # | Number⟩
4. ⟨Aspect; Absolutive; # | Number⟩
5. ⟨Aspect; Absolutive; — | Number⟩
6. ⟨—; Absolutive; # | Number⟩

c. ⟨RIGHTAN: Person . . .⟩
i. ⟨RIGHTAN: Person reflexive⟩
1. ⟨—; POSS; — | Person reflexive⟩
ii. ⟨RIGHTAN: Person generic⟩
1. ⟨ASP; POSS: # | Person generic⟩
2. ⟨ASP; POSS; — | Person generic⟩
iii. ⟨RIGHTAN: Person⟩
1. ⟨Aspect; POSS; # | Person⟩
2. ⟨Aspect; POSS: — | Person⟩

d. ⟨RIGHTAN: Postposition⟩
1. ⟨Aspect; Person; # | Postposition⟩
2. ⟨Aspect; Person; — | Postposition⟩
3. ⟨—; Person; Number | Postposition⟩
4. ⟨Aspect; —; Number | Postposition⟩
5. ⟨Aspect; —; — | Postposition⟩
6. ⟨—; —; Number | Postposition⟩

Each of these but (130d-1) and (130d-2) is available as an argument. A number have already been exemplified. (126a) illustrates (130a-3):

(131) no-toonav-i
⟨*ASP: –; ADAFF: 1sg; NUM: number* | *RIGHTAN: obj*⟩
my basket (object)

(126b) illustrates (130a-7):

(132) huu-l
⟨*ASP: –; ADAFF: ABS; NUM: number* | RIGHTAN: obj ⟩
arrow/arrows (object)

(127b) illustrates (130b-2):

(133) po-'aamax
⟨*ASP: generic; ADAFF: 3# ; NUM: –* | *RIGHTAN: sg*⟩
he is good at hunting

(127a) illustrates (130b-4):

(134) yawaywi-ch-um
⟨*ASP: unch; ADAFF: sh; NUM: #* | *RIGHTAN: pl*⟩
beautiful (pl)

(128b) illustrates (130c-i1):

(135) potaax
⟨*ASP: –; ADAFF: POSS; NUM: –* | *RIGHTAN: 3sg refl*⟩
himself

(128c) illustrates (130c-ii2):

(136) po-wiiw-lo
⟨*ASP: ASP; ADAFF: POSS; NUM: –* | *RIGHTAN: 3sg generic*⟩
(for someone) to make wiwish

(128a) illustrates (130b-iii2):

(137) po-heela-xpi
⟨*ASP: unch fut; ADAFF: POSS; NUM: –* | *RIGHTAN: 3sg*⟩
he will sing

(129a) illustrates (130d-3):

(138) no-ki-nga
⟨ASP: —: ADAFF: 1sg; NUM: number | RIGHTAN: in⟩
in my house

Examples of others will be found in the discussion to follow. No single one of the possibilities in (130) is treated as the 'normal' Constituent type for an argument, nor is any partial subset. Equally, none of these possibilities is an exception; all are equally critical to the analysis of Argument Structures.

3.2 *Array Types*

What we have now is a list of the Constituent types available to serve as arguments to the Luiseño equivalent of an English verb. But since more than one such Constituent is possible with some Luiseño forms, we need to consider their combinations. I use ARGUMENT ARRAY as a descriptive term for an acceptable combination of Constituent types.

The minimum number of obligatory Constituents is zero; the maximum number is three. (139) and (140) illustrate these two possibilities. (129b) above illustrates a double-Constituent array; the remaining examples offered above illustrate single-Constituent arrays.

(139) tooyaan pum
are:laughing aux
They are laughing.

(140) mariy-i nil potoonav-i po-yk
⟨RIGHTAN: obj⟩ aux ⟨RIGHTAN: obj⟩ ⟨RIGHTAN: to⟩
'oovininax
made:give
I made Mary give her basket to him.

Now, if any Constituent in an argument array must be one of those in (130) and if there are double- and triple-element arrays, a fair number of logically possible argument arrays present themselves. In fact, only a relatively small number of these occur. But before we can list them, we need to consider one complication. The complication is illustrated by the contrast between the three sentences in (141).

(141) a. noo p no-toonav qala
I aux ⟨—; 1sg; # | number⟩ *is:setting*
I have a basket.

(141) b. paapavi-sh upil miyxuk
⟨—; *sh; # | number*⟩ *aux used:to:be*

He used to be thirsty.

c. no-miix upil miyxuk
⟨—; *1sg; # | number*⟩ *aux used:to:be*

It used to be mine.

The Constituents in (141a) and (141c) bear identical formal values. Yet they will be distinguished from one another as argument arrays. The Constituents in (141b) and (141c) are not identical. Yet they will be collapsed into a single argument array. The critical considerations here are both semantic and formal. Semantically, the second and third sentences are alike and distinct from the first. The first is what we might call a sentence of possession. The second and third are what most would identify as copular sentences. The formal difference correlates with this distinction. The Constituent in the first *obligatorily* contains a Possessive, represented by the person value for ADAFF. In a simple copular sentence, no Constituent in the argument array must contain a Possessive, so the alternation between (141b) and (141c) in this regard is unimportant. The classification of argument arrays proposed below, thus, draws on a convergence of formal and semantic properties. The two arrays illustrated by these three sentences are given in (142).

(142) a. ⟨ASP: —; ADAFF: Person | RIGHTAN: Number⟩
b. ⟨ASP: — | RIGHTAN: Number⟩

The absence of the feature ADAFF in (142b) indicates that any of the available values for this feature are possible and their choice makes no difference for the purpose of distinguishing an array type. The formal value of the Constituent of course does indeed contain the feature/value pair. The idea is that we have the option of ignoring in the argument array whatever value is present.

The value for ADAFF is not the only value which can be ignored — as this example also illustrates. The value of NUM in either case in (142) is unimportant to the character of the array; in either case, it is entirely predictable from the other members of the array.[13] Even where there is an alternation it may be non-essential. The simplest illustration of this is the alternation between # and — in (130c-iii).

(143) a. ⟨ASP: Aspect; ADAFF: POSS; NUM: # | RIGHTAN: Person⟩

noo p taananga no-'aw'-qalpi miyq
I aux on:blanket ***1sg-sit-changing:future*** *is*

I have to sit on the blanket.

(143) b. ⟨ASP: Aspect; ADAFF: POSS; NUM: – | RIGHTAN: Person⟩

noo p no-ngee-pi miyq
I aux ***1sg-leave-unchanging:future*** *is*

I have to leave.

So, the argument array in either (143a) or (143b) is represented as in (144). (The value 'POSS' for ADAFF is entirely predictable from the value for RIGHTAN.)

(144) ⟨ASP: Aspect | RIGHTAN: Person⟩

Except for reflexive forms, the value of ASP is always essential, since it distinguishes between complements and simple arguments. The two sentences in (145) illustrate argument arrays varying in the presence (a complement) or absence (a simple argument) of aspect.

(145) a. ⟨ASP: Aspect | RIGHTAN: object⟩

'ayaliq up no-heela-xvo-y
knows aux ***1sg-sing-unchanging:past-object***

He knows that I sang.

b. ⟨ASP: – | RIGHTAN: object⟩

'ariq up hengeema-l-i
is:kicking aux ***boy-absolutive-object***

He is kicking the boy.

Without further ado, I list the set of argument arrays. The list isn't short — 28 combinations are listed — but it is much shorter than the list of logical possibilities, were the 24 Constituent types in (130) to freely combine. The number of logical possibilities is 2299: no Constituents (= 1); each Constituent alone (= 24); two Constituents, including repetitions of the same type and ignoring order (= 300); three Constituents, similarly including repetitions and ignoring order (= 1974). Each array is formally distinguished from the others; that is, it involves a distinctive set of formal values. Internal to the four major divisions (Null-Constituent, 1-Constituent, 2-Constituent, and 3-Constituent), the arrays are organized, first, according to whether the array includes a Constituent with an 'accompanied' person value — i.e. a person value in ADAFF, which is always accompanied by a value for RIGHTAN, or a person value in RIGHTAN which is accompanied by a value for one of the other three features — and, then, according to whether a Constituent in the array involves aspect, i.e. a value for ASP other than '—', or not. Each is provided with a reasonably transparent semantic characterization to allow easy reference. Examples of all 28 array types are found in the appendix to this chapter. A final aid to assimilating the list of argument arrays is drawn from the appendix. Each argument array is accompanied by the English gloss of an example in the appendix.[14]

(146) A. ***Null-Constituent***

Intransitive

⟨ ⟩

He's laughing.

B. ***1-Constituent***

i. with accompanied person value

a. −Aspect

Transitive-Possessive

⟨ASP: −; ADAFF: Person | RIGHTAN: obj⟩

I have his basket.

Possession

⟨ASP: −; ADAFF: Person | RIGHTAN: Number⟩

I have a pet.

b. +Aspect

Modal/Aspect

⟨ASP: Aspect | RIGHTAN: Person⟩

I have to leave.

Tough

⟨ASP: ASP | RIGHTAN: Person generic⟩

It is nice to make wiwish.

ii. Without accompanied person value

a. −Aspect

Simple transitive

⟨ASP: − | RIGHTAN: obj⟩

I know his enemy.

Reflexive transitive

⟨RIGHTAN: Person refl⟩

He was kicking himself.

(146) **Copular**

⟨ASP: – | RIGHTAN: Number⟩

He was my enemy.

Locational

⟨ASP: – | RIGHTAN: Postposition⟩

He is in the house.

b. +Aspect

Transitive Complement

⟨ASP: Aspect | RIGHTAN: obj⟩

I know that he will sing.

Copular Complement

⟨ASP: Aspect | RIGHTAN: Number⟩

He was gonna sing.

C. ***2-Constituent***

i. With accompanied person value

Locational-Possessive

⟨ASP: –; ADAFF: Person | RIGHTAN: Postposition⟩

⟨ASP: – | RIGHTAN: Number⟩

I have sand in my eye.

ii. Without accompanied person value

a. –Aspect

Ditransitive

⟨ASP: – | RIGHTAN: obj⟩

⟨ASP: – | RIGHTAN: obj⟩

I taught the boy my language.

Reflexive ditransitive

⟨RIGHTAN: Person refl⟩

⟨ASP: – | RIGHTAN: obj⟩

I taught myself my language.

(146) **Complex**

⟨ASP: — | RIGHTAN: obj⟩

⟨ASP: — | RIGHTAN: Postposition⟩

I gave our basket to him.

Reflexive complex

⟨RIGHTAN: Person refl⟩

⟨ASP: — | RIGHTAN: Postposition⟩

I gave myself to him.

b. +Aspect

Complement ditransitive

⟨ASP: Aspect | RIGHTAN: obj⟩

⟨ASP: — | RIGHTAN: obj⟩

I saw the boy singing.

Reflexive complement ditransitive

⟨ASP: Aspect | RIGHTAN: obj⟩

⟨RIGHTAN: Person refl⟩

I saw myself singing.

Complex complement

⟨ASP: Aspect; ADAFF: — | RIGHTAN: Postposition⟩

⟨ASP: — | RIGHTAN: obj⟩

I saw the boy being tickled.

Reflexive complex complement

⟨ASP: Aspect: ADAFF: — | RIGHTAN: Postposition⟩

⟨RIGHTAN: Person refl⟩

I saw myself being tickled.

D. ***3-Constituent***

i. −Aspect

Tritransitive

⟨ASP: — | RIGHTAN: obj⟩

⟨ASP: — | RIGHTAN: obj⟩

⟨ASP: — | RIGHTAN: obj⟩

I will make your daughter teach the boy my language.

(146) **Reflexive tritransitive**

⟨RIGHTAN: Person refl⟩

⟨ASP: — | RIGHTAN: obj⟩

⟨ASP: — | RIGHTAN: obj⟩

I will make myself teach the boy my language.

Complex tritransitive

⟨ASP: — | RIGHTAN: obj⟩

⟨ASP: — | RIGHTAN: obj⟩

⟨ASP: — | RIGHTAN: Postposition⟩

I made the boy give his basket to him.

Reflexive complex tritransitive

⟨RIGHTAN: Person refl⟩

⟨ASP: — | RIGHTAN: obj⟩

⟨ASP: — | RIGHTAN: Postposition⟩

I made myself give his basket to him.

ii. +Aspect

Complement tritransitive

⟨ASP: Aspect | RIGHTAN: obj⟩

⟨ASP: — | RIGHTAN: obj⟩

⟨ASP: — | RIGHTAN: obj⟩

I will make the boy teach his son to sing.

Reflexive complement tritransitive

⟨ASP: Aspect | RIGHTAN: obj⟩

⟨ASP: — | RIGHTAN: obj⟩

⟨RIGHTAN: Person refl⟩

I will make myself teach his son to sing.

Complex complement tritransitive

⟨ASP: — | RIGHTAN: obj⟩

⟨ASP: — | RIGHTAN: obj⟩

⟨ASP: Aspect; ADAFF: —; NUM: Number | RIGHTAN: Postposition⟩

I made the boy paint the girl red.

(146) **Reflexive complex complement tritransitive**

⟨ASP: – | RIGHTAN: obj⟩

⟨RIGHTAN: Person refl⟩

⟨ASP: Aspect; ADAFF: —; NUM: Number | RIGHTAN: Postposition⟩

I made myself paint the girl red.

The representation of an argument array involves only those features whose value types are crucial to the particular characterization supplied. This is not to say that the feature/value pairs not present in these representations are entirely unavailable in the Argument Structure, but the pattern to the above distribution is clear *only* when the division among the value types inherent in (146) is recognized. The feature/value pairs eliminated from (146) could be represented in an Argument Structure, if the distinction were indicated in some fashion. (147) offers an example for the copular case in (141c).

(147) ⟨ASP: – | RIGHTAN: number⟩

ADAFF: 1sg; NUM: #

no-miix upil miyxuk
1sg-thing aux used:to:be

It used to be mine.

The non-crucial feature/value pairs are given here on another line, separated from the crucial feature/value pairs.

3.3 *Empirical Observations*

(146) involves a limited number of the logically possible combinations. However, the choice among the logical possibilities is not random. In fact, the regularities to the list in (146) are quite simple and obvious.

First, no argument array involves a Constituent including ⟨RIGHTAN: object⟩ and a Constituent including ⟨RIGHTAN: Number⟩. (148) contains a list of the multiple-element arrays with the former and (149), the single multiple-element array with the latter. The two sets don't overlap.

(148) ⟨RIGHTAN: obj⟩ ⟨RIGHTAN: obj⟩

⟨RIGHTAN: Person refl⟩ ⟨RIGHTAN: obj⟩

⟨RIGHTAN: obj⟩ ⟨RIGHTAN: Postposition⟩

⟨RIGHTAN: Person refl⟩ ⟨RIGHTAN: Postposition⟩

⟨RIGHTAN: obj⟩ ⟨RIGHTAN: obj⟩ ⟨RIGHTAN: obj⟩

⟨RIGHTAN: Person refl⟩ ⟨RIGHTAN: obj⟩ ⟨RIGHTAN: obj⟩

⟨RIGHTAN: obj⟩ ⟨RIGHTAN: obj⟩ ⟨RIGHTAN: Postposition⟩

(148) ⟨RIGHTAN: Person refl⟩ ⟨RIGHTAN: obj⟩
⟨RIGHTAN: Postposition⟩

(149) ⟨RIGHTAN: Number⟩ ⟨RIGHTAN: Postposition⟩

(150) states this delimitation.

(150) **Condition on RIGHTAN values 'Number' and 'object':**
*⟨RIGHTAN: Number⟩ . . . ⟨RIGHTAN: obj⟩

Second are two restrictions on identical values for RIGHTAN. Most simply, no argument array includes two Postposition-marked elements.

(151) **Condition on 'Postposition' in RIGHTAN:**
*⟨RIGHTAN: Postposition⟩ . . . ⟨RIGHTAN: Postposition⟩

More interesting is a restriction on multiple number-marked elements. The four categories for RIGHTAN introduced above divide into two types — those whose value types do not include a number specification and those whose value types do.

(152) a. ⟨RIGHTAN: object⟩
⟨RIGHTAN: Postposition⟩

b. ⟨RIGHTAN: Number⟩
⟨RIGHTAN: Person . . .⟩

Given this division, another generalization across the argument arrays is clear: while there are argument arrays involving more than one of the possibilities in (152a), no argument array involves more than one of the possibilities in (152b). (153) and (154) include all the multiple-Constituent arrays, divided among those that do not include either of the two possibilities in (152b) and those that include one and only one.

(153) ⟨RIGHTAN: obj⟩ ⟨RIGHTAN: obj⟩
⟨RIGHTAN: obj⟩ ⟨RIGHTAN: Postposition⟩
⟨RIGHTAN: obj⟩ ⟨RIGHTAN: obj⟩ ⟨RIGHTAN: obj⟩
⟨RIGHTAN: obj⟩ ⟨RIGHTAN: obj⟩ ⟨RIGHTAN: Postposition⟩

(154) ⟨RIGHTAN: Number⟩ ⟨RIGHTAN: Postposition⟩
⟨RIGHTAN: Person refl⟩ ⟨RIGHTAN: obj⟩
⟨RIGHTAN: Person refl⟩ ⟨RIGHTAN: Postposition⟩
⟨RIGHTAN: Person refl⟩ ⟨RIGHTAN: obj⟩ ⟨RIGHTAN: obj⟩
⟨RIGHTAN: Person refl⟩ ⟨RIGHTAN: obj⟩
⟨RIGHTAN: Postposition⟩

The restriction on the possibilities in (152b) can be represented as in (155), since all values with Person also involve a number specification.

(155) **Condition on 'Number' in RIGHTAN:**

*⟨RIGHTAN: . . . Number . . .⟩ . . . ⟨RIGHTAN: . . . Number . . .⟩

These three conditions refer only to the feature RIGHTAN. If we consider the other features, three conditions can be added.

First, no argument array involves two Constituents with an aspectual value for the feature ASP. (156) contains all the multiple-Constituent argument arrays with the feature/value pair ⟨ASP: Aspect⟩; none have more than one such.

(156) ⟨ASP: Aspect | RIGHTAN: obj⟩ ⟨ASP: — | RIGHTAN: obj⟩

⟨ASP: Aspect | RIGHTAN: obj⟩ ⟨RIGHTAN: Person refl⟩

⟨ASP: — | RIGHTAN: obj⟩
⟨ASP: Aspect; ADAFF: — | RIGHTAN: Postposition⟩

⟨RIGHTAN: Person refl⟩
⟨ASP: Aspect; ADAFF: — | RIGHTAN: Postposition⟩

⟨ASP: Aspect | RIGHTAN: obj⟩
⟨ASP: — | RIGHTAN: obj⟩
⟨ASP: — | RIGHTAN: obj⟩

⟨ASP: Aspect | RIGHTAN: obj⟩
⟨RIGHTAN: Person refl⟩
⟨ASP: — | RIGHTAN: obj⟩

⟨ASP: Aspect; ADAFF: — | RIGHTAN: Postposition⟩
⟨ASP: — | RIGHTAN: obj⟩
⟨ASP: — | RIGHTAN: obj⟩

⟨ASP: Aspect | RIGHTAN: Postposition⟩
⟨ASP: — | RIGHTAN: obj⟩
⟨RIGHTAN: Person refl⟩

This restriction on argument arrays can be represented as in (157).

(157) **Condition on ASP**

*⟨ASP: Aspect⟩ . . . ⟨ASP: Aspect⟩

The second and third such conditions both have to do with the distribution of person values. No argument array involves two Constituents with obligatory person. Unlike the Condition on ASP and the three conditions on RIGHTAN, this condition applies to two features (i.e. ADAFF and RIGHTAN) simultaneously. (158) contains all the multiple-Constituent arrays with obligatory person; none has more than one Constituent with a person value.

(158) ⟨ASP: –; ADAFF: Person | RIGHTAN: Postposition⟩
⟨ASP: – | RIGHTAN: Number⟩

⟨ASP: – | RIGHTAN: obj⟩ ⟨RIGHTAN: Person refl⟩

⟨ASP: Aspect | RIGHTAN: obj⟩ ⟨RIGHTAN: Person refl⟩

⟨ASP: – | RIGHTAN: Postposition⟩
⟨RIGHTAN: Person refl⟩

⟨ASP: Aspect | RIGHTAN: Postposition⟩
⟨RIGHTAN: Person refl⟩

⟨RIGHTAN: Person refl⟩
⟨ASP: – | RIGHTAN: obj⟩
⟨ASP: – | RIGHTAN: obj⟩

⟨ASP: Aspect | RIGHTAN: obj⟩
⟨ASP: – | RIGHTAN: obj⟩
⟨RIGHTAN: Person refl⟩

⟨RIGHTAN: Person refl⟩
⟨ASP: – | RIGHTAN: obj⟩
⟨ASP: – | RIGHTAN: Postposition⟩

⟨ASP: Aspect | RIGHTAN: obj⟩
⟨RIGHTAN: Person refl⟩
⟨ASP: – | RIGHTAN: Postposition⟩

This restriction on argument arrays can be represented as in (159):

(159) **Condition on Person Values:**
*⟨. . . Person . . .⟩ . . . ⟨. . . Person . . .⟩

where the feature associated with the Constituent's person value is left without specification.

The person value in all but one of the arrays in (158) involves the

Constituent type ⟨RIGHTAN: Person reflexive⟩. The one different array is (160):

(160) ⟨ASP: –; ADAFF: Person | RIGHTAN: Postposition⟩
⟨ASP: – | RIGHTAN: Number⟩

That is, there is no multiple-Constituent argument array where one Constituent is crucially ⟨ADAFF: Person⟩ while another Constituent is anything but ⟨RIGHTAN: Number⟩. (161) states this observation.

(161) **Condition on ADAFF and RIGHTAN**

$$*\langle \text{ADAFF: Person}\rangle \ldots \langle \text{RIGHTAN: } \left\{ \begin{matrix} \text{object} \\ \text{Postposition} \end{matrix} \right\} \rangle$$

These six, fairly straightforward, conditions eliminate logically possible, but uninstantiated, combinations of Constituent types. Assuming the option of ignoring the values of ADAFF and NUM, these conditions yield just the 28 argument arrays found in Luiseño and listed in (146).

4. INCORPORATION

In the investigation of Constituents, we saw that Words in a Constituent are necessarily compatible. The discussion of argument arrays presents a phenomenon similar in one respect and different in another. Argument arrays are not random collections of Constituents; the set of argument arrays is chosen from the logically possible combinations according to a small set of conditions. The obvious question is: What is the place of such conditions in a grammar? Using as a model the rule which creates Constituents, my answer is quite clear. The six conditions which empirically delimit an acceptable argument array comprise a global condition of the same sort as the Conditions on Agreement. That is, this set of six conditions is the functor in a rule which takes a collection of Constituents and yields a unit of analysis. This unit is not an argument array; this term is simply a descriptive label for acceptable collections of Constituents. The resulting unit of analysis is termed the ARGUMENT STRUCTURE; we will return to its characterization. (162) is a more elaborate statement of the rule with which we began this section, incorporating this proposal. The first clause in this rule identifies the Constituent set introduced in (130); the second identifies the combination of such Constituents that satisfy the six conditions, in collections of no more than three Constituents. The consequence is that any such set will map to an Argument Structure.

(162) Let $D = \bigcup_k$ Constituent [formal value$_k$]
for k {set in (130)}
Let $C = \{z \mid z \in D^i\ 0 \leqslant i \leqslant 3$ and z satisfies the Conditions on Anti-Agreement$\}$
$C \rightarrow$ Argument Structure

The similarity between the functor that creates Constituents and that which creates Argument Structures is, then, this global property. But, the difference is equally clear: The Conditions on Anti-Agreement specify not that the Constituents in an array must share certain properties. Rather, by and large, they limit the cooccurrence of Constituents bearing identical properties; the Condition on RIGHTAN values 'Number' and 'object' (150), the Condition on 'Postposition' in RIGHTAN (151), the Condition on 'Number' in RIGHTAN (155), the Condition on ASP (157), the Condition on Person values (159), and the Condition on ADAFF and RIGHTAN (161) share this characterization. If by 'agreement' conditions we refer to compatibility of the type illustrated in Section 1, the conditions introduced in Section 3 are better identified as *anti-agreement* and this is the term used in (162).

Continuing the analogy with Constituents, we note that the order of Constituents in an Argument Structure is free, just as is the order of Words in a Constituent. This is most clearly revealed in a tri-transitive argument array.

(163) a. mariyi nil potoonavi poyk 'oovininax
Mary:object aux her:basket:object to:him made:give

I made Mary give her basket to him.

b. potoonavi nil mariyi poyk 'oovininax
her:basket:object aux Mary:object to:him made:give

I made Mary give her basket to him.

c. poyk nik potoonavi mariyi 'oovininax
to:him aux her:basket:object Mary:object made:give

I made Mary give her basket to him.

d. mariyi nil poyk potoonavi 'oovininax
Mary:object aux to:him her:basket:object made:give

I made Mary give her basket to him.

e. potoonavi nil poyk mariyi 'oovininax
her:basket:object aux to:him Mary:object made:give

I made Mary give her basket to him.

f. poyk nil mariyi potoonavi 'oovininax
to:him aux Mary:object her:basket:object made:give

I made Mary give her basket to him.

Arguments for (162) are possible beyond the similarity its functor bears to that yielding a Constituent and the similarity between the results of the application of the Condition on Agreement and the Condition on Anti-Agreement. If we analyze the antiagreement conditions as the map to an Argument Structure, their incorporation in the grammar is accomplished non-problematically. (162) also predicts that no new forms will be added to Luiseño which specify a different collection of Constituents. Luiseño borrowings from Spanish are entirely consistent with this prediction.[15] A final, and much more complicated, argument is possible for this analysis of the set of conditions termed antiagreement. A Constituent is not merely a collection of Words; its formal value represents this directly, in that it does not reflect the values of all members of a Constituent — nor need it reflect the properties of a single one of its members. Similarly, the result of the Conditions on Anti-Agreement in (162) is not simply a collection of Constituents. However, the result of the application of antiagreement is different from the result of the application of agreement: rather than allowing the whole to be associated with a single value, the application of antiagreement yields a unit which is more than the sum of the Constituents it contains — what (162) terms the Argument Structure. Making this point requires, first, presenting an analysis of the Argument Structure and, second, showing that at least some of the antiagreement conditions which comprise the map to the Argument Structure have a reasonably simple explanation, given this analysis. That is, a connection holds between the antiagreement conditons and the Argument Structure, a fact entirely consistent with the analysis of the former as the functor and the latter as the result in (162).

4.1 *The Argument Structure: A First Pass*

An argument array contains one fewer element than the set of elements required by the equivalent of the English verb. (I use the label ARGUMENT-CATEGORIZING ELEMENT for this form, a term that refers to its function only and is neutral in regard to its morphological properties.) Consider, for example, the sentence in (164).

(164) pahch-um no-s̸waamay-um pum qalwun
three-pl 1sg-daughter-pl aux are:sitting

I have three daughters.

The argument-categorizing element here (*qalwun*) is accompanied by an argument array as in (165).

(165) ⟨ASP: –; ADAFF: 1sg | RIGHTAN: pl⟩

qalwun in (164) requires a possessor and a possessed, yet the argument array includes only the possessed. Assumedly, every (potential) Argument-Categorizing Element is lexically specified at least for the number of arguments it requires. (166) represents the necessity of two semantic arguments for the Argument-Categorizing Element *qalwun*.

(166) qalwun 'sit' _____ _____

The contrast between (165) and (166) graphically displays that the number of required arguments is one greater than those which have obligatory lexical instantiation. However, the 'missing' argument — in this case the possessor — is, I would claim, present, albeit in a form different from the others. It is present as a person/number value. The gloss of (164), for example, is meant to indicate the necessity of the interpretation of the missing argument as '1sg'. (167) adds this value to the array in (165).

(167) [⟨ASP: –; ADAFF: 1sg | RIGHTAN: pl⟩ 1sg]

Thus, in (166) we have an ARGUMENT STRUCTURE — an argument array plus the 'missing' argument — where both arguments required by *qalwun* are present, albeit in formally distinct ways, i.e. one as a Constituent and the other as a person/number value.

We have considered only one possibility for the 'missing' argument. (168a) is the Argument Structure for the sentence in (168b); here the missing argument has a specific number value (pl) but is left open in regard to person (P).

(168) a. [⟨ASP: – | RIGHTAN: pl⟩ Ppl]

b. ⟨ASP: –; ADAFF: t; NUM: # | RIGHTAN: pl⟩

momka-t-um mil miyqus̸
big-absolutive-pl aux was

They were big.

(170) represents the Argument Structure in (169), a situation where the missing argument is open for both person (P) and number (N).

(169) ⟨ASP: –; ADAFF: 1; NUM: sg | RIGHTAN: obj⟩
⟨ASP: –; NUM: number | RIGHTAN: obj⟩

huu'uniqus̸ nil hengeema-l-i no-teela-y
was:teaching aux boy-absolutive-object 1sg-language-object

I was teaching the boy my language.

(170) [⟨ASP: – | RIGHTAN: obj⟩ ⟨ASP – | RIGHTAN: obj⟩ PN]

I refer to the missing argument as the 'Subject', with the proviso that the term applies in this analysis specifically to the person/number value in the Argument Structure.

An important argument in favor of this addition is the fact that Argument-Categorizing Elements have different requirements in regard to this element in the Argument Structure, just as they differ for the Constituent types they accept. For example, some Argument-Categorizing Elements, as we have seen, are compatible with an argument array of the type in (171).

(171) ⟨ASP: — | RIGHTAN: Number⟩

Among this set some require, in addition, that the number of the Subject be a specific number value, not N; *miyquś* in (168b) is one.

(172) [⟨ASP: — | RIGHTAN: Number⟩sg/pl/$\text{number}_{\text{Subject}}$]

Others require, in contrast, that the Subject be open to both number possibilities, that is, N. For these, then, the Subject must be independent of the argument array.

(173) [⟨ASP: — | RIGHTAN: Number⟩ N_{subj}]

I return to discussion of this contrast below.

4.2 *The Argument Structure Expanded*

I have proposed that the Argument Structure is the argument array plus a Subject — a person/number value in the examples above. The Argument Structure is still more complicated, however, because a relationship between the Subject and an element in the array is possible and this has yet to be represented.

4.2.1 *Part One*

I introduced three different Subject possibilities above: one which has a particular person and number value (e.g. '1sg'), one which is open for person but has a particular number value (e.g. 'Ppl'), and one which is open for both ('PN'). (The presence of N presumes the presence of P, eliminating a fourth logical possibility, e.g. '1N'.) The possibilities vary with the array.

The arrays introduced in Section 3 above can be divided into six subtypes, represented schematically in (174).

(174) a. i. ⟨Aspect | Person⟩
ii. ⟨Person | Number⟩
iii. ⟨Person | x⟩

(174) b. i. ⟨∅ | Person⟩
ii. ⟨x | Number⟩
iii. ⟨x | x⟩

I represent here only the presence of a person value, a number value in the array, or an obligatory aspectual value, even if these might be located on different Constituents. The variable *x* indicates the absence of obligatory person and number values; the *0* indicates the absence of any feature/value pair. The | distinguishes the source of the value: A value to its right comes from the feature RIGHTAN; a value to its left does not. The major division between (174a) and (174b) has to do with 'accompanied' person — i.e. with any person value in ADAFF or with a person value in RIGHTAN obligatorily cooccurring with a value (other than '—') for one of the other three features. Internal to each of these types is a three-way division, based on the value in RIGHTAN. In (175) are examples of each of these six types; the classification of the full list of arrays into these six types is found in Table 3-I.

(175) a. ⟨*Aspect* | *Person*⟩

noo p no-ngee-pi miyq
I aux 1sg-leave-future:unchanging is
⟨***ASP:*** *Aspect* | ***RIGHTAN:*** *1sg*⟩

I have to leave.

b. ⟨*Person* | *Number*⟩

noo p no-toonav qala
I aux 1sg-basket is:setting
⟨*ASP: —;* ***ADAFF:*** *1sg* | ***RIGHTAN:*** *number*⟩

I have a basket.

c. ⟨*Person* | *x*⟩

noo p no-toonav-i yawq
I aux 1sg-basket-object has
⟨*ASP: —;* ***ADAFF:*** *1sg* | ***RIGHTAN:*** *obj*⟩

I have his basket.

d. ⟨∅ | *Person*⟩

notaax nil chaqalaqiquś
myself aux was:tickling
⟨***RIGHTAN:*** *1sg refl*⟩

I was tickling myself.

TABLE 3-I

A. Accompanied Values

1. *⟨ASP: Aspect | RIGHTAN: Person⟩*
   Modal/aspect
   Tough

2. *⟨ADAFF: Person | RIGHTAN: Number⟩*
   Possession
   Locational-possessive

3. *⟨ADAFF: Person | RIGHTAN: object⟩*
   Transitive-Possessive

B. Unaccompanied Values

1. *⟨no ASP | RIGHTAN: Person⟩*
   Reflexive transitive
   Reflexive ditransitive
   Reflexive complement
   Reflexive complex
   Reflexive complex complement
   Reflexive tritransitive
   Reflexive tritransitive complement
   Reflexive complex tritransitive
   Reflexive complex complement tritransitive

2. *⟨no ADAFF | RIGHTAN: Number⟩*
   Copular
   Copular complement

3. *⟨no ADAFF | RIGHTAN: no Number⟩*
   Intransitive
   Simple Transitive
   Transitive complement
   Locational
   Ditransitive
   Ditransitive complement
   Complex
   Complex complement
   Tritransitive
   Tritransitive complement
   Complex tritransitive
   Complex tritransitive complement

(175) e. ⟨*x* | *Number*⟩

yawaywi-ch-um mil miyquꞩ
beautiful-absolutive-pl aux was
⟨*ASP: unchanging* | ***RIGHTAN: pl***⟩

They were beautiful.

f. ⟨*x* | *x*⟩

nawitma-l-i mil chaqalaqiquꞩ
girl-absolutive-object aux was:tickling
⟨*ASP:* – | ***RIGHTAN: obj***⟩

They were tickling the girl.

Given this six-way division among argument arrays, we can delimit the Subject possibilities for the associated Argument Structure. A Subject with a particular person and number value (a 'person subject') occurs only with the three array types: ⟨Aspect | Person⟩, ⟨Person | Number⟩, or ⟨x | Person⟩; a Subject open for person but with a particular number value (a 'number subject') occurs only with the array type ⟨x | Number⟩ and a Subject open for both person and number (a 'PN' subject) occurs only with the following four array types: ⟨Person | x⟩, ⟨Ø | Person⟩, ⟨x | Number⟩, and ⟨x | x⟩.

(176) Subject Values — Array Types

a. Person subject
(i.e. '1sg', '2sg', '3sg', '1pl', '2pl', '3pl')

b. PN subject
(i.e. 'PN')

c. Number subject
(i.e. 'Psg', 'Ppl', 'Pnumber')

⟨Aspect | Person⟩
⟨Person | Number⟩
⟨Ø | Person⟩
⟨Person | x⟩
⟨x | x⟩
⟨x | Number⟩

(175a) and (175b) illustrate respectively the sole Subject possibility for ⟨Aspect | Person⟩ and ⟨Person | Number⟩. (177) and (178) schematize these possibilities respectively.

(177) [⟨Aspect | Person⟩ Person and Number$_{\text{Subject}}$]

(178) [⟨Person | Number⟩ Person and Number$_{\text{Subject}}$]

And (175c) and (175f) illustrate the sole Subject possibility for ⟨Person | x⟩ and ⟨x | x⟩. Consider that although (175f) is glossed 'They were tickling the girl', the argument array does not restrict the Subject value to any particular person or number, as the sentences in (179) with the same array indicate.

(179) a. nawitma-l-i pil chaqalaqiquš
girl-absolutive-object aux was:tickling
⟨ASP: – | RIGHTAN: obj⟩

He was tickling the girl.

b. nawitma-l-i nil chaqalaqiquš
girl-absolutive-object aux was:tickling
⟨ASP: – | RIGHTAN: obj⟩

I was tickling the girl.

(180) and (181) represent the Subject associated with these two array types.

(180) [⟨Person | x⟩ $PN_{Subject}$]

(181) [⟨x | x⟩ $PN_{Subject}$]

(175d) illustrates the Person Subject possibility for ⟨Ø | Person⟩. In contrast, the example in (182) illustrates a Subject open for person and number.

(182) hengeema-l-i nil potaax chaqalaqinax
boy-absolutive-object aux himself made:tickle
⟨ASP: – | RIGHTAN: obj⟩ ⟨RIGHTAN: 3sg refl⟩

I made the boy tickle himself.

The English gloss suggests that the Subject is '1sg', but this particular value is due to other properties of the sentence which we will explore in later chapters. The sentences in (183), each of which has the same argument array, are enough to illustrate that the argument 'missing' from the array is 'PN'.

(183) a. hengeema-l-i chamil potaax chaqalaqinax
boy-absolutive-object aux himself made:tickle
⟨ASP: – | RIGHTAN: obj⟩ ⟨RIGHTAN: 3sg refl⟩

We made the boy tickle himself.

b. hengeema-l-i mil potaax chaqalaqinax
boy-absolutive-object aux himself made:tickle
⟨ASP: – | RIGHTAN: obj⟩ ⟨RIGHTAN: 3sg refl⟩

They/You (pl) made the boy tickle himself.

Thus, we have:[16]

(184) [⟨Ø | Person⟩ Person and $Number_{Subject}$]

(185) [⟨Ø | Person⟩ $PN_{Subject}$]

The two possibilities for ⟨x | Number⟩ have already been illustrated in the contrast between (172) and (173).

(172) [⟨ASP: – | RIGHTAN: Number⟩ sg/pl/number$_{subject}$]

(173) [⟨ASP: – | RIGHTAN: Number'⟩ N$_{Subject}$]

The argument array in (175e) is an example of the first. The sentence is glossed 'They were beautiful', but it can also mean 'You (pl) were beautiful.' Consider also the sentence in (186), a sentence containing the same argument array type where the gloss is 'We were beautiful.'.

(186)	yawaywi-ch-um	chamil	miyqus̸
	beautiful-absolutive-pl	*aux*	*was*
	⟨ASP: unch | RIGHTAN: pl⟩		
	We were beautiful.		

The argument arrays in (175e) and (186) share only the requirement that the Subject be 'plural'; they leave open its person value. In (173) the same argument array type does not fix the number value of the Subject. Consider the sentence in (187).[17]

(187)	noo	pum	henge'ma-l-um	noma'maxum
	I	*aux*	*boys-absolutive-pl*	*I:like*
			⟨ASP: – | RIGHTAN: pl⟩	
	I like the boys.			

As this gloss suggests, the argument missing from the argument array is not limited to 'plural', although a plural Subject is certainly possible.

(188)	chaam	pum	henge'ma-l-um	chamma'maxum
	we	*aux*	*boys-absolutive-pl*	*we:like*
			⟨ASP: – | RIGHTAN: pl⟩	
	We like the boys.			

None of the differences between (187) and (188) is to be found in the argument array. That is, the argument array in either of these sentences does not require a fixing of the number value of the Subject, but rather is open for both person and number values. (189) (exemplified by (186)) is to be contrasted, then, with (190) (exemplified by (187) and (188)).

(189) [⟨x | Number⟩ PNumber$_{Subject}$]

(190) [⟨x | Number⟩ PN$_{Subject}$]

I have shown an interdependence between Subject type and array type:

(191)	Subject type	Array type	
	a. Person Subject	. . . | non-x	and Person in array
	b. Number Subject	x | Number	
	c. PN	an array with no more than a single critical value	

The relationship goes much deeper.

4.2.2 *Part Two*

When the Subject is a value other than 'PN' it varies with a value in the array. So, for example, in (175a), the Subject is '1sg' and the Constituent in the argument array bears the same person value.

(192) Constituent in array   Subject
⟨ASP: fut unch | RIGHTAN: 1sg⟩ 1sg

e.g. noo p no-ngee-pi miyq
I aux 1sg-leave-future:unchanging is

I have to leave.

Similarly, in (175e), the Subject is 'Ppl' and the Constituent in the argument array has a 'pl' value.

(193) Constituent in array   Subject
⟨ASP: unch | RIGHTAN: pl⟩ Ppl

e.g. yawaywi-ch-um mil miyqu$\not{s}$
beautiful-absolutive-pl aux was

They were beautiful.

It is impossible to have a '1sg' Subject if the person value in the Constituent is any other person value; equally, it is impossible to have a 'Ppl' Subject if the number value in the Constituent is any other number value. The representation of this interdependency suggests itself from the analysis of Words: I indicate the presence of the covarying value in the Constituent, but not the specific value itself; only the Subject has a fully specified value. (194a) and (194b) are the modified Argument Structures in (192) and (193) respectively.[18]

(194) a. [⟨ASP: fut unch | RIGHTAN: PERS⟩ 1sg]

b. [⟨ASP: unch | RIGHTAN: # ⟩ Ppl]

We are not dealing of course simply with covarying values. The referent of the Subject and the referent of the (part of the) Constituent bearing the value with which it covaries are related. The simplest example of this —

coreferentiality — is illustrated in (175d). (175d) contains a reflexive that covaries with the Subject.

(195) [⟨RIGHTAN: PERS refl⟩ 1sg]

notaax	nil	chaqalaqiqus̸
myself	*aux*	*was:tickling*
⟨RIGHTAN: 1sg refl⟩		

I was tickling myself.

(195) directly represents the fact that two arguments are present in the Argument Structure, but they are referentially non-distinct.

Coreferentiality between the referent of a reflexive and a Subject is only one of the referential possibilities. In this section we consider the others. The idea is very simple. The referential relationship varies with the Constituent types in an argument array. The exploration turns on differences among each of the four major Constituent types found in arrays, as introduced in Section 3.1 above.

(196) a. ⟨RIGHTAN: Person . . .⟩
b. ⟨RIGHTAN: Number⟩
c. ⟨RIGHTAN: object⟩
d. ⟨RIGHTAN: Postposition⟩

A Constituent with either ⟨RIGHTAN: Person . . .⟩ or ⟨RIGHTAN: Number⟩ is what I will term RELATIONAL; that is, the referent of either Constituent type need not be independent of the referent of the Subject. In contrast, a Constituent with either ⟨RIGHTAN: object⟩ or ⟨RIGHTAN: Postposition⟩ is NON-RELATIONAL; that is, the referent of either must be independent of the referent of the Subject. (195) is an example of ⟨RIGHTAN: Person . . .⟩ illustrating its relational character. A simple example of ⟨RIGHTAN: Number⟩ illustrating the same property is found in (175e) and (186). Here the Subject (Ppl) bears the property 'beautiful' identified by the obligatory Constituent.

(197) [⟨ASP: unch | RIGHTAN: # ⟩ Ppl]

yawaywi-ch-um	chamil	miyqus̸
beautiful-absolutive-pl	*aux*	*was*

We were beautiful.

The contrast between the relational ⟨RIGHTAN: Person . . .⟩ and ⟨RIGHTAN: Number⟩ and the non-relational ⟨RIGHTAN: object⟩ and ⟨RIGHTAN: Postposition⟩ is reasonably clear by contrasting these examples in (195) and (197) with (198) and (199). In (198) the ⟨RIGHTAN: object⟩ Constituent is referentially distinct from the Subject; in (199) the ⟨RIGHTAN: in⟩ Constituent is referentially distinct.

(198) [⟨ASP: — | RIGHTAN: obj⟩ PN]

e.g. nawitma-l-i upil 'ariqus̸
girl-absolutive-object aux was:kicking

He/she/it was/you (sg) were kicking the girl.

(199) [⟨ASP: — | RIGHTAN: in⟩ PN]

e.g. ki-nga upil 'aw'qus̸
house-in aux was:sitting

He was in the house.

This is not to say that the two relational Constituent types are identical, nor that the two non-relational Constituent types are. In fact, both types can be divided into two types again — where the basis for the divisions is the same in both cases.

With a person-Subject, the referential relationship is between it and ⟨RIGHTAN: Person . . .⟩. The reflexive case in (195) is, thus, an instance of a more general phenomenon. Not all person-marked Constituents are coreferential with a person-Subject, as the sentence in (200) clearly indicates.

(200) [⟨ASP: fut unch | RIGHTAN: PERS⟩ 1sg]

noo p no-ngee-pi miyq
I aux 1sg-leave-future:unchanging is

I have to leave.

We will be better able to characterize the referential relationship in this sentence when we consider embedding in Chapter Six. For now, the situation can be roughly characterized as shared reference — a weaker relationship than coreferentiality. The formal difference between this case and the reflexive case is quite clear from the contrast between the representations in (195) and (200).

(201) a. [⟨RIGHTAN: PERS refl⟩ 1sg]

b. [⟨ASP: fut unch | RIGHTAN: PERS⟩ 1sg]

In the reflexive case, the Constituent lacks any values other than those shared with the Subject; in the other case, the related Constituent maintains an independent value, specifically ⟨ASP: future unchanging⟩.

The ⟨RIGHTAN: Number⟩ Constituent type, in contrast, carries the potential — but not the necessity — for a referential relationship between it and a Subject. The 'attribution' relationship between the number-marked Constituent and the Subject in (197) exemplifies the realization of the potential. But we have seen that the presence of a number value in an array is not necessarily accompanied by a co-varying Subject value. Consider again the examples in (187) and (188). The Argument Structures for both is as in (202), with an open value Subject and the absence of a relationship between it and the obligatory Constituent.

(202) [⟨ASP: – | RIGHTAN: pl⟩ PN]

a. noo pum henge'ma-l-um noma'maxum
I aux boys-absolutive-pl I:like

I like the boys.

b. chaam pum henge'ma-l-um chamma'maxum
we aux boys-absolutive-pl we:like

We like the boys.

There are more complicated cases. Consider the Argument Structure in (203).

(203) [⟨ASP: –; ADAFF: PERS | RIGHTAN: pl⟩ 1sg]

noo pum no-toonav-um wunwun
I aux 1sg-basket-pl are:setting

I have baskets.

Here the number-marked Constituent also is possessed. And its possessor is coreferential with the Subject.

In short, if the Subject in an Argument Structure is referentially related to the argument array and the argument array includes a Constituent of the type ⟨RIGHTAN: Person . . .⟩, this value must yield the Subject; however, if the Subject in an Argument Structure is referentially related to the argument array and the argument array includes a Constituent ⟨RIGHTAN: Number⟩, this value need not yield the Subject. I will label this property of ⟨RIGHTAN: Number⟩ TRANSFERABILITY, to indicate that although this Constituent type is relational, it does not exclude other referential relationships between the Subject and the array. The label is intended to highlight this important difference: If the referent of the number-marked Constituent is not related to the Subject, the referent of its possessor can be. But if the referent of a person-marked Constituent is not related to the Subject, there is no other Constituent-internal possibility.

The difference between the non-relational Constituent types ⟨RIGHTAN: object⟩ and ⟨RIGHTAN: Postposition⟩ is interestingly parallel.

(204) [⟨ASP: – | RIGHTAN: sg⟩
⟨ASP; –; ADAFF: PERS | RIGHTAN: at⟩ 1sg]

noo p tapashma-l no-kun-nga 'aw'q
I aux mouse-absolutive 1sg-sack-in is:sitting

I have a mouse in a sack.

(205) [⟨ASP: –; ADAFF: 1sg | RIGHTAN: obj⟩ PN]

wunaal upil no-toonav-i yawquś
he aux 1sg-basket-object had

He had my basket.

In (204) the possessor of the Postposition-marked Constituent is, like the possessor in (203), coreferential with the Subject. The referent of a Postposition-marked Constituent is necessarily independent of the Subject, because it is non-relational, but like a Number-marked Constituent it allows its possessor to be coreferential with the Subject. This possibility requires the existence of a relational Constituent in the Argument Structure – cf. the Constituent ⟨RIGHTAN: sg⟩ in (204). We will say then that a Postposition-marked Constituent *accepts the transfer* of a referential relationship from a relational Constituent. An Argument Structure as in (205), in contrast, always indicates simple physical possession and precludes any such possession as conferring a necessary relationship between the possessor (the Subject) and the possession. Thus, in general, one has someone else's possession. Hence, while the Argument Structure in (205) contains a Subject open for both person and number values, it is not the case that one of those possibilities will be '1sg'. The sentence in (206) is at best highly unlikely.

(206) noo pil no-toonav-i yawquś
I aux 1sg-basket-object had

I had my basket.

An object-marked Constituent does not accept the transfer of a referential relationship from a relational Constituent. The Subject will not be coreferential with this Constituent, because it is non-relational, but it will also not be coreferential with its possessor. In other words, an object-marked Constituent which includes an obligatory Possessive necessarily has a 'negative' relationship to the Subject; the presence of the person value must be interpreted as indicating a referent disjoint with the Subject.

We've moved in this discussion from showing that the value of a non-PN Subject varies with the value of another element in the array to showing that the Subject and either a Constituent or a possessor in the array have the possibility of a referential relationship in the Argument Structure. Most importantly, the possibility of this relationship varies with the Constituent types in the argument array and the particular relationship can be determined by these types.

4.2.3 *Part Three*

I have ignored one argument array, that in (207).

(207) ⟨ASP: ASP | RIGHTAN: Person generic⟩

This would appear to be yet another example of the Constituent type involved in coreference i.e. ⟨RIGHTAN: Person . . .⟩. However, the person value in this Constituent does not exhibit the full range of person values available to the other members of this type discussed above; in fact, as a result of the properties of the Word it contains, the person value of this Constituent's RIGHTAN feature must be '3': A Base Form including the aspectual Suffix *-lo* accepts only a third person Possessive.

(208) a. ⟨ASP: ASP | RIGHTAN: 3sg generic⟩

poloov up po-heeli-lo
good aux 3sg-sing-generic

It is nice to sing.

b. ⟨ASP: ASP | RIGHTAN: 3pl generic⟩

poloov up pom-heeli-lo
good aux 3pl-sing-generic

It is nice to sing.

c. ⟨ASP: ASP | RIGHTAN: 1sg generic⟩

*poloov up no-heeli-lo
good aux 1sg-sing-generic

The lack of contrast between the glosses of (208a) and (208b) suggests yet another difference: Because there is no difference associated with '3sg' and '3pl', the Subject doesn't vary with the value of the Constituent. There appear to be two analytical choices. We could analyze this argument array as yielding an Argument Structure which lacks a Subject.

(209) [⟨ASP: ASP | RIGHTAN: 3sg/pl generic⟩]

If we take this tack, we lose the possibility of generalizing across all Argument Structures, as containing both an argument array and an addition to it (the Subject) where the possibilities available to one are necessarily related to the other. The second choice is to analyze this argument array as yielding a Subject entirely lacking in person/number content, indicated by **X** in (210).

(210) [⟨ASP: ASP | RIGHTAN: 3sg/pl generic⟩ X]

X is different from **PN**. **PN** indicates that the Subject is open to any person/number possibility; **X** indicates that the Subject is open to no person/number possibility. This choice allows us to maintain the generalization at issue and thus will be the one adopted.

4.3 *The Place of the Conditions*

The proposals of Section 4.2 show that it is possible, given a set of Constituents which conform to the anti-agreement conditions, to determine the character of what we have called an Argument Structure, i.e. the Constituents themselves plus a Subject and an indication of the relationship between the two. For example, take the sets of Constituents in (211).

(211) a. ⟨hengeemali⟩
⟨—; l; sg | obj⟩
⟨boy⟩

⟨'oteelay⟩
⟨—; 2sg; number | obj⟩
⟨your language⟩

b. ⟨tapashmal⟩
⟨—; l; # | sg⟩
⟨mouse⟩

⟨nokunnga⟩
⟨—; 1sg; number | in⟩
⟨in my bag⟩

c. ⟨pahchum noṣwaamayum⟩
⟨—; 1sg; # | pl⟩
⟨my three daughters⟩

d. ⟨yawaywichum⟩
⟨unch; sh; # | pl⟩
⟨beautiful⟩

Assuming that the values for ADAFF and NUM may be non-crucial properties of a Constituent in the argument array, as discussed in Section 3 above, each of these formal values can be modified. For the purposes of this illustration, I assume the modifications in (212). The modifications represent the crucial properties and the difference between these and the non-crucial properties in the fashion suggested above. (Note that the modifications of *'oteelay, nokunnga*, and *pahchum noṣwaamayum* could involve different choices for the representation of ADAFF.)

(212) a. ⟨hengeemali⟩
⟨ASP: — | RIGHTAN: obj⟩
ADAFF: l; NUM: sg
⟨boy⟩

⟨'oteelay⟩
⟨ASP: — | RIGHTAN: obj⟩
ADAFF: 2sg; NUM: number
⟨your language⟩

(212) b. ⟨tapashmal⟩
⟨ASP: – | RIGHTAN: sg⟩
ADAFF: l; NUM: #
⟨mouse⟩

⟨nokunnga⟩
⟨ASP: –; ADAFF: 1sg | RIGHTAN: in⟩
NUM: number
⟨in my bag⟩

c. ⟨pahchum nośwaamayum⟩
⟨ASP: –; ADAFF: 1sg |RIGHTAN: pl⟩
NUM: #
⟨my three daughters⟩

d. ⟨yawaywichum⟩
⟨ASP: unch | RIGHTAN: pl⟩
ADAFF: sh; NUM: #
⟨beautiful⟩

A simple check of the Conditions on Anti-Agreement will verify that each set in (212) satisfies them. I repeat the Conditions to provide the check.

(213) Conditions on Anti-Agreement

1. *⟨RIGHTAN: Postposition⟩ . . . ⟨RIGHTAN: Postposition⟩
2. *⟨RIGHTAN: . . . Number⟩ . . . ⟨RIGHTAN: . . . Number⟩
3. *⟨RIGHTAN: object⟩ . . . ⟨RIGHTAN: Number⟩
4. *⟨ASP: aspect⟩ . . . ⟨ASP: aspect⟩
5. *⟨. . . Person . . .⟩ . . . ⟨. . . Person . . .⟩
6. *⟨ADAFF: Person . . .⟩ . . . ⟨RIGHTAN: $\left\{\begin{matrix}\text{object}\\ \text{Postposition}\end{matrix}\right\}$

The result of applying the Conditions on Anti-Agreement to a satisfactory argument array is an Argument Structure. The point of the preceding discussion is to show that it is possible to predict the character of the resulting Argument Structure from the Constituents in an argument array. Considering formal values only, the Constituent sets in (212) yield the Argument Structures in (214). Note that the argument array in (212d) yields two distinct Argument Structures.

(214) a. [⟨ASP: – | RIGHTAN: obj⟩⟨ASP: – | RIGHTAN: obj⟩ PN]

(214) b. [⟨ASP: – | RIGHTAN: sg⟩
⟨ASP: –; ADAFF: PERS | RIGHTAN: in⟩ 1sg]

c. [⟨ASP: –; ADAFF: PERS | RIGHTAN: pl⟩ 1sg]

d.1 [⟨ASP: unch | RIGHTAN: # ⟩ Ppl]

d.2 [⟨ASP: unch | RIGHTAN: pl⟩ PN]

At issue now is the claim that the Conditions on Anti-Agreement should fill the role I have proposed for them in this analysis — the function from a Constituent set to an Argument Structure. The argument in support of this idea is conceptually simple: The Conditions on Anti-Agreement might appear entirely arbitrary; however, if their effect is to add a Subject to a Constituent set and to indicate the connection between the Subject and the Constituent set, at least some of them have a straightforward account. I must begin with a disclaimer. I have no account of the third or the sixth condition. The fourth is a restriction against two embeddings in a single Argument Structure, a restriction that appears to be true of English as well, although I can offer no reason why such a restriction should exist. We are concerned, in short, with the first, second, and fifth conditions.

An argument array with the Constituent type ⟨RIGHTAN: Number⟩ is compatible with any of the Subject possibilities, as we saw in Section 4.2. The ellipses in (215) leave open the presence of other Constituents and their properties.

(215) [. . .⟨RIGHTAN: Number⟩ PN]
e.g. 'I like the boys.'

[. . .⟨RIGHTAN: # ⟩ Psg]
e.g. 'She was beautiful.'

[. . .⟨RIGHTAN: Number⟩ 1sg]
e.g. 'I have three daughters.'

etc.

However, if the Subject is anything but PN, it must referentially fix an element in the argument array, but not necessarily the Number-marked Constituent.

(216) a. [. . .⟨RIGHTAN: # ⟩ Psg]
or
b. [. . .⟨RIGHTAN: Number⟩ Psg]

(217) a. [. . .⟨ADAFF: PERS | RIGHTAN: Number⟩ 1sg]

or

b. [⟨ADAFF: PERS⟩ ⟨RIGHTAN: Number⟩ 1sg]

(216a) and (217a) are non-problematic. But consider (216b) and (217b), *if* the other element in the array were object-marked.

(218) a. [⟨RIGHTAN: object⟩ ⟨RIGHTAN: Number⟩ Psg]

b. [⟨ADAFF: PERS | RIGHTAN: obj⟩ ⟨RIGHTAN: Number⟩ 1sg]

Neither of these Subjects can be referentially related to the object-marked Constituent: An object-marked Constituent is non-relational, and its possessor, if represented in the Argument Structure, is obligatorily disjoint with the Subject.

In short, the restriction against a combination of the two Constituent types ⟨RIGHTAN: object⟩ and ⟨RIGHTAN: Number⟩ ensures that a non-PN Subject and some element in the array will co-vary. (216b) and (217b) are eliminated out of hand, if the other element in the array is object-marked. If we take the Argument Structure as the argument array plus the Subject and if we take the Conditions on Anti-Agreement as the function from a collection of Constituents to the Argument Structure, the necessity of this condition is clear.

The result of the condition eliminating multiple Constituents of the type ⟨RIGHTAN: . . . Number⟩ is slightly stronger, and equally clear. It insures that a Subject will be referentially related to maximally one element in the argument array. The condition eliminates any of the three combinations in (219).

(219) a. ⟨RIGHTAN: person . . .⟩ ⟨RIGHTAN: Number⟩

b. ⟨RIGHTAN: person . . .⟩ ⟨RIGHTAN: person . . .⟩

c. ⟨RIGHTAN: Number⟩ ⟨RIGHTAN: Number⟩

It is easy to conceive of a different condition which would maintain the possibility of associating a single Subject with an array but which would not limit the connection to one element in the array. Suppose it were the case that two or more Constituents of the form ⟨RIGHTAN: . . . Number⟩ were possible, as e.g. in (220), as long as the values were compatible throughout.

(220) a. ⟨RIGHTAN: 1sg⟩ ⟨RIGHTAN: sg⟩

b. ⟨RIGHTAN: 1sg⟩ ⟨RIGHTAN: 1sg⟩

c. ⟨RIGHTAN: sg⟩ ⟨RIGHTAN: sg⟩

Since the values of the elements in these arrays are compatible — identical in fact in (220b) and (220c) — they present no obvious problem for the association with an array of a single person/number value.

(221) a. [⟨RIGHTAN: 1sg⟩ ⟨RIGHTAN: sg⟩ 1sg]
b. [⟨RIGHTAN: 1sg⟩ ⟨RIGHTAN: 1sg⟩ 1sg]
c. [⟨RIGHTAN: sg⟩ ⟨RIGHTAN: sg⟩ Psg]

But in all three cases, it would be possible — assuming the analysis above — for the Subject to bear a referential relationship to both such elements. Consider (221b), for example. I have shown that any Constituent of the type ⟨RIGHTAN: person . . .⟩ is obligatorily related to a Subject which is a specific person/number value. So, the analysis in (222) would be possible.

(222) [⟨RIGHTAN: PERS⟩ ⟨RIGHTAN: PERS⟩ 1sg]

However, the condition at issue does not simply require compatibility between the person and number values in the array; rather it eliminates the logically possible situations under which such compatibility might be required. The result of the condition on multiple occurrences of ⟨RIGHTAN: . . . Number⟩, in short, is that a Subject is related to maximally one element in an argument array.

This conclusion doesn't offer an account of the condition; it simply makes explicit its consequences. In Section 4.2 I not only stated which elements in an array will be related to the Subject, I also indicated, albeit briefly and non-systematically, the type of relationship at issue. Limiting the Subject to a relationship with one and only one Constituent in the argument array results in a limitation to one type of relationship. It is reasonable to assume that the Subject cannot simultaneously hold more than one such role, and that the Subject cannot bear the same role relative to two elements simultaneously. For example, it is reasonable to assume that the Subject cannot simultaneously be coreferential with one element in the argument array and in possession of another, nor will it be coreferential to two simultaneously. In short, this condition has to do, like the condition limiting a combination of Number-marked and object-marked elements, with analyzability. If the Conditions on Anti-Agreement take an argument array and add another argument which, if it is anything other than PN, must be related to an element in the array, the necessity of the restriction to no more than a single number value is clear.

Finally, we consider the restriction against multiple person values in the Argument Structure, the fifth condition in (213). This condition is required in only a subset of the cases where it would appear to apply. The condition eliminating multiple occurrences of ⟨RIGHTAN | . . . Number⟩ precludes a combination as in (223), regardless of any consideration having to do with person values.

(223) ⟨ADAFF: Person | RIGHTAN: Number⟩
⟨ADAFF: Person | RIGHTAN: Number⟩

Similarly, this condition eliminates either of the combinations in (224), regardless of person values.

(224) a. ⟨RIGHTAN: Person . . .⟩ ⟨RIGHTAN: Person . . .⟩
b. ⟨ADAFF: Person | RIGHTAN: Number⟩
⟨RIGHTAN: Person . . .⟩

However, neither accounts for the absence of the combinations in (225).[19]

(225) a. ⟨ADAFF: Person | RIGHTAN: obj⟩
⟨RIGHTAN: Person refl⟩

b. ⟨ADAFF: Person | RIGHTAN: obj⟩
⟨ASP: ASP | RIGHTAN: Person generic⟩

The non-occurrence of these cases is what requires the condition eliminating multiple occurrences of Person values, regardless of the feature with which they are associated.

The collocations in (225) are those where one person value can be positively connected to the Subject.

(226) a. [⟨ADAFF: Person | RIGHTAN: obj⟩
⟨RIGHTAN: PERS refl⟩ Subject]

b. [⟨ADAFF: Person | RIGHTAN: obj⟩
⟨ASP: ASP | RIGHTAN: PERS generic⟩ Subject]

This suggests that the basis of the restriction on multiple-person values has to do not simply with the fact that a Subject must be related to maximally one element in the argument array, but more strongly that the relationship must be referential.

A person value in the argument array has one of two possibilities. It may yield its value to the Subject and, therefore, be referentially dependent on it. We have yet to fix the referentiality of the Subject itself — this will be explored further in following chapters. If a person value in the argument array is not connected to the Subject, it must be not simply independently referential; its referentiality must be disjoint from that of the Subject.

Against this background the two cases in (225) share an obvious property. The two person values at issue must be referentially distinct from one another, but both must bear a referential relationship to the Subject. In sum, the restriction against multiple-person values in the argument array devolves to a condition that there be maximally one element in an Argument Structure referentially dependent on the Subject, either referentially bound or referentially disjoint. This is clearly more restrictive than the proposal made in regard to the condition on multiple number marking — i.e. that the Subject analyzes maximally one element in the array. And it is precisely the situation identified by the analysis of Argument Structure above.

4.4 *Conclusion*

At the beginning of this section I noted a number of arguments for analyzing the Conditions on Anti-Agreement as a functor on a par with the Conditions on Agreement. The best argument, however, is the one to which the body of this section has been devoted. An Argument Structure is more than the sum of the Constituents it contains; it also includes a Subject and an indication of the relationship between the two. As a consequence, the addition of the Subject and the relationship involved can be accomplished in an entirely general fashion. The effect of a subset of the Conditions on Anti-Agreement is consistent with this conclusion.

The place of global conditions on agreement and anti-agreement in the grammar of Luiseño is my major focus, with the goal of showing that they are essential to the creation of certain kinds of syntactic units, what I have termed syntactically inaccessible but phonologically accessible. The next section offers a first test of this claim. But, before we take up this issue, certain aspects of the analysis of Argument Structures deserve highlighting. First, the set of Argument Structures proposed here requires a far more complex theory of argument types than one which distinguishes between subject, direct object, and indirect object. The application of each of these is intuitively quite clear — the subject is the person/number value, the direct object is a ⟨RIGHTAN: object⟩ Constituent; and the indirect object is a ⟨RIGHTAN: Postposition⟩ Constituent in an Argument Structure which contains a direct object Constituent. However, these are only a very small subset of the argument types required, arguing for a considerable enrichment the theory of argument types. Second, the Argument Structure is a syntactic unit which lacks a 'head', insofar as we take a 'head' to be the lexical category upon which the syntactic category depends. In the analysis of Constituents, I suggested that, by and large, we could take the 'head' to be the Word which supplied the formal value of the Constituent. This option is simply not available in an Argument Structure.

5. A FIRST LOOK AT CATEGORY TYPE

A Luiseño Constituent and a Luiseño Argument Structure are both the result of the same kind of functor — obligatory (neither a Constituent nor an Argument Structure exists in the absence of the functor); listable (both sets of conditions are not only finite, but small); and non-localizable (the Constituent Functor and the Argument Functor refer to a set of conditions). According to the notion of grammatical architecture developed in Chapter One, this requires that a Constituent and an Argument Structure be of the same category type: Both are syntactically inaccessible, but phonologically accessible.

One similarity between these two categories is interestingly consistent with this prediction. I noted at the beginning of this chapter and in Chapter One that the members of a Constituent need not be adjacent to one another. Consider, again, the sentence in (227) where the Words *nawitmali* and *yawaywichi*, members of a single Constituent, are discontinuous:

(227) nawitmali nil chaqalaqiquś yawaywichi
girl:object aux was:tickling beautiful:number:object

I was tickling the beautiful girl.

Similarly, the members of an Argument Structure need not be adjacent to one another. In (228) none of the three Constituents in the tritransitive Argument Structure is adjacent to another.

(228) mariyi nil potoonavi 'oovininax poyk
Mary:object aux her:basket:object made:give to:him

I made Mary give her basket to him.

The possibility of discontinuities for both a Constituent and an Argument Structure is a prima facie argument for their phonological accessibility, according to the proposals of Chapter One. Thus, this similarity between Constituent and Argument Structure is at least consistent with our predictions.[20]

However, this proposal will be stronger if we can find non-definitional similarities. One striking similarity is found in embedding, but it depends on the analysis presented in Chapter Four and must be postponed, therefore. (Chapter Six takes up the argument based on the properties of embedded structures.) Another similarity, independent of pending analyses, has to do with 'additions' to the categories. A Constituent with a person value for the feature ADAFF allows the addition of a Constituent compatible with its value.

(229) nawitmal ⟨po-puush yawaywish⟩
girl [his-face beautiful]

the girl's beautiful face.

(229) b. noo ⟨no-toonav 'alaxwush⟩
I [*my-basket ugly*]
my ugly basket.

This possibility was mentioned in the discussion of Constituents earlier in this chapter. We are concerned here, first, with formalizing the rule by which sequences as in (229) are constructed and, second, with showing that it extends non-problematically to Argument Structures. The idea is that this kind of 'addition' is a test in Luiseño for a syntactically unaccessible (but phonologically accessible) category.

5.1 *The Rule taking Constituents to Constituents*

The most general statement of the rule which yields the sequences in (229) is given in (230).

(230) Constituent: Constituent → Constituent

That is, the Constituent *nawitmal* applies to the Constituent *popuush yawaywish* to yield the Constituent *nawitmal popuush yawaywish*. The rule in (230) is too general. Most obviously, (230) does not represent the fact that each of the three instances of *Constituent* is different from the others.

The only Constituent types to serve as the argument in (230) are those with a value for person and number in ADAFF — that is, Constituents (a) which include a Word with one of the Possessives *no, 'o, po, cham, 'om*, or *pom* and (b) whose value for RIGHTAN is independent of ADAFF. That is, any of the Constituent types in (231) are possible arguments, while none of those in (232) or (233) are. (The variable *X* refers to any value but person.)

(231) ⟨ADAFF: Person; | RIGHTAN: object⟩
⟨ADAFF: Person | RIGHTAN: Postposition⟩
⟨ADAFF: Person | RIGHTAN: Number⟩

(232) ⟨ADAFF: — | RIGHTAN: Postposition⟩
⟨ADAFF: X | RIGHTAN: Number⟩
⟨ADAFF: — | RIGHTAN: Imperative⟩
⟨ADAFF: — | RIGHTAN: preceding⟩
⟨ADAFF: X | RIGHTAN: object⟩
⟨ADAFF: — | RIGHTAN: Tense/Aspect⟩

(233) ⟨ADAFF: POSS | RIGHTAN: Person⟩
⟨ADAFF: POSS | RIGHTAN: Person generic⟩
⟨ADAFF: Person ≠ | RIGHTAN: Number⟩
⟨RIGHTAN: Person reflexive⟩
⟨ADAFF: POSS | RIGHTAN: Person try⟩

The examples in (234) illustrate the three cases in (231) respectively.

(234) a. X ⟨ADAFF: 3pl | RIGHTAN: object⟩

henge'malum pom-tooyaqala-y

the boys are laughing

as in:

noo n 'ayaliq henge'malum pomtooyaqalay
I aux know ***boys*** ***3pl:laughing:object***

I know that the boys are laughing.

b. X ⟨ADAFF: 3sg | RIGHTAN: on⟩

hengeemal po-taana-nga yuvaataana-nga

on the boy's black blanket

as in:

noo n 'aw'q
I aux is:sitting

hengeemal potaananga yuvaataananga
boy ***3sg:blanket:on*** ***black:on***

I am sitting on the boy's black blanket.

c. X ⟨ADAFF: 3sg | RIGHTAN: pl⟩

hengeemal po-'aach-um hunwut-um

the boy's bears

as in:

hengeemal pum po'aachum hunwutum xaariwun
boy *aux* ***his:pets*** ***bears*** *are:growling*

The boy's bears are growling.

The impossibility of the collocations in (235) supports the necessity of the Possessive in the argument in the Constituent to Constituent rule and, hence, the impossibility of all the Constituent types in (232).

(235) a. X ⟨ADAFF: t | RIGHTAN: object⟩

*hengeemal	hunwu-t-i	yuvaataant-i
boy	*bear-absolutive-object*	*black-number:object*

b. X ⟨ADAFF: t | RIGHTAN: pl⟩

*henge'malum	taana-t-um	yawaywich-um
boys	*blanket-absolutive-pl*	*beautiful-pl:no:object*

Demonstrating that the Constituent types in (233) also may not be the argument is slightly trickier. Consider the sentence in (236), which contains a (single-word) Constituent of the first type in (233).

(236) ⟨ADAFF: POSS | RIGHTAN: 1pl⟩

chaam	p	cham-ngeepi	miyq
we	*aux*	***1pl-leave:future:unchanging***	***is***

We have to leave.

It might seem reasonable to analyze *chaam* as the functor, taking the Constituent *chamngeepi* and yielding the Constituent *chaam chamngeepi*. Evidence against this analysis, however, is easy to find. As mentioned in Chapter One the aux occurs in sentential second position, where second position can be either following the first Word or following the first Constituent. If *chaam* were the functor on *chamngeepi*, the result would be a Constituent and the aux should have the option of following the entire Constituent. But the sentence in (237) is unacceptable.[21]

(237) [we ⟨ADAFF: POSS | RIGHTAN: 1pl⟩]

*chaam	cham-ngeepi	p	miyq
we	*1pl-leave:future:unchanging*	*aux*	*is*

Compare the contrast between (236) and (237) to the pair of sentences in (238), each of which contains the Constituent *hengeemal po'aachi hunwuti* 'the boy's bear'. Here the aux has two possible positions.

(238) a.

hengeemal	nupo	po-'aachi	hunwuti	'arin
boy	*aux*	***3sg-pet:object***	***bear:object***	*will:kick*

I will kick the boy's bear.

b.

hengeemal	po-'aachi	hunwuti	nupo	'arin
boy	***3sg-pet:object***	***bear:object***	*aux*	*will:kick*

I will kick the boy's bear.

We can account for the difference between the sequence *chaam chamngeepi* in (236) and (237) and the sequence *hengeemal po'aachi hunwuti* in (238) quite simply by saying that *chaam* is not part of a Constituent with *chamngeepi* — is not, that is, the functor from *chamngeepi* to *chaam* *chamngeepi*. The critical difference rests in the fact that the Constituent *chamngeepi* cannot be the argument in the Constituent to Constituent rule because the feature ADAFF does not have a Person value at all.

In short, the argument in the Constituent to Constituent rule can be refined to:[22]

(239) Constituent: ⟨ADAFF: Person⟩ → Constituent

The above examples of the functor in this rule are single Words. Although a Constituent minimally contains a single Word, the functor here is not, of course, so limited.

(240) X ⟨ADAFF: 3sg | RIGHTAN: object⟩

hunwut yuvaataat po-puuch-i

the black bear's eyes

as in:

noo	n	toowq	hunwut	yuvaataat	po-puuch-i
I	*aux*	*is:looking:at*	***bear***	***black***	***3sg-eyes-object***

I am looking at the black bear's eyes.

Otherwise, any such Constituent must satisfy three criteria. First, its RIGHTAN value must involve only number. So, none of the Constituent types in (241) is available.

(241) ⟨RIGHTAN: Tense/Aspect⟩

⟨RIGHTAN: Imperative⟩

⟨RIGHTAN: preceding⟩

⟨RIGHTAN: Postposition⟩

⟨RIGHTAN: object⟩

⟨RIGHTAN: Person⟩

⟨RIGHTAN: Person generic⟩

⟨RIGHTAN: Person reflexive⟩

⟨RIGHTAN: Person try⟩

However, that in (242) is.

(242) ⟨RIGHTAN: Number⟩

Second, such a Constituent may not have an aspectual value for the feature ASP. So, the Constituent type in (243) is a potential functor, but that in (244) is not.

(243) ⟨ASP: – | RIGHTAN: Number⟩

(244) ⟨ASP: Aspect | RIGHTAN: Number⟩

(240) illustrates (243),[23] and (245) adds the functor properties to the rule.

(245) ⟨ADAFF: — | RIGHTAN: Number⟩:
⟨ADAFF: Person⟩ → Constituent

We are not quite finished with the functor, however. The forms *noo* 'I', *'om* 'you (sg)', *po* 'he, she, it', *chaam* 'we', *'omom* 'you (pl)', *pomom* 'they' can be the functor as well.

(246) noo no-taana-y
noo⟨ADAFF: 1sg | RIGHTAN: object⟩
my blanket (object)

as in:

'ariq	up	noo	no-taana-y
is:kicking	*aux*	*I*	*1sg-blanket-object*

He is kicking my blanket.

These forms are not entirely regular Words. Their crucial property is a person value. It is probably best, for reasons which will become obvious below, to write a rule for each of these forms to accompany the more general rule in (245).[24]

(247) noo: ⟨ADAFF: Person⟩ → Constituent
'om: ⟨ADAFF: Person⟩ → Constituent
po: ⟨ADAFF: Person⟩ → Constituent
chaam: ⟨ADAFF: Person⟩ → Constituent
'omom: ⟨ADAFF: Person⟩ → Constituent
pomom: ⟨ADAFF: Person⟩ → Constituent

Not every potential functor is compatible with every properly specified Constituent. Consider the contrast between the Constituent in (246) and the unacceptable one in (248).

(248) ⟨ASP: — | RIGHTAN: sg⟩⟨ADAFF: 1sg | RIGHTAN: object⟩

*hengeemal	no-taana-y
boy	*1sg-blanket-object*

The argument value includes six different possibilities — '1sg' etc. The functor must be compatible with whichever of these values its argument might have. The Constituent in (246) contains a compatible functor; that in (248) does not. (249) incorporates this observation.

(249) a. noo: ⟨ADAFF: 1sg⟩ → Constituent
b. 'om: ⟨ADAFF: 2sg⟩ → Constituent

(249) c. po: ⟨ADAFF: 3sg⟩ → Constituent
d. chaam: ⟨ADAFF: 1pl⟩ → Constituent
e. 'omom: ⟨ADAFF: 2pl⟩ → Constituent
f. pomom: ⟨ADAFF: 3pl⟩ → Constituent
g. ⟨ASP: — | RIGHTAN: pl/number⟩:
⟨ADAFF: person-pl⟩ → Constituent
h. ⟨ASP: — | RIGHTAN: sg/number⟩:
⟨ADAFF: person-sg⟩ → Constituent

(250) demonstrates their application.

(250) a. chaam: ⟨ADAFF: 1pl | RIGHTAN: object⟩ → Constituent
chaam cham-taana-y
our blanket (object)

as in:

'ariq	up	chaam	cham-taana-y
is:kicking	*aux*	*we*	*1pl-blanket-object*

He is kicking our blanket.

b. 'om: ⟨ADAFF: 2sg | RIGHTAN: object⟩ → Constituent
'om 'o-taana-y
your blanket (object)

as in:

'ariq	up	'om	'o-taana-y
is:kicking	*aux*	*you*	*2sg-blanket-object*

He is kicking your blanket.

c. ⟨ASP: — | RIGHTAN: sg⟩: ⟨ADAFF: 3sg | RIGHTAN: object⟩ → Constituent
hengeemal po-taana-y
the boy's blanket (object)

as in:

'ariq	up	hengeemal	po-taana-y
is:kicking	*aux*	*boy*	*his-blanket-object*

He is kicking the boy's blanket.

Only the analysis of the resulting Constituent remains. I assume that the phonological effect of the rule is the addition of the phonological values of the functor and the argument and that the functor has no semantic effect on its argument.[25]

(251) ⟨hengeemal⟩ ⟨poyoyi⟩
⟨—; l; # | sg⟩: ⟨—; 3sg; sg | object⟩ →
⟨boy⟩ ⟨mother⟩

⟨hengeemal poyoyi⟩ or ⟨poyoyi hengeemal⟩
⟨mother⟩

The formal value is our primary concern. The effect of the rules in (249) is to replace the compatible part of the argument's formal value (i.e. the Person value for ADAFF) with its own formal value. So, the formal value of the Constituent in (251) is to be represented, after the application of (249g) as in (252).

(252) ⟨ASP: —; ADAFF: ⟨—; l; # | sg⟩; NUM: sg | RIGHTAN: object⟩

The effect is obvious: The person value upon which the application of the rule depends is no longer part of the representation of a Constituent to which it has applied. The benefits of this proposal are clear. In the analysis of the Argument Structure, there is reference to the presence of a Possessive in one of the member Constituents. However, the Possessive cannot be one accompanied by a compatible form, as allowed by the application of (249). Consider the two Constituents in (253).[26]

(253) a. ⟨—; ADAFF: ⟨—; l; # | sg⟩; # | sg⟩
e.g. ǥungaal po-ǥwaamay
the woman's daughter

b. ⟨—; ADAFF: 3sg; # | sg⟩
e.g. po-ǥwaamay
her daughter

'aw', as the element which controls the number and form of arguments in an Argument Structure, can require the presence of a Possessive. The Constituent in (253b), but not that in (253a), satisfies this requirement.

(254) a. ya'ash up po-ǥwaamay 'aw'q
man aux 3sg-daughter is:sitting
⟨—; ADAFF: 3sg; # | sg⟩

The man has a daughter.

b. *ya'ash up ǥungaal po-ǥwaamay 'aw'q
man aux woman 3sg-daughter is:sitting
⟨—; ADAFF: ⟨—; l; # | sg⟩; # | sg⟩

ya'ash in (254a) does not occur in the Constituent containing the Possessive-marked form. As discussed in regard to an earlier example, if *ya'ash* were in a Constituent with *poꞩwaamay*, we would expect the aux to be able to follow the entire Constituent. But the sentence in (255), under the reading 'The man has a daughter' as in (254a), is unacceptable.

(255)	*ya'ash	po-ꞩwaamay	up	'aw'q
	man	*3sg-daughter*	*aux*	*is:sitting*
		⟨—; ADAFF: 3sg; # | sg⟩		

By incorporating the instantiation of the functor Constituent in the formal value of the argument Constituent, we account for the difference between (254a) and (254b): Only the latter has a person value for ADAFF and, thus, only the latter is available to constructions which require its presence.

Incorporating this principle, (256) completes the rule.

(256) a. noo: ⟨ADAFF: 1sg⟩ → ⟨ADAFF: ⟨1sg⟩⟩

b. 'om: ⟨ADAFF: 2sg⟩ → ⟨ADAFF: ⟨2sg⟩⟩

c. po: ⟨ADAFF: 3sg⟩ → ⟨ADAFF: ⟨3sg⟩⟩

d. chaam: ⟨ADAFF: 1pl⟩ → ⟨ADAFF: ⟨1pl⟩⟩

e. 'omom: ⟨ADAFF: 2pl⟩ → ⟨ADAFF: ⟨2pl⟩⟩

f. pomom: ⟨ADAFF: 3pl⟩ → ⟨ADAFF: ⟨3rd pl⟩⟩

g. ⟨ASP: — | RIGHTAN: pl/number⟩: ⟨ADAFF: person-pl⟩ → ⟨ADAFF: ⟨ASP: — | RIGHTAN: pl/number⟩⟩

h. ⟨ASP: — | RIGHTAN: sg/number⟩: ⟨ADAFF: person-sg⟩ → ⟨ADAFF: ⟨ASP: — | RIGHTAN: sg/number⟩⟩

And we complete the category of the Constituent in (251) accordingly.

(257)	⟨hengeemal⟩	⟨poyoyi⟩
	⟨—; l; # | sg⟩:	⟨—; 3sg; sg | object⟩ →
	⟨boy⟩	⟨mother⟩

⟨hengeemal poyoyi or poyoyi hengeemal⟩
⟨—; ⟨—; l; # | sg⟩; sg | object⟩
⟨mother⟩

5.2 *The Rule that Takes Argument Structures to Argument Structures*

The test for the claim that a Constituent and an Argument Structure are of the same type in the typology proposed in Chapter One is offered by extending (256) to the latter. The analogous rule for Argument Structures might appear to have two distinct possibilities. The Subject in an Argument Structure can offer a person value, e.g.:

(258) [⟨ASP: –; ADAFF: PERS | RIGHTAN: pl⟩ 1sg]

but the transitive-possessive Argument Structure also offers a non-Subject person value, e.g.:

(259) [⟨ASP: –; ADAFF: 3sg | RIGHTAN: object⟩ PN]

In fact, the non-Subject person value alone provides the predicted parallel.
Consider (260).

(260) yawwun pum po-toonav-i
have aux 3sg-basket-object
⟨ASP: –; ADAFF: 3sg | RIGHTAN: obj⟩

They have his basket.

The Argument Structure in (260) is analyzed as in (259). (261) differs from (260) only in the presence of the form *hengeemal.*

(261) yawwun pum hengeemal po-toonav-i
have aux boy 3sg-basket-object
⟨ASP: –; ADAFF: 3sg | RIGHTAN: obj⟩

They have the boy's basket.

hengeemal cannot be the functor from Constituent to Constituent. If it were, *hengeemal potoonavi*:

(262) ⟨ASP: –; ADAFF: ⟨–; l; # | sg⟩ | RIGHTAN: object⟩

would be the Constituent in the Argument Structure. But as we saw in the discussion of Argument Structures, a Person value for ADAFF (supplied by the Possessive) is a necessary property of the Constituent in this Argument Structure. The Constituent in (262) lacks the obligatory Person value; it has been replaced by *hengeemal.* Hence, the Constituent in the Argument Structure in (262) cannot be subject to the rule which takes a Constituent and yields a Constituent. Constituents resulting from this rule do appear in the Argument Structure, of course. (263) contains the Constituent in (262), for example.

(263) 'ariwun pum hengeemal po-toonav-i
are:kicking aux boy 3sg-basket-object

They are kicking the boy's basket.

But the Argument Structure here doesn't include the Person value at issue.

(264) [⟨ASP: – | RIGHTAN: object⟩ PN]

Hence, the presence or absence of the 'additional' Constituent is unrecorded in the Argument Structure.

Assume, then, the rule schema in (265) whereby a non-Subject person value in an Argument Structure is replaced by a compatible Constituent.

(265) ⟨ASP: — | RIGHTAN: Number⟩: [. . .⟨ADAFF: Person⟩ Subject]
→ [. . .⟨ADAFF: ⟨ASP: — | RIGHTAN: Number⟩⟩ Subject]

Given (265), *hengeemal* in (261) could be such a functor. The Argument Structure in (261) would then be analyzed as in (266).

(266) [⟨ASP: —; ADAFF: ⟨—; l; # | sg⟩; NUM: number
| RIGHTAN: object⟩ PN]

As the contrast with (264) makes explicit, this Argument Structure is crucially different from that where *hengeemal potoonavi* is itself a Constituent in the Argument Structure.

One parallel between *hengeemal potoonavi* as resulting from the Constituent to Constituent rule and *hengeemal potoonavi* as resulting from the Argument Structure to Argument Structure rule is worthy of note. I've mentioned at a number of points earlier than the aux occurs in second position, where second position can be after the first Constituent or the first word in a Constituent. The sentences in (267), as alternates to that in (263), are possible.

(267) a.	hengeemal	pum	po-toonav-i	'ariquś
	boy	*aux*	*3sg-basket-object*	*was:kicking*

They are kicking the boy's basket.

b.	hengeemal	po-toonav-i	pum	'ariquś
	boy	*3sg-basket-object*	*aux*	*was:kicking*

They are kicking the boy's basket.

But the sentences in (268), as alternates to (261), are also possible.

(268) a.	hengeemal	pum	po-toonav-i	yawwun
	boy	*aux*	*3sg-basket-object*	*have*

They have the boy's basket.

b.	hengeemal	po-toonav-i	pum	yawwun
	boy	*3sg-basket-object*	*aux*	*have*

They have the boy's basket.

The result in (265) replaces a person value in a Constituent, even though this Constituent is part of an Argument Structure. Thus, we can maintain the generalization that second position can be after the first Constituent or the first Word in a Constituent, even while we distinguish between the analysis of *hengeemal* in (267) and (268). The contrast between the possibilities available to the aux in (268) and those available in other

Argument Structures with obligatory Possessives supports the analysis. Consider (269).

(269) [⟨ASP: –; ADAFF: PERS | RIGHTAN: sg⟩ 3sg]

e.g. hengeemal up po-paa'as̸ 'aw'q
boy *aux* *3sg-older:brother* *is:sitting*

The boy has an older brother.

There is a form compatible with the Possessive in this Argument Structure — *hengeemal* — but as discussed at the end of Section 5.1 this form is not part of the Constituent with the Possessive, because the aux does not have the expected positions under this analysis. In (269), the aux may not occur after *popaa'as̸*, indicating that it and *hengeemal* are not in the same Constituent. (270) is not an alternative form of (269).

(270) *hengeemal po-paa'as̸ up 'aw'q
boy *3sg-older:brother* *aux* *is:sitting*

(269) does, of course, raise an interesting question: Why don't we generalize (265) as in (271)?

(271) ⟨ASP: – | RIGHTAN: Number⟩:

[. . . Person . . .] → [. . . ⟨ASP: – | RIGHTAN: Number⟩ . . .]

That is, why does the functor from Argument Structure to Argument Structure require that the requisite person value in its argument not be a Subject? One problem with (271) is immediately obvious. The functor from Constituent to Constituent can apply maximally once; revised along the lines in (271) the functor from Argument Structure to Argument Structure could apply twice — in an Argument Structure as in (261), once to the person value in the Constituent and once to the Subject. Thus, one parallel between Constituents and Argument Structures is lost. Another argument depends on the analysis presented in Chapter Four. The Constituent and the Argument Structure are not the only categories subject to the rule type at issue. We will see in Chapter Four that the Proposition similarly allows an 'addition' to a person value. More specifically, the Proposition has a Subject which, like the Subject of the Argument Structure, is a person and number value. The Subject of the Proposition can reflect the Subject of the Argument Structure directly, but need not. For example, the Subject of the Proposition in (272) is '1pl' — because of the character of the Argument-Categorizing Element — not 'PN' as in the Argument Structure.

(272) [⟨ASP: – | RIGHTAN: pl⟩ PN]

henge'mal-um pum cham-ma'maxum
boys-pl *aux* *1pl-like*

We like the boys.

Chapter Four discusses this analysis in detail. For our purposes here, we need see only the consequences for (271). Given the necessity in a Proposition of the rule type under consideration, the addition of *hengeemal* in (269) could have two different analyses — either as a result of (271) or as the result of a rule taking a Proposition to a Proposition. I am aware of nothing which is sensitive to this difference. But we've seen that the Constituent to Constituent rule yields a structure with different compositional properties than the Argument Structure to Argument Structure rule. Thus, it is not unreasonable to expect that the Proposition to Proposition rule will be different yet again. In short, since we need the Proposition to Proposition rule in any case, nothing argues for the modification of (265) in (271).

(265) is not the full statement of the Argument Structure to Argument Structure rule. (273) provides the necessary expansion, parallel, of course, with the final statement of the Constituent to Constituent rule in (256).

(273) a. noo:

[. . .⟨ADAFF: 1sg⟩ Subject] → [. . .⟨ADAFF: ⟨1sg⟩⟩ Subject]

b. 'om:

[. . .⟨ADAFF: 2sg⟩ Subject] → [. . .⟨ADAFF: ⟨2nd sg⟩⟩ Subject]

c. po:

[. . .⟨ADAFF: 3sg⟩ Subject] → [. . .⟨ADAFF: ⟨3rd sg⟩⟩ Subject]

d. chaam:

[. . .⟨ADAFF: 1pl⟩ Subject] → [. . .⟨ADAFF: ⟨1st pl⟩⟩ Subject]

e. 'omom:

[. . .⟨ADAFF: 2pl⟩ Subject] → [. . .⟨ADAFF: ⟨2pl⟩⟩ Subject]

f. pomom:

[. . .⟨ADAFF: 3pl⟩ Subject] → [. . .⟨ADAFF: ⟨3pl⟩⟩ Subject]

g. ⟨ASP: — | RIGHTAN: pl/number⟩:

[. . .⟨ADAFF: person-pl⟩ Subject]

→ [. . .⟨ADAFF: ⟨ASP: — | RIGHTAN: pl/number⟩⟩ Subject]

h. ⟨ASP: — | RIGHTAN: sg/number⟩:

[. . .⟨ADAFF: person-sg⟩ Subject]

→ [. . .⟨ADAFF: ⟨ASP: — | RIGHTAN: sg/number⟩⟩ Subject]

5.3 *Consequences*

I have presented here one test for the proposed similarity between a Constituent and an Argument Structure. Since the latter might be the most difficult concept to grasp, it is important to stress here that the test offered for the similarity between the two is essentially that used at the outset to argue for Constituents as a syntactic unit: the possibility of adding a single form compatible with a person value. That is, rather than two forms *noo* with a sequence as in (274), exactly one is possible.

(274) no-ma no-mlu
1sg-hand 1sg-strong
my strong hand

(275) a. noo no-ma no-mlu
I 1sg-hand 1sg-strong
my strong hand.

b. *noo no-ma noo no-mlu
I 1sg-hand I 1sg-strong

Accepting this basis for Constituents provides a subtext to the argument for the parallel between Constituents and Argument Structures. If the former is a syntactic unit, the latter must be.

For the Argument Structure to be analyzed as the same category type as a Constituent is particularly interesting from the point of view of much modern theory, in particular, X-bar theory, GPSG, or the head-driven grammar of Pollard (1985) or Pollard and Sag (1988). The Argument Structure lacks a head, in any usual sense of the term. Yet it is not simply a collection of Constituents. Its formal value is clearly distinct from the sum of the formal values of the Constituents it contains. Further, it must be treated as a single syntactic entity; while its parts are phonologically accessible — witness the possibility of discontinuity available to its membership — the parts are not syntactically available. This is a clear example of the kind of syntactic unit not commonly recognized in current syntactic theory. However, the Argument Structure has a well-defined place in the typology established in Chapter One — and its place there turns on analyzing the Conditions on Anti-Agreement as the functor which creates it.

6. CONCLUSION

In the first sections of this chapter I argued for conditions as functors. I presented arguments for two different kinds of conditions — the Conditions on Agreement which yield Constituents and the Conditions on Anti-

Agreement which yield Argument Structures. These two conditions have different results: The Conditions on Agreement yield a result with a formal value that (by and large) is associated with one of the members of the argument; the Conditions on Anti-Agreement yield a result whose formal value includes the modified values of its argument plus a (derivative) person/number value. In the last section of this chapter and given the analysis by which Constituents and Argument Structures are created, I tested the predictions of the theoretical framework proposed in Chapter One. Because Constituents and Argument Structures are the result of the same functor type (i.e. obligatory, listable, and non-localizable) we predict that they are both classified as of the same category type — specifically, that they are both syntactically inaccessible and phonologically accessible. It is predicted, therefore, that they will share certain syntactic properties. The test developed here is the application of a Constituent to either to replace a person/number value. This test demonstrates a parallel between Constituent and Argument Structure, but it also argues for their characterization as syntactically inaccessible. The addition of this Constituent depends on the analysis of the whole — not the properties of individual members.

Conditions as functors, the effect of agreement and antiagreement, and the tests for the syntactically accessible but phonologically inaccessible category type are the building blocks required in the analysis of a Proposition. This is the topic of the next chapter. Given the analysis of a Proposition, the analytical problems developed in Chapter One are easily resolved.

NOTES

[1] A Simple Constituent always contains at least one Word, while an Argument Structure can contain no Constituents. We could rewrite the rule in (1a) as follows:

(i) Conditions on Agreement: $\text{Word}^{+} \rightarrow$ Simple Constituent

but the effect would remain unchanged. The function from Words to Constituents yields a unit whose formal value is given by its members; hence, if there are no members, there is no Constituent. The function from Simple Constituents to Argument Structures, on the other hand, yields a unit whose formal value is its membership plus something else; hence, if there are no member Constituents, there still may be an Argument Structure.

[2] In fact, the discontinuity allowed in (5), where either the aux or the equivalent of the English verb or both may interrupt the Constituent, is not available under all conditions. The members of a Constituent as in (i):

(i) yawaywish nawitmal
beautiful girl
beautiful girl

when it functions as a lexical Subject, can be separated only by the aux.

(ii) a. yawaywish upil nawitmal tooyaquꞩ
beautiful aux girl was:laughing
The beautiful girl was laughing.

b. *yawaywish upil tooyaquꞩ nawitmal
beautiful aux was:laughing girl

The analysis in Chapters Four and Five offers an account of the difference between the discontinuities available to the lexical subject and the discontinuities available to Constituents performing other functions.

[3] One aspect of the example in (19) is worth commenting on. Recall the proposal in Chapter Two that when an Absolutive is the rightmost analytical unit, the resulting Word has the feature/value pair ⟨RIGHTAN: object⟩. *huu-l* 'arrow' (arrow-absolutive) in (19) is an example of such a Word. Note now that the Word accompanying *huu-l* (*nomiyx-i*) includes an object Affix. If such Words are analyzed as indicated in Chapter Two, their incorporation in Constituents is non-problematic.

[4] I should note that some Words never occur in a multi-Word Constituent. For example, according to the Identity Condition the Word *chamyaax* 'we try' could appear in a multi-Word Constituent only if every other Word had an absolutely identical value for RIGHTAN. The only such word is *chamyaax*.

(i) ⟨chamyaax⟩
⟨RIGHTAN: 1pl try⟩
⟨. . .⟩

It seems reasonable to invoke semantic considerations to preclude sequences as:

(ii) chamyaax chamyaax

We will need to depend on semantic considerations in any case to preclude sequences as in (iii):

(iii) muuta hunwut
owl bear

These Words have identical values for RIGHTAN — ⟨RIGHTAN: sg⟩ — but the sequence is semantically impossible.

[5] This is a weaker condition than that required in the Identity Condition. By Number Compatibility, a combination of 'number' and 'pl' is possible, for example; by the Identity Condition it is not. It might be reasonable to weaken the Identity Condition to allow such combinations; the problem is finding a combination that would test it.

[6] To meet the Agreement Principle, that is, it is necessary to "look inside" the Word. This necessity could be problematic for adherents to strong versions of the "Strict Lexicalist" position, as e.g. LaPointe (1980). Of course, it might be argued that reference to the value for RIGHTAN itself requires "looking inside" the Word, since such values are based on morphological properties. The theory of grammatical architecture presented in Chapter One similarly precludes examining the parts of a Word in the construction of a Constituent: As noted at the end of Chapter Two, a Word is phonologically inaccessible; its parts are not, therefore, independently available. However, given the analysis of Words sketched in Chapter Two, the necessity of referring to the values for the features ASP, ADAFF, NUM, and RIGHTAN creates no problem.

[7] Cases with obligatorily compatible person values do not always require identical person values. One such case is illustrated in (i).

(i) pomlu-y poma-y
⟨ASP: —: ADAFF: 3sg; NUM: number⟩ ⟨ASP: —; ADAFF: 3sg; NUM: number⟩
his strong arm

as in:

wunaal	up	pomay	pomluy	rookiq
she	*aux*	*his:arm:object*	*strong:object*	*is:pinching*

She pinched his strong arm.

As illustrated in (ii) a compatible person here can be '3'.

(ii) a. noma-y nomlu-y
⟨ASP: —: ADAFF: 1sg; NUM: number⟩ ⟨ASP: —; ADAFF: 1sg; NUM: number⟩
my strong arm

b. noma-y pomlu-y
⟨ASP: —: ADAFF: 1sg; NUM: number⟩ ⟨ASP: —; ADAFF: 3sg; NUM: number⟩
my strong arm

c. *noma-y chammlu-y
⟨ASP: —: ADAFF: 1sg; NUM: number⟩ ⟨ASP: —; ADAFF: 1pl; NUM: number⟩

This case and that in (51) differ only in the form accompanying 'my hand' — there *possessive-plo* and here *possessive-mlu*. There are other cases like *plo*, but none to the best of my knowledge like *mlu*.

[8] The identity in formal values between a Word and a single-Word Constituent is a consequence of the simplification in Chapter Two. For most purposes, the simplification doesn't matter; however, in that we do not here distinguish between the formal value of a Word and the formal value of a Constituent, it is unfortunate.

[9] I should note the existence of Constituents where it is impossible to test for the most fully specified number. According to (111) (i) should have the formal value in (ii):

(i) ⟨ASP: —; ADAFF: 3sg; NUM: number | RIGHTAN: with⟩
⟨ASP: —; ADAFF: —; NUM: sg | RIGHTAN: with⟩
e.g. po-taana-tal yo-tal
with his big blanket

(ii) ⟨ASP: —; ADAFF: 3sg; NUM: sg | RIGHTAN: with⟩

No empirical test for (ii), as opposed to (iii), exists.

(iii) ⟨ASP: —; ADAFF: 3sg; NUM: number | RIGHTAN: with⟩

It is clear that a Constituent like (i) is semantically singular. Consider that *potaanatal* can mean either 'with his blanket' or 'with his blankets', while *potaanatal yotal* can mean only 'with his big blanket', not *'with his big blankets'. What can't be shown is that such Constituents are syntactically singular — or syntactically number; that is, there is no syntactic rule, to the best of my knowledge, which is sensitive to the number value of a Constituent whose value for RIGHTAN is one of those drawn from a Postposition.

[10] One situation exists with an arguably intuitive asymmetry, although the principles don't distinguish among the Words in a Constituent. The Words in (i) are identical:

(i) ⟨ASP: —; ADAFF: —; NUM: — | RIGHTAN: dist non fut⟩$_{\text{Constituent}}$
e.g. tooyaquš 'iyiquš 'was laughing too'

(i) ⟨ASP: —; ADAFF: —: NUM: — | RIGHTAN: dist non fut⟩$_{Word}$
e.g. tooyaquš 'was laughing'
⟨ASP: —; ADAFF: —; NUM: — | RIGHTAN: dist non fut⟩$_{Word}$
e.g. 'iviquš 'too'

Such cases are a problem for a theory in which 'heads' are necessary. They are not a problem, of course, for the analysis I have proposed.

[11] Another, and also obviously unworkable, alternative might analyze the application of the morphology itself as yielding a Constituent, e.g.

(i) tal: huu- → huutal
'with' 'arrow' 'with an arrow'

In multi-Word Constituents, the suffix would distribute across its arguments, e.g.

(ii) tal: huu- yuvaataan → huutal yuvaataantal
with arrow black 'with a black arrow'

A rule as in (ii) might work, *if* the Words in a Constituent necessarily shared certain properties. But, as we have seen, only some of them do. A rule like (ii) is unworkable for Constituents with overlapping values for RIGHTAN. Nor would it extend simply to values for the features ASP, ADAFF, and NUM, since these need not be identical.

[12] ⟨RIGHTAN: Person . . .⟩ includes the Constituent type ⟨RIGHTAN: Person try⟩, but such Constituents do not appear in an argument array. We will meet these Constituents again in Chapter Four. It may also be that not all instantiations of *Postposition* are equally available. In fact, it is probably necessary in most cases to indicate the particular Postposition.

[13] By this criterion, the value **POSS** as a value for ADAFF in a reflexive form can be eliminated: Nothing hinges on its presence. In fact, for reflexive forms values for any feature but RIGHTAN are entirely unnecessary.

[14] The complement possibilities are somewhat more complicated than indicated here. Many of the non-copular complements introduced here have two subtypes, a variation which turns on the verb that requires them.

(i) **Transitive Complement-1**
⟨ASP: Aspect; ADAFF: Person | RIGHTAN: obj⟩

Transitive Complement-2
⟨ASP: Aspect; ADAFF: ABS | RIGHTAN: obj⟩

(ii) **Complement ditransitive-1**
⟨ASP: Aspect; ADAFF: ABS | RIGHTAN: obj⟩
⟨ASP: —; NUM: Number | RIGHTAN: obj⟩

Complement ditransitive-2
⟨ASP: Aspect; ADAFF: Person | RIGHTAN: obj⟩
⟨ASP: —; NUM: Number | RIGHTAN: obj⟩

(iii) **Reflexive complement ditransitive-1**
⟨ASP: Aspect; ADAFF: ABS | RIGHTAN: obj⟩
⟨RIGHTAN: Person refl⟩

(iii) **Reflexive complement ditransitive-2**
⟨ASP: Aspect; ADAFF: Person | RIGHTAN: obj⟩
⟨RIGHTAN: Person refl⟩

(iv) **Complex complement-1**
⟨ASP: Aspect; ADAFF: —; NUM: — | RIGHTAN: Postposition⟩
⟨ASP: —; NUM: Number | RIGHTAN: obj⟩

Complex complement-2
⟨ASP: Aspect; ADAFF: NUM: Number | RIGHTAN: Postposition⟩
⟨ASP: —; NUM: Number | RIGHTAN: obj⟩

(v) **Reflexive complex complement-1**
⟨ASP: Aspect: ADAFF: —; NUM: — | RIGHTAN: Postposition⟩
⟨RIGHTAN: Person refl⟩

Reflexive complex complement-2
⟨ASP: Aspect: ADAFF: —; NUM: Number | RIGHTAN: Postposition⟩
⟨RIGHTAN: Person refl⟩

In the identification of the crucial differences among argument arrays such distinctions are unimportant: They don't have the semantic effect at issue. These differences do become important in Chapter Six, when we take up embedding.

[15] It is reasonable to note, however, that borrowed forms do not distribute equally in regard to their argument array requirements. For example, none to my knowledge may take an argument array with an obligatory Possessive.

[16] Of course, the argument array in (183) can also be accompanied by a '3sg' Subject.

(i) hengeemali pil potaax
⟨ASP: —; NUM: sg | RIGHTAN: obj⟩ aux ⟨RIGHTAN: 3sg refl⟩
chaqalaqinax
made:tickle
= He made himself tickle the boy.

[17] The two argument arrays in (186) and (187) are not absolutely identical. The Constituent in (186) includes an aspectual value, while that in (187) lacks an aspectual value. This distinction is not the source of the difference, however, as we can see from a comparison of (186) and (i) below.

(i) henge'ma-l-um mil miyqus̸
boy-absolutive-pl aux was
⟨ASP: —; NUM: # | RIGHTAN: pl⟩
They were boys.

[18] The idea that the Arguments to a predicate can be given by morphologically bound elements marking number and/or person is not peculiar to this analysis. (Cf. Jelinek (1984), Manandise (1984), Nishida (1987).) Such analyses, and this one as well, differ from "pro-drop" analyses (cf. e.g. Chomsky (1982)) in that they do not assume the necessity of an NP node of which the bound elements are merely "agreement" reflexes or which the bound elements govern. However, the possibility that such bound elements will be part of the array of lexically instantiated arguments has not, to my knowledge, been proposed elsewhere. It raises interesting possibilities for languages which, like Luiseño, require that some of the instantiations of Arguments be marked for number, as e.g. Spanish or French.

[19] Two other possibilities are eliminatd out of hand by the sixth condition.

(i) ⟨ADAFF: Person | RIGHTAN: obj⟩
⟨ADAFF: Person | RIGHTAN: obj⟩

(ii) ⟨ADAFF: Person | RIGHTAN: obj⟩
⟨ADAFF: Person | RIGHTAN: Postposition⟩

[20] The treatment of categories here concentrates on the formal value. However, the ordering possibilities can be incorporated in the phonological value. Where the order of elements is not fixed, the phonological value is a set containing all possibilities. So, the Constituent in (228) has the phonological value in (i):

(i) ⟨nawitmali yawaywichi or
yawaywichi nawitmali⟩

and the Argument Structure in (229) has the phonological value in (ii).

(ii) ⟨mariyi potoonavi poyk or
mariyi poyk potoonavi or
potoonavi mariyi poyk or
potoonavi poyk mariyi or
poyk mariyi potoonavi or
poyk potoonavi mariyi⟩

[21] In Steele (1977a) I discussed the problem of Luiseño second position. I assumed there that sentences like (236) contained sentential subjects. Given this assumption, I was unable to account for the restrictions on the aux positions in (237). I had to stipulate that only one of the two positions otherwise available to the aux was possible with sentential subjects. In contrast, under the analysis advocated here (237) is unexceptional.

[22] One extension of (239) has to do with Constituents containing the forms *no, 'o, 'po, chaam, 'oom*, and *poom* — i.e. Constituents of the form X-Postposition.

(i) 'o-yk 'to you'
po-'eesh 'with him'
chaam-'eesh 'with us'
'oom-ooto 'from you'
poom-ik 'to them'

The crucial thing about these Constituents is the presence of person in the formal value — even though they don't contain a Possessive. These are potential arguments in (239) and they behave as predicted.

(ii) hengeemal poyk 'to the boy'
as in:

'oovyax	nil	toonavish	hengeemal	poyk
gave	*aux*	*basket*	*boy*	*him:to*

I gave the basket to the boy.

[23] The functor in (243) allows the possibility, of course, that this Constituent is itself subject to the application of rule (239).

(i)

hengeemal	pona	potaanay
boy	*his:father*	*his:blanket*

the boy's father's blanket.

[24] The list of pronominal forms does not include *wunaal* 'he/she/it' or *wunaalum* 'they'. These two forms can be incorporated in the more general rule, because of their Constituent analysis.

(i) a. ⟨ASP: —; ADAFF: l; NUM: ≠ | RIGHTAN: sg⟩
b. ⟨ASP: —; ADAFF: l; NUM: ≠ | RIGHTAN: pl⟩

[25] The phonological value of the example in (251) is simple, because the order possibilities are obviously limited. When the argument contains more than one Word, the functor is generally — but to the best of my knowledge not necessarily — adjacent to the Word in the Constituent containing the Possessive. That is, (ia) and (ib) are better than (ic).

(i) a. hengeemal potaana yuvaataat
boy his:blanket black
the boy's black blanket.

b. potaana hengeemal yuvaataat
his:blanket boy black
the boy's black blanket

c. potaana yuvaataat hengeemal
his:blanket black boy
the boy's black blanket

(These three do not exhaust the order possibilities.)

To the best of my knowledge, the members of a complex functor are never separated by the members of its argument.

[26] This treatment of the addition in the formal value extends the values available to ADAFF beyond those introduced in Chapter Two.

APPENDIX TO CHAPTER THREE: EXAMPLES OF ARGUMENT ARRAYS

1. ***Null-Constituent (Intransitive)***

i. xillaq up
is:raining aux

It's raining.

ii. tooyaquś upil
was:laughing aux

He's laughing.

iii. hiiwaq up
is:hot aux

It's getting hot.

2. ***1-Constituent***

Accompanied Person Value

−Aspect

a. **Transitive-Possessive**

noo p po-toonav-i yawq
I aux ⟨ASP: −; ADAFF: 3sg | RIGHTAN: obj⟩ have

I have his basket.

b. **Modal/Aspect**

i. noo p no-ngee-pi miyq
I aux ⟨ASP: fut unch | RIGHTAN: 1sg⟩ is

I have to leave.

ii. noo p no-ngee-vo miyq
I aux ⟨ASP: pst unch | RIGHTAN: 1sg⟩ is

I have left (already).

iii. noo p no-ngee miyq
I aux ⟨ASP: unch | RIGHTAN: 1sg⟩ is

I have left (many times).

+Aspect

a. **Tough**

poloov up po-wiiw-lo
good aux ⟨ASP: ASP | RIGHTAN: 3sg generic⟩

It is nice to make wiwish.

b. **Possession**

noo p no-'aash 'aw'q
I aux ⟨ASP: –; ADAFF: 1sg | RIGHTAN: sg⟩ is:sitting

I have a pet.

Unaccompanied Person Value

–Aspect

a. **Simple Transitive**

i. paa'i-la-y upil 'ariqus̸
⟨ASP: – | RIGHTAN: obj⟩ aux was:kicking

He was kicking the turtle.

ii. noo n po-kaytu-y 'ayaliq
I aux ⟨ASP: – | RIGHTAN: obj⟩ know

I know his enemy.

b. **Reflexive Transitive**

potaax upil 'ariqus̸
⟨RIGHTAN: 3sg refl⟩ aux was:kicking

He was kicking himself.

c. **Copular**

i. wunaal upil no-kaytu miyqus̸
he aux ⟨ASP: – | RIGHTAN: sg⟩ was

He was my enemy.

ii. wunaal upil hengeema-l miyqus̸
he aux ⟨ASP: – | RIGHTAN: sg⟩ was

He was a boy.

d. **Locational**

i. ki-nga up 'aw'q
⟨ASP: –; NUM: number | RIGHTAN: in⟩ aux is:sitting

He is in the house.

ii. no-ki-nga up 'aw'q
⟨ASP: –; NUM: number | RIGHTAN: in⟩ aux is:sitting

He is in my house.

+Aspect

a. **Transitive Complement**

i. noo n po-heela-xpi-y 'ayaliq
I aux ⟨ASP: fut unch | RIGHTAN: obj⟩ know

I know that he will sing.

ii. noo n naqmaq heela-qala-l
I aux hear ⟨ASP: chan | RIGHTAN: obj⟩

I hear singing.

b. **Copular Complement**

i. wunaal upil heela-xlu-t
he aux ⟨ASP: unch fut | RIGHTAN: sg⟩ miyquś
was

He was gonna sing.

ii. wunaal upil po-heela-ax miyquś
he aux ⟨ASP: generic | RIGHTAN: sg⟩ was

He was good at singing.

3. ***2-Constituent***

Accompanied Person Value

—Aspect

a. **Locational-Possessive**

noo p no-puush-nga
I aux ⟨ASP: — NUM: number | RIGHTAN: in⟩

'exla ngo'q
⟨ASP: — | RIGHTAN: Number⟩ is:inside:of

I have sand in my eye.

Unaccompanied Person Value

—Aspect

a. **Ditransitive**

i. hengeema-l-i nil
⟨ASP: — | RIGHTAN: obj⟩ aux

no-teela-y huu'unax
⟨ASP: — | RIGHTAN: obj⟩ taught

I taught the boy my language.

ii. hengeema-l-i nil
⟨*ASP: —* | *RIGHTAN: obj*⟩ *aux*

teela-t huu'unax
⟨*ASP: —* | *RIGHTAN: obj*⟩ *taught*

I taught the boy the language.

b. **Reflexive Ditransitive**

notaax nil
⟨*RIGHTAN: 1sg refl*⟩ *aux*

no-teela-y huu'unax
⟨*ASP: —* | *RIGHTAN: obj*⟩ *taught*

I taught myself my language.

c. **Complex**

i. cham-toonav-i nil
⟨*ASP: —* | *RIGHTAN: obj*⟩ *aux*

po-yk 'oovyax
⟨ASP: — | *RIGHTAN: to*⟩ *gave*

I gave our basket to him.

ii. toonav-sh nil
⟨*ASP: —* | *RIGHTAN: obj*⟩ *aux*

po-yk 'oovyax
⟨*ASP: —* | *RIGHTAN: to*⟩ *gave*

I gave the basket to him.

d. **Reflexive Complex**

notaax nil
⟨*RIGHTAN: 1sg refl*⟩ *aux*

po-yk 'oovyax
⟨*ASP: —* | *RIGHTAN: to*⟩ *gave*

I gave myself to him.

+Aspect

a. **Ditransitive Complement**

i. hengeema-l-i nil
⟨*ASP: —* | *RIGHTAN: obj*⟩ *aux*

heela-qala-l tiiwax
⟨*ASP: chan* | *RIGHTAN: obj*⟩ *saw*

I saw the boy singing.

ii. hengeema-l-i nil
⟨*ASP: —* | *RIGHTAN: obj*⟩ *aux*

po-heela-x-i huu'unax
⟨*ASP: unch* | *RIGHTAN: obj*⟩ *taught*

I taught the boy to sing.

b. **Reflexive Ditransitive Complement**

i. notaax nil
⟨*RIGHTAN: 1sg refl*⟩ *aux*

heela-qala-l tiiwax
⟨ASP: ch | *RIGHTAN: obj*⟩ *saw*

I saw myself singing.

ii. notaax nil
⟨*RIGHTAN: 1sg refl* *aux*

no-heela-x-i huu'unax
⟨*ASP: unch* | *RIGHTAN: obj*⟩ *taught*

I taught myself to sing.

c. **Complex Complement**

i. hengeema-l-i nil
⟨*ASP: —* | *RIGHTAN: obj*⟩ *aux*

'av'a-an-tal huupiquś
⟨*ASP: ch; ADAFF: —* | *RIGHTAN: with*⟩ *was:painting*

I was painting the boy red.

ii. hengeema-l-i nil
⟨*ASP: —* | *RIGHTAN: obj*⟩ *aux*

chaqalaqi-qala-nga tiiwax
⟨*ASP: ch; ADAFF: —* | *RIGHTAN: on*⟩ *saw*

I saw the boy being tickled.

d. **Reflexive Complex Complement**

i. notaax nil
⟨*RIGHTAN: 1sg refl*⟩ *aux*

'av'a-an-tal huupiquś
⟨*ASP: ch; ADAFF: —* | *RIGHTAN: with*⟩ *was:painting*

I was painting myself red.

ii. notaax nil
⟨*RIGHTAN: 1st refl*⟩ *aux*

chaqalaqi-qala-nga tiiwax
⟨*ASP: ch; ADAFF: —* | *RIGHTAN: on*⟩ *saw*

I saw myself being tickled.

4. ***3-Constituent***

—Aspect

a. **Tritransitive**

i. 'o-ǵwaamay-i nil
⟨*ASP: —* | *RIGHTAN: obj*⟩ *aux*

hengeema-l-i teela-t
⟨*ASP: —* | *RIGHTAN: obj*⟩ ⟨*ASP: —* | *RIGHTAN: obj*⟩

huuni'ixan
will:make:teach

I will make your daughter teach the boy the language.

ii. nawitma-l-i nil
⟨*ASP: —* | *RIGHTAN: obj*⟩ *aux*

hengeema-l-i po-teela-y
⟨*ASP: —* | *RIGHTAN: obj*⟩ ⟨*ASP: —* | *RIGHTAN: obj*⟩

huuni'ixan
will:make:teach

I will make the girl teach the boy his language.

b. **Reflexive Tritransitive**

notaax nil hengeema-l-i
⟨*RIGHTAN: 1sg refl*⟩ *aux* ⟨*ASP: —* | *RIGHTAN: obj*⟩

po-teela-y huu'unixan
⟨*ASP: —* | *RIGHTAN: obj*⟩ *will:make:teach*

I will make myself teach the boy his language.

c. **Complex Tritransitive**

i. hengeema-l-i nil
⟨*ASP: —* | *RIGHTAN: obj*⟩ *aux*

po-toonav-i po-yk
⟨*ASP: —* | *RIGHTAN: obj*⟩ ⟨*ASP: —* | *RIGHTAN: to*⟩

'oovininax
made:give

I made the boy give his basket to him.

ii. 'o-ǵwaamay-i nil
⟨*ASP: — | RIGHTAN: obj*⟩ *aux*

toonav-sh
⟨*ASP: — | RIGHTAN: obj*⟩

po-yk 'oovininax
⟨*ASP: — | RIGHTAN: to*⟩ *made:give*

I made your daughter give the basket to him.

d. **Reflexive Complex Tritransitive**

notaax nil po-toonav-i
⟨*RIGHTAN: 1sg refl*⟩ *aux* ⟨*ASP: — | RIGHTAN: obj*⟩

po-yk 'oovininax
⟨*ASP: — | RIGHTAN: to*⟩ *made:give*

I made myself give his basket to him.

+Aspect

a. **Complement Tritransitive**

i. hengeema-l-i nupo huuni'ixan
⟨*ASP: — | RIGHTAN: obj*⟩ *aux* *will:make:teach*

po-kaamay-i
⟨*ASP: — | RIGHTAN: obj*⟩

po-heela-x-i
⟨*ASP: unch | RIGHTAN: obj*⟩

I will make the boy teach his son to sing.

ii. 'o-ǵwaamay-i nupo
⟨*ASP: — | RIGHTAN: obj*⟩ *aux*

po-kaamay-i
⟨*ASP: — | RIGHTAN: obj*⟩

po-heela-x-i huuni'ixan
⟨*ASP: unch | RIGHTAN: obj*⟩ *will:make:teach*

I will make your daughter teach his son to sing.

b. **Reflexive Complement Tritransitive**

notaax nil po-kaamay-i
⟨*RIGHTAN: 1sg refl*⟩ *aux* ⟨*ASP: — | RIGHTAN: obj*⟩

po-heela-x-i huuni'ixan
⟨*ASP: ch | RIGHTAN: obj*⟩ *will:make:teach*

I will make myself teach his son to sing.

c. **Complement Complex Tritransitive**

hengeema-l-i nil
⟨*ASP: – | RIGHTAN: obj*⟩ *aux*

nawitma-l-i
⟨*ASP: – | RIGHTAN: obj*⟩

'av'a-an-tal
⟨*ASP: ch; ADAFF: –; NUM: number | RIGHTAN: with*⟩

huupininax
made:paint

I made the boy paint the girl red.

d. **Reflexive Complement Complex Tritransitive**

notaax nil
⟨*RIGHTAN: 1sg refl*⟩ *aux*

nawitma-l-i
⟨*ASP: –; NUM: sg | RIGHTAN: obj*⟩

'av'a-an-tal
⟨*ASP: ch; ADAFF: –; NUM: number | RIGHTAN: with*⟩

huupininax
made:paint

I made myself paint the girl red.

CHAPTER FOUR

THE PROPOSITION

0. INTRODUCTION

Algebraically, it is obvious that functors need not be expressions and can be global conditions. Let f: $A \rightarrow B$ and let $a \in A$. Then there is a function F of type $\langle A \rightarrow B, A\rangle \rightarrow B$ such that $F(f, a) = f(a) \in B$. Grammatically, however, it isn't obvious at all that we should prefer F to f. As part of an argument that functors need not be expressions and can be global conditions, Chapter Three argued for the global conditions we have called agreement and anti-agreement. Each has different consequences for the formal value of the result. However, in either case, the result is a syntactically inaccessible category type. The one test offered of this category type is its being available to a Constituent which replaces a person/number value, a single person/number value in either case regardless of the plethora of person/number values potentially available were the unit really simply a collection of its members. With this theoretical background, we are ready to attack the problem presented in Chapter One: the relationship between the Luiseño aux and its (set-theoretic) complement.

This chapter is devoted to an analysis of the complement to aux according to the rule schema in (1). In Chapter Five we take up the relation of the aux to its complement, what is termed the Proposition in (1).

(1) Propositional Functor:

Propositional Radical → Proposition

The crucial points are quite simple. First, the Propositional Functor is a global condition, involving both agreement and antiagreement. Second, because of the proposed effects of agreement and anti-agreement, the formal value of a Proposition includes both a unifying value (because of agreement) and an additional person/number value (because of anti-agreement). Third, because the Propositional Functor is a global condition, the Proposition is of the same category type as the Constituent and the Argument Structure — i.e. syntactically inaccessible and phonologically accessible. Sections 3, 4, and 5 are devoted to the first two points. The tests already developed for this category type apply to a Proposition, as shown in Section 6 of this chapter. But a stronger test awaits us and this is the topic of Chapter Six. Sections 1 and 2 provide the basis for the development of these three points — Section 1 by laying out the facts that frame the analysis and Section 2 by presenting an analysis of the argument in (1), what we have termed the PROPOSITIONAL RADICAL, according to the rule schema in (2).

(2) Argument-Categorizing Element:
Argument Structure → Propositional Radical

The analysis rests in another important respect on the program established in Chapter Three. Not all the feature sets of the Words in a Constituent are represented in its formal value, nor are all the feature sets of the Constituents in an Argument Structure crucially represented in its formal value. The application of the Argument-Categorizing Element eliminates some feature/value pairs and carries up still others to the Proposition, where they can be organized into a simple display. The formal value of a Proposition, this simple display, involves a temporal value, a subject value, and (potentially) another value. We will see in Chapter Five that these are precisely the properties that the function to a Sentence is sensitive to — thus solving the major analytical problem introduced in Chapter One. The important point to emphasize here is that some of the morphological properties of Words, the basis of the feature/value sets, have syntactic consequences in much larger units — by being passed from Constituent ultimately to Proposition. Morphological properties can be localized to Words, where they belong, and still have effects far beyond the Word in which they occur.

1. BACKGROUND

Three facts about the complement to the aux in a Luiseño sentence frame the analysis.

1.1 *Fact One: Variability in the Argument-Categorizing Element*

I have presented an analysis of the Argument Structure. This is one part of the complement. But if we consider the sentence in (3) it is obviously not the only part.

(3)	'ariqus̸	upil	hengeemali
	was:kicking	*aux*	*boy:object*

He was kicking the boy.

In addition to the Argument Structure instantiated by *hengeemali* (and in addition to the aux *upil*), (3) includes the Constituent *'ariqus̸*.

(4) ⟨'ariquš́⟩
⟨ASP: –; ADAFF: –; NUM: – | RIGHTAN: dist non-fut⟩
⟨kick⟩

This Constituent contains what I have earlier termed an Argument-Categorizing Element. The choice of Argument-Categorizing Element determines the Argument Structure choice. Thus, if the complement to aux contains an Argument Structure, it will necessarily also include a Constituent containing an Argument-Categorizing Element. The first fact to be kept in mind is that the formal value of such a Constituent is not limited to that exemplified in (4). The possibilities are easily stated.

Each of the four distinct formal possibilities in (5), and only these, is allowed.

(5) ⟨RIGHTAN: Tense/Aspect⟩
⟨RIGHTAN: Number⟩
⟨RIGHTAN: Imperative⟩
⟨RIGHTAN: Unchanging⟩

Of course, the first three are generalizations across a number of possibilities – e.g. in regard to the second ⟨RIGHTAN: sg⟩, ⟨RIGHTAN: pl⟩, and ⟨RIGHTAN: number⟩. (3) offers one instantiation of ⟨RIGHTAN: Tense/Aspect⟩; (6) offers examples of the other three formal possibilities.

(6) a. ⟨RIGHTAN: Number⟩

tooyaxkut-um pum
gonna:laugh-pl aux

They are gonna laugh.

b. ⟨RIGHTAN: Imperative⟩

heelax-am
sing-pl:imperative

Sing (you all)!

c. ⟨RIGHTAN: Unchanging⟩

heela-x xumpo
sing-unchanging aux

They should sing.

The other feature values also play a role in the proper characterization of the Constituent at issue, and (5) must, therefore, be modified. One important consideration is the presence or absence of a person value for ADAFF. None of the Constituents in the illustrative sentences in (3) and (6) above include a Possessive; all have the feature/value pair ⟨ADAFF:

—⟩. However, internal to the Constituents represented as ⟨RIGHTAN: Number⟩ are two possibilities — those which are ⟨ADAFF: Person | RIGHTAN: Number⟩ and those which are ⟨ADAFF: Absolutive | RIGHTAN: Number⟩. The Constituent containing the Argument-Categorizing Element in (6a) is an example of the latter; (7) contains examples of the former.

(7) a. ⟨ADAFF: 3# | RIGHTAN: sg⟩

nawitmali up po-chaqalaqax
girl:object aux 3sg-good:at:tickling

He is good at tickling the girl.

b. ⟨ADAFF: 1sg | RIGHTAN: pl⟩

noo pum henge'malum no-ma'max-um
I aux boys 1sg-like-pl

I like boys.

The simple presence of the feature/value pair ⟨ADAFF: Person⟩ in the Constituent under consideration does not lead to its characterization as such when it functions as an Argument-Categorizing Element. Compare, for example, the two sentences in (8).

(8) a. ⟨ADAFF: 3sg | RIGHTAN: number⟩

'ivi p po-'e'
this aux 3sg-leg

This is his leg.

b. ⟨ADAFF: la | RIGHTAN: number⟩

'ivi p huu-la
this aux arrow-absolutive

This is an arrow.

The relevant Constituent in (8a) — *po'e'* 'his leg' — contains a Possessive. But, this Possessive is not a *crucial* part of the Argument-Categorizing Element. Elements in some Argument Structures can vary, as we have seen, between the presence of the Possessive and its absence, where the variation does not have any syntactic or semantic import; so too is it possible for some Argument-Categorizing Elements to vary in regard to the presence of the Possessive. The difference between cases such as those in (8a) and cases such as those in (7) is quite clear. None of the latter can alternate with a form that does not contain a Possessive, while maintaining a consistent semantic type. Consider, then, that it is possible for the Constituent *po'e'* in (8a) to be replaced by the Constituent *hengeemal po'e'*, i.e. a result of the Constituent to Constituent rule.

(9) ⟨ADAFF: ⟨ASP: –; ADAFF: l; NUM: # | RIGHTAN: sg⟩ | RIGHTAN: number⟩

'ivi p hengeemal po-'e'
this aux boy 3sg-leg

This is the boy's leg.

This is precisely as expected if the Possessive is not a crucial part of the Constituent associated with the Argument-Categorizing Element. The identical consideration was adduced in Chapter Three for the distinction between obligatory and non-obligatory Possessives in the Argument Structure. In contrast, the Constituents *pochaqalaqax* and *noma'maxum* in (7a) and (7b) respectively may not be the argument in the Constituent to Constituent rule. The sentence in (10), for example, is unacceptable.

(10) ⟨ADAFF: ⟨1sg⟩ | RIGHTAN: pl⟩

*noo pum henge'malum noo no-ma'max-um
I aux boys I 1sg-like-pl

Further, it is clear that *noo* in (7b) is not in constituency with *noma'maxum*. It is possible for a Constituent to be interrupted by the aux, as noted at a number of points in Chapter Three; however, it is not possible for the functor and its argument in the Constituent to Constituent rule to be interrupted by Constituents that are members of the Argument Structure. *noo* and *noma'maxum* are separated from one another in (7b) by both the aux and *henge'malum*.

In short, it is necessary to distinguish among Constituents identifying the Argument-Categorizing Element with the feature/value pair ⟨RIGHTAN: Number⟩ according to whether they *crucially* contain a Possessive or not. If the Possessive is crucial, the feature/value set for the Constituent will include ADAFF and its value; if it isn't, the feature ADAFF and its value can be left unspecified. There are two possibilties here. One is where the value of ADAFF is entirely predictable from RIGHTAN; for ⟨RIGHTAN; Tense/Aspect⟩, ⟨RIGHTAN: Imperative⟩, and ⟨RIGHTAN: unchanging⟩, the value for ADAFF is always '—'. The other is where the value of ADAFF can vary but with no consequence; this holds for some instances of ⟨RIGHTAN: Number⟩ only. (11) refines (6) accordingly.

(11) ⟨RIGHTAN: Tense/Aspect⟩

⟨RIGHTAN: Imperative⟩

⟨RIGHTAN: Unchanging⟩

⟨RIGHTAN: Number⟩

⟨ADAFF: Person | RIGHTAN: Number⟩

There is more, of course, to the feature set of a Constituent than the features RIGHTAN and ADAFF. We have as yet ignored the features ASP and NUM. (12) contains a list of formal possibilities available to the Constituent containing the Argument-Categorizing Element.

(12) a. i. ⟨ASP: –; NUM: – | RIGHTAN: Tense/Aspect⟩ (e.g. (3))
ii. ⟨ASP: –; NUM: sg | RIGHTAN: Tense/Aspect⟩
iii. ⟨ASP: –; NUM: pl | RIGHTAN: Tense/Aspect⟩
iv. ⟨ASP: –; NUM: # | RIGHTAN: Tense/Aspect⟩

b. i. ⟨ASP: Aspect; NUM: – | RIGHTAN: Imperative⟩ (e.g. (6b))
ii. ⟨ASP: Aspect; NUM: # | RIGHTAN: Imperative⟩

c. i. ⟨ASP: ASP; NUM: – | RIGHTAN: Unchanging⟩ (e.g. (6c))
ii. ⟨ASP: ASP; NUM; sg | RIGHTAN: Unchanging⟩
iii. ⟨ASP: ASP; NUM; pl | RIGHTAN: Unchanging⟩

d. i. ⟨ASP: –; NUM: # | RIGHTAN: Number⟩ (e.g. (8))
ii. ⟨ASP: Aspect; NUM: – | RIGHTAN: Number⟩
iii. ⟨ASP: Aspect; NUM; # | RIGHTAN: Number⟩ (e.g. (6a))

e. i. ⟨ASP; –; ADAFF: Person; NUM: # | RIGHTAN: Number⟩ (e.g. (7b))
ii. ⟨ASP: Aspect; ADAFF: Person #; NUM: – | RIGHTAN: Number⟩ (e.g. (7a))
iii. ⟨ASP: Aspect; ADAFF: Person #; NUM; # | RIGHTAN: Number⟩

The removal of redundancies makes the distinctions here more apparent. The value for ASP is predictable for all of the following Constituent types: ⟨RIGHTAN: Tense/Aspect⟩, ⟨RIGHTAN: Imperative⟩, and ⟨RIGHTAN: Unchanging⟩. The value for NUM is necessary only where an actual number value is one of the values available – i.e. when the variation is something more than '–' and '#'. We simplify (12) accordingly.

(12′) a. i. ⟨NUM: – | RIGHTAN: Tense/Aspect⟩ (e.g. (3))
ii. ⟨NUM: sg | RIGHTAN: Tense/Aspect⟩
iii. ⟨NUM: pl | RIGHTAN: Tense/Aspect⟩
iv. ⟨NUM: # | RIGHTAN: Tense/Aspect⟩

b. i. ⟨RIGHTAN: Imperative⟩ (e.g. (6b))

(12′) c. i. ⟨NUM: – | RIGHTAN: Unchanging⟩ (e.g. (6c))
ii. ⟨NUM; sg | RIGHTAN: Unchanging⟩
iii. ⟨NUM; pl | RIGHTAN: Unchanging⟩

d. i. ⟨ASP: – | RIGHTAN: Number⟩ (e.g. (8))
ii. ⟨ASP: Aspect | RIGHTAN: Number⟩ (e.g. (6a))

e. i. ⟨ASP: –; ADAFF: Person | RIGHTAN: Number⟩ (e.g. (7b))
ii. ⟨ASP: Aspect; ADAFF: Person # | RIGHTAN: Number⟩ (e.g. (7a))

The Constituent types as yet without exemplification are illustrated in (13) and (14) below.

(13) a. ⟨NUM: sg | RIGHTAN: Tense/Aspect⟩ (12′a-ii)

kwota-qu¢ upil
stand:up:sg-distant:non:future:continuous *aux*

He was standing up.

b. ⟨NUM; pl | RIGHTAN: Tense/Aspect⟩ (12′a-iii)

waraava-qu¢ mil
stand:up:pl-distant:non:future:continuous *aux*

They were standing up

c. ⟨NUM: # | RIGHTAN: Tense/Aspect⟩ (12′a-iv)

kwota-q up
stand:up:sg-near:non:future:continuous:sg *aux*

He is standing up.

(14) a. ⟨NUM: sg | RIGHTAN: Unchanging⟩ (12′c-ii)

kwota-x xupo
stand:up:sg-unchanging *aux*

He should stand up.

b. ⟨NUM: pl | RIGHTAN: Unchanging⟩ (12′c-iii)

waraava-x xumpo
stand:up:pl-unchanging *aux*

They should stand up.

1.2 *Fact Two: Constancy between the Argument-Categorizing Element and the Argument Structure*

The form in which the Argument-Categorizing Element occurs doesn't affect the Argument Structure. That is, if we keep the Base Form *'ari* inside *'ariqus̸* constant, we keep the Argument Structure possibilities constant.[1] All the sentences in (15) have the Argument Structure in (16), although the Constituents containing the Argument-Categorizing Element differ.[2]

(15) a. ⟨NUM: — | RIGHTAN: near non-future sg⟩

'ari-q	up	hengeemali
kick-near:non:future:sg	*aux*	*boy:object*

He is kicking the boy.

b. ⟨NUM: — | RIGHTAN: distant non-future⟩

'ari-ax	upil	hengeemali
kick-distant:non:future	*aux*	*boy:object*

He kicked the boy.

c. ⟨NUM: — | RIGHTAN: future⟩

'ari-an	po	hengeemali
kick-future	*aux*	*boy:object*

He will kick the boy.

d. ⟨NUM: — | RIGHTAN: imp pl⟩

'ari-yam	hengeemali
kick-imperative:pl	*boy:object*

Kick the boy!

(16) [⟨ASP; —; NUM: Number | RIGHTAN: Object⟩PN]

But holding the Constituent type constant and varying the Base Form does have an effect. The Constituents in (17) containing the Argument-Categorizing Elements are identical, but the Argument Structures vary as in (18) respectively.

(17) a. ⟨NUM: — | RIGHTAN: distant non-future continuous⟩

tooya-qus̸	upil
laugh-distant:non:future:continuous	*aux*

He was laughing.

b. ⟨NUM: — | RIGHTAN: distant non-future continuous⟩

yot	upil	miy-qus̸
big	*aux*	*be-distant:non:future:continuous*

She was big.

(17) c. ⟨NUM: — | RIGHTAN: distant non-future continuous⟩

taanat upil poyk 'oovi-qus̸
blanket:object aux to:him give-distant:non:future:cont

She was giving the blanket to him.

(18) a. [PN]

b. [⟨ASP: —; NUM: # | RIGHTAN: #⟩ Psg]

c. [⟨ASP: —; NUM: number | RIGHTAN: obj⟩
⟨3sg | RIGHTAN: to⟩ PN]

The second fact has to do with this constancy.

The examples above show only that an Argument-Categorizing Element and the argument arrays covary — and reveal only a small part of this covariation at that. No Argument-Categorizing Element is compatible with all of the argument array possibilities introduced in Chapter Three, but most are compatible with more than one.[3] (19) lists some Base Forms, that part of the Argument-Categorizing Element which conditions the choice of argument array, and the argument array types with which each is compatible.

(19) Sample Compatibility Sets

xilla 'rain'

[ ]

heela 'sing'

[ ]

⟨ASP: — | RIGHTAN: obj⟩

⟨ASP: — | RIGHTAN: obj⟩⟨ASP: — | RIGHTAN: Postposition⟩

'oovi 'give'

⟨ASP: — | RIGHTAN: obj⟩⟨ASP: — | RIGHTAN: Postposition⟩

yaw 'have'

⟨ASP: —; ADAFF: Person | RIGHTAN: obj⟩

'alaxwush 'ugly'

[ ]

⟨ASP: ASP | RIGHTAN: 3sg/3pl generic⟩

⟨ASP: Aspect | RIGHTAN: Person⟩

(19) huu'uni 'teach'
⟨ASP: – | RIGHTAN: obj⟩ ⟨ASP: – | RIGHTAN: obj⟩
⟨RIGHTAN: Person refl⟩ ⟨ASP: – | RIGHTAN: obj⟩
⟨ASP: – | RIGHTAN: obj⟩ ⟨ASP: Aspect | RIGHTAN:obj⟩
⟨RIGHTAN: Person refl⟩ ⟨ASP: Aspect | RIGHTAN:obj⟩

'ari 'kick'
[ ]
⟨ASP: – | RIGHTAN: obj⟩
⟨RIGHTAN: Person refl⟩

'ayali 'know'
⟨ASP: – | RIGHTAN: obj⟩
⟨RIGHTAN: Person refl⟩
⟨ASP: Aspect | RIGHTAN: obj⟩

'aw' 'sit'
⟨ASP: – | RIGHTAN: Postposition⟩
⟨ASP: –; ADAFF: Person | RIGHTAN: Number)
⟨ASP: –; ADAFF: Person | RIGHTAN: Postposition⟩
⟨ASP: – | RIGHTAN: Number⟩

miyx 'be'
⟨ASP: – | RIGHTAN: Number⟩
⟨ASP: Aspect | RIGHTAN: Number⟩
⟨ASP: –; ADAFF: Person | RIGHTAN: Number⟩
⟨ASP: Aspect | RIGHTAN: Person⟩

ma'max 'like'
⟨ASP: – | RIGHTAN: Number⟩
⟨ASP: – | RIGHTAN: obj
⟨RIGHTAN: Person refl⟩
⟨ASP: Aspect | RIGHTAN: obj⟩

This sample is not entirely adequate, for one important reason: Argument-Categorizing Elements covary with Argument Structures, not argument arrays.

The test of this claim lies with arrays involving a single Constituent of the type ⟨RIGHTAN: Number⟩ which also does not crucially contain a person value for ADAFF, since as we saw in Chapter Three this Constituent type can be referentially bound by the Subject or referentially free of it. Consider, then, the first argument array listed under *miyx* and under *ma'max*. With *miyx* the Subject accompanying this array must be referentially related to this Constituent, as reflected in the representation in (20).

(20) [⟨RIGHTAN: # ⟩ PNumber]

With *ma'max*, the Subject accompanying such an array is referentially free of this Constituent.

(21) [⟨RIGHTAN: Number⟩ PN]

Compare the sentences in (22) and (23), illustrating (20) and (21) respectively.

(22) momkat-um pum miyxwum
big-pl aux are

They are big.

never *I am big.

(23) henge'mal-um pum noma'maxum
boys-pl aux I:like

I like the boys.

never *They like the boys.

The starred gloss in (22) indicates that the number of the Subject varies with the Number value in the argument array, yielding the referentially related situation; the starred gloss in (23) indicates that the number of the Subject does not vary with the Number value, yielding the referentially independent relationship. In short, the contrast between *miyx* and *ma'max* argues that Argument-Categorizing Elements differ in the Subjects which may cooccur with them, just as they differ in their argument array possibilities. Thus, we are dealing with compatibilities between Argument-Categorizing Elements and Argument Structures, not between Argument-Categorizing Elements and argument arrays.

One interesting result of this conclusion is the organization it imposes on the list of Sample Compatibility Sets in (19). Argument-Categorizing Elements can be divided into semantically coherent subgroups, based on the Argument Structure types(s) with which they are compatible, where by ARGUMENT STRUCTURE TYPE, I refer to the referential relationship between an element in the array and the Subject. The sample in (19) is relatively small, but it is large enough to suggest the distribution.

We require, first, a three-way distinction among Subjects, a distinction implicit in the discussion of Argument Structures in Chapter Three. There are Subjects whose values covary with a value in the argument array and all these involve some type of referential relationship between the two. (20) is an example of this REFERENTIALLY BINDING relationship. There are, in contrast, Subjects whose values are independent of the values in the argument array and all these lack an obligatory relationship between the Subject and an element in the array. (21) is an example of this REFERENTIALLY FREE relationship. These two types are not exhaustive. In an Argument Structure as in (24), the Subject is not simply independent of an element in the array, rather the two are DISJOINT.

(24) [⟨ASP: —; ADAFF: Person | RIGHTAN: object⟩ Subject]

(25) is an example.

(25) wunaal up no-toonav-i yawq
he aux 1sg-basket-object has

He has my basket.

The point here is that the possessor of the basket must not be the same as the Subject; if the two were simply independent no such requirement holds. Finally, there is the Subject I have represented as 'X', the NON-REFERENTIAL Subject that accompanies an array as in (26).

(26) [⟨ASP: ASP | RIGHTAN: PERS Number generic⟩ X]

e.g. poloov up po-wiiw-lo
good aux 3sg-make:wiwish-generic
It is nice to make wiwish.

Now, with this review in mind, the organization of the list of Sample Compatibility Sets is clear. First, *yaw* is to be distinguished from all other Argument-Categorizing Elements (except its suppletive form *'ay*) — in allowing a Subject referentially disjoint from all elements in the array. Second, there are those Argument-Categorizing Elements which always have a referentially free Subject, some because they require the null-argument array (e.g. *xilla* in (19)) and others because their argument array never contains a person or number marked Constituent (e.g. *heela* in (19)).

(27) xillaq up
is:raining aux

It's raining.

(28) heelaq up heelaxish
is:singing aux song:object

He is singing a song.

Among the remaining Argument-Categorizing Elements in the Sample Compatibility Sets there is the possibility that a Subject will referentially bind an element in the array. *miyx* alone *requires* such a relationship, as we might conclude from the discussion above in regard to an argument array with more than one possibility relative to the Subject. All other Argument-Categorizing Elements remaining in the sample *allow* such a relationship, but also accept Argument Structures with referentially free Subjects. Compare:

(29) a. 'ariquš upil potaax
was:kicking aux himself

He was kicking himself

b. 'ariquš upil 'awaali
was:kicking aux dog:object

He was kicking the dog.

Finally, *'alaxwush* alone in this group accepts, in addition, a non-referential Subject.

(30) summarizes the classification of Argument-Categorizing Elements to this point.

(30) a. Allows referentially disjoint Subject

yaw 'have'

b. Requires referentially free Subject

xilla 'rain'

heela 'sing'

c. Requires referentially binding Subject

miyx 'be'

d. Allows either referentially free or referentially binding Subject

'oovi 'give'

'ari 'kick'

huu'uni 'teach'

'ayali 'know'

ma'max 'like

'aw' 'sit'

e. Allows referentially free and referentially binding Subject, as well as non-referential Subject

'alaxwush

The classification in (30) is semantically coherent — and can be made more so. *yaw* in (30a) (and *'ay*) refer to physical possession; no other set involves this notion. *miyx* in (30c) is like a small number of other Base Forms, including *'aax* 'seem' and *mariiqa* 'become', which share the neutral semantic character associated with what is commonly called the 'copula'. The example in (32) has the Argument-Categorizing Element *'aax* and the Argument Structure in (31).

(31) [⟨ASP: Aspect | RIGHTAN: # ⟩ Subject].

(32) heela-qa-t-um pum 'aax-wun
sing-aspect-absolutive-pl aux 'aax-Tense/Aspect

They seem to be singing.

'alaxwush in (30e) is one example of a set of Base Forms all of which identify attributes. Consider again an example with *poloov* 'good' given earlier.

(33) [⟨ASP: ASP | RIGHTAN: PERS Number generic⟩X]

e.g. poloov up po-wiiw-lo
good aux 3sg-make:wiwish-generic

It is nice to make wiwish.

Both (30b) and (30d) can be further refined to yield equally coherent if somewhat more general classes.

Argument-Categorizing Elements classed as compatible with a referentially binding or referentially free Subject (i.e. those in (30d)) can be divided into two major types. For all the examples but *'aw'* the referential relationship between Subject and array involves coreferentiality; for *'aw'* the referential relationship is possession. The contrast is clear in a comparison of the two sentences in (34) and (35).

(34) [⟨RIGHTAN: PERS refl⟩ 1sg]

'ariqu$\cancel{s}$ nil notaax
was:kicking aux myself

I was kicking myself.

(35) [⟨ASP: —; ADAFF: PERS | RIGHTAN: sg⟩ 1sg]

noo nil no-$\cancel{s}$waamay 'aw'qu$\cancel{s}$
I aux 1sg-dautghter is:sitting

I had a daughter.

The semantic difference is equally clear: *'aw'* alone among these examples identifies a non-attributive state; the rest refer to activities.

The Argument-Categorizing Elements in (30b) which are compatible with a referentially free Subject can also be divided into two groups. In Chapter Three I introduced a function from Argument Structure to Argument Structure, a function which is compatible with and replaces a person value in its argument. It is reasonable to think that another function from Argument Structure to Argument Structures exists, but here the function adds a Postpositionally-marked Constituent. One instantiation of this possibility concerns us here, forms with the Postposition *xay*. (36) offers an example.

(36) huupiqus̸ nil peshlish noxay
was:painting aux pot:object ⟨RIGHTAN: 1sg alone⟩

I was painting the pot by myself.

These forms are not obligatory to any Argument Structure, but it is not unreasonable to treat them as optional members. We note, first, that the addition of a Postpositionally-marked Constituent to an Argument Structure seems plausible. In (37), for example, the Constituent *huutal* is not part of the Argument Structure, but we might treat it as an optional addition roughly as in (38).

(37) poy up huutal s̸e'iq
him aux arrow:with is:shooting

He is shooting him with an arrow.

(38) ⟨RIGHTAN: Postposition⟩: [Argument Structure] →
[Argument Structure + ⟨RIGHTAN: Postposition⟩]$_{\text{Argument Structure}}$

The forms with *xay* are somewhat more interesting because they appear to apply generally where there is a person value. In (39), for example, *poxay* seems best analyzed as applying to the Constituent *pos̸waamayi* 'his daughter', rather than the entire Argument Structure.

(39) ya'ash up poxay pos̸waamayi
man aux ⟨RIGHTAN: 3sg alone⟩ his:daughter:object

chaqalaqiq
is:tickling

The man is tickling his own daughter.

Let's say, then, that these *xay* forms can apply to an Argument Structure and replace the Subject value. (40) is a much simplified rule, ignoring the necessary compatibility between the person value of the functor and that of the argument.

(40) [⟨RIGHTAN: Person alone⟩]: [. . . Subject] →
[. . . ⟨RIGHTAN: Person alone⟩]

In (36), for example, the Argument Structure in the absence of *noxay* is as given in (41):

(41) [⟨ASP: – | RIGHTAN: object⟩PN]

The Subject in (36) is not PN, but rather is spectifically '1sg'. Consider the contrast between (42a) and (42b). Both contain '1sg' reflexives and both contain a form with *xay*, but (42a) where this Constituent is also '1sg' is fine while (42b) where this Constituent is '3sg' is unacceptable.

(42) a. huupiqus̸ nil notaax noxay
was:painting aux 1sg:reflexive ⟨RIGHTAN: 1sg alone⟩
I was painting myself by myself.

b. *huupiqus̸ nil notaax poxay
was:painting aux 1sg reflexive ⟨RIGHTAN: 3sg along⟩

Under the analysis in (41), an Argument Structure may contain a referentially free Subject specified for a particular person and number. The interesting point for our purposes is that *heela* and *xilla* in (30b) differ in whether they accept such an Argument Structure.

(43) a. heelaqus̸ upil poxay
was:singing aux ⟨RIGHTAN: 3sg alone⟩
He was singing by himself.

b. *xillaqus̸ upil poxay
was:raining aux ⟨RIGHTAN: 3sg alone⟩

Although both accept referentially free Subjects, *xilla* also requires that its Subject be 'PN'. Correlating with this difference is an obvious semantic one: *heela* refers to an activity and *xilla* to a natural phenomenon.

In short, we can refine (30), revealing the point it suggested even more clearly. Once we consider the Argument Structures, rather than the argument arrays, the distribution of Argument-Categorizing Elements obeys reasonably straightforward semantic groupings.

(44)

Formal class	Semantic class
a. referentially disjoint Subject	physical possession
b. referentially free Subject	
i. obligatorily PN	natural phenomena
ii. available to specific Person and Number	activities
c. referentially binding Subject	copular

(44) d. referentially free or referentially binding Subject

i. if binding, possession	non-attribute states
ii. if binding, coreferentiality	activities
e. referentially free, referentially binding, or non-referential Sybject	attributes

Such a distribution offers a reason for a proposal implicit in the Sample Compatibility Sets, the proposal that a potential Argument-Categorizing Element is compatible with more than a single Argument Structure. If we took the position that a potential Argument-Categorizing Element must be associated with a single Argument Structure — that is, for example, rather than the single set of compatibilities for *'ayali* in the list in (19), we have the three listed below:

(21′) 'ayali 'know'

⟨ASP: –; NUM: Number | RIGHTAN: obj⟩

'ayali 'know'

⟨RIGHTAN: Person refl⟩

'ayali 'know'

⟨ASP: Aspect | RIGHTAN: obj⟩

we lose the generalizations in (44) about the distribution of Argument-Categorizing Elements. We might expect, then, that a new addition to the Luiseño lexicon could exhibit a totally new and different selection from the list of Argument Structures. This expectation is unfulfilled.[4]

1.3. *Fact Three: The Subject Source*

The third fact about the set theoretic complement to the aux has to do with the Subject. I have used the term to apply to the person/number value in the Argument Structure. It initially appears that the value of the Subject is not only part of the Argument Structure, but is also represented somehow in the complement to aux. For example, the Argument Structure in (45) has a '3pl' Subject.

(45) [⟨RIGHTAN: PERS reflexive⟩ 3pl]

The complement to aux appears also to have this person/number value. In (46) the aux is also '3pl'.

(46) pomtaax pum chaqalaqiwun
3pl:reflexive 3pl:aux are:tickling

They are tickling themselves.

If we vary the person and number of the Subject in the Argument Structure, the possibilities available to the aux also vary.

(47) chamtaax cha chaqalaqiwun
1pl:reflexive 1pl:aux are:tickling

We are tickling ourselves.

The Subject in the complement to an aux is not so simple, however.

Consider the sentences in (49), each of which contains an Argument Structure as in (48).

(48) [PN]

(49) a. heyiquś śu
was:digging aux

Were they/we/you:pl/you:sg/ Was I/he digging?

b. heyiwun śu
are:digging aux

Are they/we/you:pl digging?

c. heyiwun śu pomyaax
was:digging aux 3pl:try

Are they trying to dig?

Although the Argument Structures are identical in all three, the person and number possibilities associated with the complement to aux are different for each of these three cases. The English glosses indicate the differences. In (49a), the digger is entirely open for person and number; in (49b), the digger must be 'pl', but is open for person; and in (49c), the digger is specifically '3pl'. The aux in the examples in (49) doesn't vary, but with other aux forms a parallel to the simpler cases in (46) and (47) is clear. The complement to aux in (49b) may be accompanied by either of these aux forms but not all aux forms:

(50) a. heyiwun cha
are:digging 1pl:aux

We are digging.

b. heyiwun pum
are:digging 3pl:aux

They are digging.

(51) *heyiwun up
are:digging non:1sg:aux

The complement to aux in (49c) is compatible only with the aux in (46).

(52) a. *heyiwun cha pomyaax
are:digging 1pl:aux 3pl:try

b. heyiwun pum pomyaax
are:digging 3pl:aux 3pl:try

They are trying to dig.

In short, if the complement to aux includes a person/number value, this value need not be a direct reflection of the person/number value included in the Argument Structure.

The examples in (49) offer two sources of person/number values in addition to the Subject in the Argument Structure. In (49b), where the digger is 'Psg', the Constituent containing the Argument-Categorizing Element is 'sg'.

(53) ⟨heyiq⟩
⟨NUM: — | RIGHTAN: near non-fut sg⟩
⟨dig⟩

In (49c), where the digger is '3pl', the form *pomyaax* is '3pl'.[5]

(54) ⟨pomyaax⟩
⟨ASP: —; ADAFF: POSS; NUM: — | RIGHTAN: 3pl try⟩
⟨. . .⟩

According to the discussion of Section 1.1 above, such a Constituent cannot be an Argument-Categorizing Element. No Argument-Categorizing Element occurs in a Constituent with a person value for the feature RIGHTAN. Were we to propose that this characterization of the Constituent containing the Argument-Categorizing Element is wrong, we would be hard-pressed to explain why these person-marked Constituents can be Argument-Categorizing Elements and reflexives and other person-marked Constituents cannot. Further, as suggested in Chapter One, the aux is sensitive to the temporal properties of the Constituent containing the Argument-Categorizing Element. Simple examples of this property are given in (55).

(55) a. tooyaquš mil
was:laughing aux

They were laughing.

b. tooyaan mo
will:laugh aux

They will laugh.

But as an examination of the sentences in (56) indicates the aux doesn't vary with the Constituent type in (54).

(56) a. tooyaquš mil pomyaax
was:laughing aux 3pl:try

They were trying to laugh.

b. tooyaan mo pomyaax
will:laugh aux 3pl:try

They will try to laugh.

There is also reason to argue that such Constituents are not part of the Argument Structure. Recall, in particular, that no Constituent with a person value for RIGHTAN may occur in an argument array with another Constituent containing 'Person' or 'Number' for the same feature.

(57) *⟨RIGHTAN: . . . Number⟩ . . . ⟨RIGHTAN: . . . Number⟩

Consider, then, (58), identical to (46) except for the addition of *pomyaax*. Were the Constituent *pomyaax* part of the argument array in this sentence, it would constitute a violation of (57).

(58) pomtaax pum pomyaax chaqalaqiwun
3pl:reflexive aux 3pl:try are:tickling

They were trying to tickle themselves.

The condition in (57) was argued in Chapter Three to be part of the function yielding an Argument Structure, most strongly because of its consequences for the analysis of the Subject. Hence, to conclude that sentences as in (58) justify a modification of the Argument Structure requires rejection of the analysis proposed in Chapter Three. We will suggest a different analysis of such forms, an analysis consistent with Chapter Three. The important point here is that these forms offer a third possibility for person/number marking that is reflected in the complement to aux.

2. THE PROPOSITIONAL RADICAL

I repeat the rule in (1) which yields the complement to the aux.

(1) Propositional Functor:

Propositional Radical → Proposition

This chapter is aimed at an analysis of the result in this rule, the Proposition, but we cannot accomplish this without examining the other members of the rule which yields it. We are concerned in this section with the character of the argument in this rule, that is, with the PROPOSITIONAL RADICAL.

The Propositional Radical contains, as expected, a functor and its argument. The rule schema yielding this category is repeated in (59).

(59) Argument-Categorizing Element:

Argument Structure → Propositional Radical

2.1. *First Considerations*

This rule depends on the assumption that every Argument-Categorizing Element is lexically specified for compatible arguments. Let me refer to these as the ARGUMENT REQUIREMENTS. The specification of an argument requirement need not be identical with any of the formal possibilities available to the Argument Structure. The representation of an Argument Structure crucially differentiates, recall, between freely varying or entirely predictable feature/value pairs and those distinctive feature/value pairs. The representation of an argument requirement also distinguishes between essential and non-essential properties: Essential properties are listed in the argument requirement; non-essential properties are not. For example, the argument requirements for *'ari* 'kick' are:

(60) 'ari

[Subject]

[⟨ASP: — | RIGHTAN: obj⟩ Subject]

[⟨RIGHTAN: PERS refl⟩ Subject]

These argument requirements represent exactly those properties taken to be critical to the intransitive, simple transitive, and reflexive Argument Structures respectively — but no others. (Cf. the sample in (19) above.) An argument requirement may also represent fewer properties than those critical to Argument Structures. Consider the (partial) argument requirements for *miyx* 'be', *huu'uni* 'teach', *'ayali* 'know', and *ma'max* 'like' — drawn also from the sample in (19).

(61) a. miyx 'be'

[⟨RIGHTAN: #⟩ $\text{Subject}_{\text{Number}}$]

b. huu'uni 'teach'

i. [⟨ASP: — | RIGHTAN: obj⟩ ⟨RIGHTAN: obj⟩ Subject]

ii. [⟨RIGHTAN: obj⟩ ⟨RIGHTAN: PERS refl⟩ Subject]

c. 'ayali 'know'

[⟨RIGHTAN: obj⟩ Subject]

(61) d. ma'max 'like'

[⟨RIGHTAN: obj⟩ Subject]

None of these argument requirements includes the feature ASP, a property taken to be crucial to Argument Structures. What this set indicates, then, is that, holding the RIGHTAN value constant, each of these Argument-Categorizing Elements accepts either of the values 'Aspect' or '—' for ASP. Compare the two sentences in (62).

(62) a. $[\langle \text{ASP: — | RIGHTAN: obj} \rangle \text{ PN}]_{\text{Argument Structure}}$

'ayaliquš nil nawitmali
knew aux girl:object

I knew the girl.

b. $[\text{ASP: pst unch | RIGHTAN: obj} \rangle \text{ PN}]_{\text{Argument Structure}}$

'ayaliquš nil po-tooya-xvo-y
knew aux 3sg-laugh-aspect-object

I knew that he laughed.

This situation is to be distinguished from Argument-Categorizing Elements which exclude an aspectual value for ASP, as e.g. *'ari* in (60), or which require it. *'alaxwush* 'ugly', for example, doesn't allow the alternation in (62) and, with a Constituent marked for person, requires the presence of an aspectual value.

(63) 'alaxwush 'ugly'

[⟨ASP: Aspect | RIGHTAN: PERS⟩ Subject]

Feature/value pairs which are not crucial to an Argument Structure can also be essential in argument requirements. For example, an Argument-Categorizing Element may require a particular value for NUM. One example of this is the contrast between the pair *yaw* and *'ay*. Both these are compatible, as noted in (26) above, with the Argument Structure in (64):

(64) [⟨ASP: —; ADAFF: Person | RIGHTAN: obj⟩ Subject]

but they differ in regard to the value of NUM. *yaw* requires a non-plural value; *'ay* requires a non-singular value. In (65) below are two acceptable combinations according to (64). (Note that even though the Constituent in the argument array has the value 'number', its interpretation in the sentence is 'sg' or 'pl' depending on whether *yaw* or *'ay* is the Argument-Categorizing Element.)

(65) a. ⟨ASP: –; ADAFF: 3sg; NUM: number | RIGHTAN: obj⟩

noo pil po-toonav-i yawqu*ʂ*
I aux 3sg-basket-object ***yaw****:Tense/Aspect*

I had his basket.

b. ⟨ASP: –; ADAFF: 3sg; NUM: number | RIGHTAN: obj⟩

noo pil po-toonav-i 'ayqu*ʂ*
I aux 3sg-basket-object ***'ay****:Tense/Aspect*

I had his baskets.

However, the combination in (66) is unacceptable; here the Argument-Categorizing Element is *yaw* and the element in the array is specifically 'pl'.

(66) ⟨ASP: – ; ADAFF: 3sg; NUM: pl | RIGHTAN: obj⟩

*noo pil po-toonav-um-i yawqu*ʂ*
I aux 3sg-basket-pl-object ***yaw****:Tense/Aspect*

In contrast, the combination in (67) — replacing *yaw* with *'ay* — is fine.

(67) ⟨ASP: –; ADAFF: 3sg; NUM: pl | RIGHTAN: obj⟩

noo pil po-toonav-um-i 'ayqu*ʂ*
I aux 3sg-basket-pl-object ***'ay****:Tense/Aspect*

I had his baskets.

This difference between *yaw* and *'ay* can be accommodated if their argument requirements include the feature NUM and differ in the value allowed to it.

(68) yaw

[⟨ASP: –; ADAFF: Person; NUM; -pl | RIGHTAN: obj⟩ Subject]

'ay

[⟨ASP: –; ADAFF: Person; NUM: -sg | RIGHTAN: obj⟩ Subject]

Thus, the argument requirements may make distinctions which are not crucial to the characterization of an Argument Structure.

The difference between the proper characterization of an Argument Structure *independent* of an Argument-Categorizing Element and the characterization of the argument requirements is critical to the determination of a Propositional Radical's formal value for reasons that we address in Section 2.1.2 to follow. Table 4-I presents the argument requirements of each of the sample Argument-Categorizing Elements in the sample in (19) above, as a concrete illustration of the points raised here.

TABLE 4-I

xilla 'rain'
[PN]

heela 'sing'
[Subject]
[⟨ASP: — | RIGHTAN: obj⟩ Subject]
[⟨ASP: — | RIGHTAN: obj⟩ ⟨ASP: — | RIGHTAN: to⟩ Subject]

'oovi 'give'
[⟨ASP: — | RIGHTAN: obj⟩ ⟨ASP: — | RIGHTAN: to⟩ Subject]
[⟨RIGHTAN: PERS refl⟩ ⟨ASP: — | RIGHTAN: to⟩ Subject]

yaw 'have'
[⟨ASP: —; ADAFF: Person; NUM: −pl | RIGHTAN: obj⟩ Subject]

'alaxwush 'ugly'
[⟨ASP: ASP | RIGHTAN: PERS Number generic⟩ X]
[⟨ASP: Aspect | RIGHTAN: PERS⟩ Subject]

huu'uni 'teach'
[⟨RIGHTAN: obj⟩ ⟨ASP: — | RIGHTAN: obj⟩ Subject]
[⟨RIGHTAN: obj⟩ ⟨RIGHTAN: PERS refl⟩ Subject]

'ari 'kick'
[⟨ASP: — | RIGHTAN: obj⟩ Subject]
[⟨RIGHTAN: PERS refl⟩ Subject]

'ayali 'know'
[⟨RIGHTAN: obj⟩ Subject]
[⟨RIGHTAN: PERS refl⟩ Subject]

'aw' 'sit'
[⟨ASP: — | RIGHTAN: Postposition⟩ Subject]
[⟨ ASP: —; ADAFF: PERS | RIGHTAN: Number⟩ Subject]
[⟨ASP: — | RIGHTAN: Number⟩
⟨ASP: —; ADAFF: PERS | RIGHTAN: Postposition⟩ Subject]

miyx 'be'
[⟨RIGHTAN: # ⟩ Subject]
[⟨ASP: —; ADAFF: PERS | RIGHTAN: Number⟩ Subject]
[⟨ASP: Aspect; ADAFF: POSS | RIGHTAN: PERS⟩ Subject]

ma'max 'like'
[⟨RIGHTAN: obj⟩ Subject]
[⟨ASP: — | RIGHTAN: Number⟩ Subject]
[⟨RIGHTAN: PERS refl⟩ Subject]

2.2 *The Principle of Extended Functional Application*

This discussion of the difference between an Argument Structure and the lexically specified argument requirements of an Argument-Categorizing Element suggest that the application of an Argument-Categorizing Element to an Argument Structure is not a simple case of functional application. Since the properties of the Argument Structure are not identical with the argument requirements, recasting the rule in (59) as in (69a) on a par with the simple functional application of (69b) is problematic: The argument requirements and the Argument Structure need not be identical.

(69) a. Propositional Radical | argument requirements^i.

Argument Structure^i → Propositional Radical

b. X | Y: Y → X

In support of this conclusion, we note that the formal value of a Propositional Radical draws from both the Argument-Categorizing Element and the Argument Structure; this must be so because, as noted in Section 1.3, the aux can be sensitive to the Subject in the Argument Structure.

To accommodate these (and other properties), I propose an extension of functional application, which I will call the PRINCIPLE OF EXTENDED FUNCTIONAL APPLICATION. By the Principle of Extended Functional Application, the formal value of the result includes only the essential feature/value pairs of the functor and all the essential, but freely varying, properties of the argument.[6] For the functor, two different situations arise. Assume a functor with its own feature/value pairs F^q:x and F^r:y. All functors in a particular rule type might bear a certain feature (say, F^q), but vary for the value. So, another, equally acceptable, functor choice might be F^q:w. In contrast, a feature might be entirely non-essential to the functor choice for a particular rule type (say, F^r) — and, thus, so will its value. By the Principle of Extended Functional Application, the result will include the feature/value pair F^q:x but not the feature/value pair F^r:y.

(59′) Argument-Categorizing Element$_{\langle F^q:x;\ F^r:y\rangle}$:

Argument Structure → Propositional Radical$_{\langle F^q:x\rangle}$

The representation of the argument in the result is more complicated. Assume for illustration an argument whose formal value is the feature/value pairs F^i:a, F^j:b, and F^k:c. Now, there are three distinct possibilities here. The functor could require a feature/value pair (say, F^i:a); the functor could be entirely insensitive to the presence of a feature and, therefore, to its value (say, F^j); or the functor could require a feature (say, F^k), but not specify its value. By the Principle of Extended Functional Application, the value 'c' and only this value from $\langle F^i$:a; F^j:b; F^k:c$\rangle$ will be a property of the result: The feature F^k is essential, unlike F^j, but its value 'c' is freely varying, unlike 'a'.

(59″) Argument-Categorizing Element$_{\langle F^q:x;\ F^r:y\rangle}$:
Argument Structure$_{\langle F^i:a;\ F^j:b;\ F^k:c\rangle}$ → Propositional Radical$_{\langle F^q:x;\ c\rangle}$

This Principle attends to the problems addressed by the introduction of 'head features' and 'foot features' in Generalized Phrase Structure Grammar and Head-Driven Phrase Structure Grammar, but in a more principled way. Head features require an internal distinction among feature types, to insure that only the essential properties of the head are reflected in the mother. To accommodate foot features, one is required to make yet another essentially ad hoc distinction – some features of a non-head may be carried up to the mother (foot features) and some will not (non-foot features). The Principle of Extended Functional Application requires no a priori distinction among features. Rather the Principle determines in a regular fashion which features of an argument will appear in the result.

2.2.1 *Application to the Argument-Categorizing Element*

The effect of the Principle of Extended Functional Application for the Argument-Categorizing Element relative to the Propositional Radical is clear. As we have seen in Section 1.2, the formal properties of the Argument-Categorizing Element do not bear on its Argument Structure choices. Therefore, these properties are, according to the Extension of Functional Application, candidates for the formal value of the Propositional Radical. But in Section 1.1 we discussed the fact that not all features available to a Constituent are necessary to its selection. The list in (12′) presents the list of crucially varying properties, making essentially the distinction required for the Principle to apply.

(12′) a. i. ⟨NUM: – | RIGHTAN: Tense/Aspect⟩
ii. ⟨NUM: sg | RIGHTAN: Tense/Aspect⟩
iii. ⟨NUM: pl | RIGHTAN: Tense/Aspect⟩
iv. ⟨NUM: # | RIGHTAN: Tense/Aspect⟩

b. i. ⟨RIGHTAN: Imperative⟩

c. i. ⟨NUM: – | RIGHTAN: Unchanging⟩
ii. ⟨NUM; sg | RIGHTAN: Unchanging⟩
iii. ⟨NUM; pl | RIGHTAN: Unchanging⟩

(12′) d. i. ⟨ASP: — | RIGHTAN: Number⟩
ii. ⟨ASP: Aspect | RIGHTAN: Number⟩

e. i. ⟨ASP: —; ADAFF: Person | RIGHTAN: Number⟩
ii. ⟨ASP: Aspect; ADAFF: Person # | RIGHTAN: Number⟩

The Argument-Categorizing Element *'ayali* in (62), for example, occurs in a Constituent as in (70a), but the crucial properties of this Constituent are as in (70b). (Cf. (12′a-i).)

(62) a. [⟨ASP: — | RIGHTAN: obj⟩ PN]$_{\text{Argument Structure}}$
'ayaliquṡ nil nawitmali
knew aux girl:object
I knew the girl.

b. [ASP: pst unch | RIGHTAN: obj⟩ PN]$_{\text{Argument Structure}}$
'ayaliquṡ nil po-tooya-xvo-y
knew aux 3sg-laugh-aspect-object
I knew that he laughed.

(70) a. ⟨'ayaliquṡ⟩
⟨ASP: —; ADAFF: —; NUM: — | RIGHTAN: dist non-fut cont⟩
⟨know⟩

b. ⟨'ayaliquṡ⟩
⟨NUM: — | RIGHTAN: dist non-fut cont⟩
⟨know⟩

(71) shows the representation of the properties in (70b) in the result.

(71) ⟨'ayaliquṡ⟩
⟨NUM: — | RIGHTAN: dist non-fut cont⟩:
⟨know⟩
Argument Structure →
⟨NUM: — | RIGHTAN: dist non-fut cont⟩

The contribution of the Argument Structure, as might be expected from the discussion of Section 2.1 is somewhat more complicated.

2.2.2 *Application to the Argument Structure*

I have argued for a distinction between the properties of an Argument Structure as presented in Chapter Three and the Argument-Categorizing Element's argument requirements. (72a) represents the Argument-Categorizing Element and the Argument Structure for (62a); (72b), the Argument-Categorizing Element and the Argument Structure for (62b).

Both include identical Argument-Categorizing Elements and different Argument Structures, but the Argument-Categorizing Element is insensitive to the differences between the Argument Structures.

(72) a. Argument-Categorizing Element
⟨'ayaliqus̸⟩
⟨NUM: – | RIGHTAN: dist non-fut cont⟩
⟨know⟩
req: [⟨RIGHTAN: obj⟩ Subject]

Argument Structure

⟨nawitmali⟩
[⟨ASP: – | RIGHTAN: obj⟩ PN]
ADAFF: l; NUM: sg
⟨girl⟩

b. Argument-Categorizing Element

⟨'ayaliqus̸⟩
⟨NUM: – | RIGHTAN: dist non-fut cont⟩
⟨know⟩
req: [⟨RIGHTAN: obj⟩ Subject]

Argument Structure

⟨potooyaxvoy⟩
[⟨ASP: pst unch | RIGHTAN: obj⟩ PN]
ADAFF: 3sg; NUM: –
⟨3sg laughed⟩

By the Principle of Extended Functional Application, the properties of the Argument Structure to which the Argument-Categorizing Element is insensitive will not be represented in the result: These are non-crucial properties of the argument. Thus, in this case, none of the features ASP, ADAFF, NUM, or their values will be present in the Propositional Radical.

The parts remaining to the Argument Structure can be divided into two types: those that the Argument-Categorizing Element analyzes, that is, those that the Argument-Categorizing Element determines the specific character of, and those the Argument-Categorizing Element does not analyze. Simple illustrations of both are found in (62). *'ayali* requires that the Constituent in this Argument Structure bear the value RIGHTAN and a particular value for this feature — here **'object'**. In the absence of an acceptable feature/value pair, the Argument Structure is an unacceptable argument. In contrast, *'ayali* requires that there be a Subject in any accompanying Argument Structure, but it does not determine the particular value which this Subject might have or its relationship to the argument array. This is one conclusion of the discussion of Section 1.2 above.

The application of the Principle of Extended Functional Application to the combination of this Argument-Categorizing Element and an acceptable Argument Structure should now be clear. By the Principle of Extended Functional Application, the formal value of the application of the Argument-Categorizing Element in (62) to the associated Argument Structure will be as in (73). The contribution of the Argument-Categorizing Element to the result was discussed above. The crucial point here is that properties of the Argument Structure may appear in the result — but only those properties which are specified by the functor, but whose particular manifestation is not determined by it.

(73) ⟨'ayaliquš⟩
⟨NUM: — | RIGHTAN: dist non-fut cont⟩:
⟨know⟩
 req: [⟨RIGHTAN: object⟩ Subject]

⟨nawitmali⟩
[⟨ASP: — | RIGHTAN: object⟩ PN] →
 ADAFF: l; NUM: sg
⟨girl⟩

⟨NUM: — | RIGHTAN: dist non-fut cont⟩; [PN]

Let's explore more complicated examples of this idea. Other crucial values among the Constituent set in the Argument Structure are obviously determined by the Argument-Categorizing Element. I mentioned above that some Argument-Categorizing Elements are sensitive to Number values in NUM. (74) contains two more examples, *moqna* and *qe'ee*, which vary only in the value they require for NUM.

(74) moqna 'kill'
[⟨ASP: —; NUM: sg | RIGHTAN: obj⟩ Subject]
qe'ee 'kill'
[⟨ASP: —; NUM: pl | RIGHTAN: obj⟩ Subject]

(75) provides illustrative examples. The point of (75c) and (75d) is to show that the value for NUM of the obligatory Constituent is specifically at issue.

(75) a. ⟨ASP: —; NUM: sg | RIGHTAN: obj⟩

noo n moqnaq 'alwu-t-i
*I aux **moqna**:Tense/Aspect crow-absolutive-object*

I am killing a crow.

(75) b. ⟨ASP: –; NUM: pl | RIGHTAN: obj⟩

noo n qe'eeq 'alwu-t-um-i
*I aux **qe'ee**:Tense/Aspect crow-absolutive-pl-object*

I am killing crows.

c. ⟨ASP: –; NUM: sg | RIGHTAN: obj⟩

wunaalum pum moqnawun alwu-t-i
*they aux **moqna**:Tense/Aspect crow-absolutive-object*

They are killing a crow.

d. ⟨ASP: –; NUM: pl | RIGHTAN: obj⟩

wunaalum pum qe'eewun 'alwu-t-um-i
*they aux **qe'ee**:Tense/Aspect crow-absolutive-pl-i*

They are killing crows.

By the Principle of Extended Functional Application, the combinations of Argument-Categorizing Element and Argument Structure in (75a) and (75b) are as in (76a) and (76b) respectively.

(76) a. ⟨moqnaq⟩
⟨NUM: – | RIGHTAN: near non-fut cont sg⟩:
⟨kill⟩
req: [⟨ASP: –; NUM: sg | RIGHTAN: object⟩ Subject]
⟨'alwuti⟩
[⟨ASP: – | RIGHTAN: obj⟩ PN]
ADAFF: t; NUM: sg
⟨crow⟩ →
⟨NUM: – | RIGHTAN: near non-fut cont sg⟩; [PN]

b. ⟨qe'eeq⟩
⟨NUM: – | RIGHTAN: near non-fut cont sg⟩:
⟨kill⟩
req: [⟨ASP: –; NUM: pl | RIGHTAN: object⟩ Subject]
⟨'alwutumi⟩
[⟨ASP: – | RIGHTAN: obj⟩ PN]
ADAFF: t; NUM: pl
⟨crow⟩ →
⟨NUM: – | RIGHTAN: near non-fut cont sg⟩; [PN]

All the examples offered above show the Argument-Categorizing Element analyzing all properties of the Argument Structure, except for the Subject. In fact, the Argument-Categorizing Element need not analyze all the properties of the Constituent set in the Argument Structure — and it can analyze the Subject.

One important example of the Argument-Categorizing Element analyzing the Subject is found with weather expressions. All Argument-Categorizing Elements occur with a range of person/number values — except for weather expressions. A brief review of Table 4-I quickly reveals that weather expressions require a PN Subject.

(77) xilla 'rain'
[PN]

These Argument-Categorizing Elements, then, do determine the value of the Subject in their argument. So, the application of the Argument-Categorizing Element to the Argument Structure in (78) is represented as in (79), where the result lacks a Subject.

(78) xillaq up
is:raining aux

It is raining.

(79) ⟨xillaq⟩
⟨NUM: # | RIGHTAN: near non-fut cont sg⟩:
⟨rain⟩

req: [PN]

[PN] → ⟨NUM: # | RIGHTAN: near non-fut cont sg⟩

In short, I propose that weather expressions take an Argument Structure with a Subject, but the result of their application to this Argument Structure lacks a Subject. This analysis has exactly the right consequences for the analysis of the Proposition, as we will see below. For now, it is important to note that the result is a regular result of the Principle of Extended Functional Application; no special apparatus is required to accommodate weather expressions.

We turn, then, to properties in the Argument Structure's Constituent set which are not analyzed by the Argument-Categorizing Element. *yaw* and *'ay* in (68) are like *moqna* and *qe'ee* in (76) in determining the value of NUM. But the two sets differ in regard to ADAFF. *yaw* and *'ay* require that this feature have a person value, but the particular person value is entirely free. Compare (80) to (65a), repeated here:

(80) ⟨ASP: –; ADAFF: 3pl; NUM: number | RIGHTAN: obj⟩

noo pil pom-toonav-i yawqu$\cancel{s}$
I aux 3pl-basket-object yaw:Tense/Aspect

I had their basket.

(65) a. ⟨ASP: –; ADAFF: 3sg; NUM: number | RIGHTAN: obj⟩

noo pil po-toonav-i yawquś
I aux 3sg-basket-object ***yaw****:Tense/Aspect*

I had his basket.

(81) illustrates the application of the Argument-Categorizing Element **yawquś** to the Argument Structure in (65a).

(81) ⟨yawquś⟩
⟨NUM: – | RIGHTAN: dist non-fut cont⟩:
⟨have⟩
req: [⟨ASP: –; ADAFF: Person; NUM: -sg |
RIGHTAN: obj⟩ Subject]
⟨potoonavi⟩
[⟨ASP: –; ADAFF: 3sg | RIGHTAN: obj⟩PN]
NUM: number
⟨his basket⟩ →
⟨NUM: – | RIGHTAN: dist non-fut cont⟩; [⟨3sg⟩ PN]

A parallel example is found with Argument-Categorizing Elements which require ⟨RIGHTAN: Number⟩ – as e.g. *ma'max*:

(82) ma'max 'like'
[⟨RIGHTAN: Number⟩ Subject]

and do not distinguish among its various instantiations. Consider the examples in (83).

(83) a. [⟨ASP: – | RIGHTAN: sg⟩ PN]

hengeemal up noma'max
boy aux I:like

I like the boy.

b. [⟨ASP: – | RIGHTAN: pl⟩ PN]

henge'mal-um pum noma'max
boys-pl aux I:like

I like the boys.

(84) illustrates the application of the Argument-Categorizing Element *noma'max* in (83a) to its Argument Structure.

(84) ⟨noma'max⟩
⟨ASP: –; ADAFF: 1sg | RIGHTAN: sg⟩:
⟨like⟩
req: [⟨RIGHTAN: Number⟩ Subject]

⟨hengeemal⟩
[⟨ASP: – | RIGHTAN: sg⟩ PN]
ADAFF: 1; NUM: #
⟨boy⟩ →

⟨ASP: –; ADAFF: 1sg | RIGHTAN: sg⟩; [⟨sg⟩ PN]

The unanalyzed values are not exclusively number and person. Consider, finally, the value for the feature ASP. An Argument Structure associated with *miyx* is presented in (85).

(85) miyx 'be'

[⟨ASP: aspect | RIGHTAN: PERS⟩ Subject]

The aspectual values which appear in this Argument Structure vary.

(86) a. ⟨ASP: unchanging future⟩

e.g. po-heela-xpi 'he will sing'

as in:

po-heela-xpi up miyq
3sg-sing-aspect aux is

He has to sing.

b. ⟨ASP: unchanging past⟩

e.g. po-heela-xvo 'he sang'

as in:

po-heela-xvo up miyq
3sg-sing-aspect aux is

He has sung (and is finished).

c. ⟨ASP: unchanging⟩

e.g. po-heela-x 'he sings'

as in

po-heela-x up miyq
3sg-sing-aspect aux is

He has sung (and will continue).

The Principle of Extended Functional Application requires that the aspectual value is represented in the result. (87) illustrates the application of *miyq* to the Argument Structure in (86a), focussing on the aspectual value only.

(87) ⟨miyq⟩
⟨NUM: — | RIGHTAN: near non-fut cont sg⟩:
⟨be⟩
  req: [⟨ASP: aspect . . .]
⟨poheelaxpi⟩
[⟨ASP: unch fut | RIGHTAN: PERS⟩ 3sg]
  ADAFF: POSS; NUM: —
⟨sing⟩ →
⟨NUM: — | RIGHTAN: near non-fut cont sg⟩; [⟨unch fut . . .]

The result in (87) contains the particular aspectual value of the argument.

We might consider briefly the rationale behind this principle in regard to the properties of the Argument Structure, that is, the rationale for not representing in the Propositional Radical those properties of the Argument Structure analyzed by the Argument-Categorizing Element. The properties in the Argument Structure which are referentially bound by the Subject are closed to any further manipulation; this is represented directly in the notation we have adopted. Consider, for example, the Argument Structure in (87), i.e. [⟨ASP: aspect | RIGHTAN: PERS⟩ 3sg]. The Constituent in this Argument Structure is referentially related to the Subject, a relationship indicated by the value PERS. The Argument-Categorizing Element's role in regard to those properties it analyzes is roughly analogous: It fixes these properties of the Argument Structure — relative to the event or state it specifies. By not representing those properties analyzed by the Argument-Categorizing Element in the Propositional Radical, they are effectively precluded from participating in any further compositional process.

This rationale, however, dictates one decision about the formal value of the Propositional Radical. Those properties in an Argument Structure which are related to an unanalyzed Subject cannot themselves be analyzed by the Argument-Categorizing Element and, thus, must also be present in the result. I modify (87) accordingly.

(88) ⟨miyq⟩
⟨NUM: — | RIGHTAN: near non-fut cont sg⟩:
⟨be⟩
  req: [⟨ASP: aspect | RIGHTAN: PERS⟩ Subject]

(88) ⟨poheelaxpi⟩
[⟨ASP: unch fut | RIGHTAN: PERS⟩ 3sg]
ADAFF: POSS; NUM: –
⟨sing⟩ →
⟨NUM: – | RIGHTAN: near non-fut cont sg⟩;
[⟨unch fut cont | PERS⟩ 3sg]

Note that the value 'POSS' is not represented in the result, even though it is (indirectly) related to the Subject. The difference between 'PERS' and 'POSS' is that the former is crucial to the Argument Structure.

2.2.3 *Conclusion to Extended Functional Application*

I have been concerned in this discussion with the formal value of what I have termed the Propositional Radical, the combination of the Argument-Categorizing Element and the Argument Structure. The idea is that the formal value of the Propositional Radical can be predicted from the properties of its parts, by the Principle of Extended Functional Application. The consequence is that certain properties of both the functor and the argument, of both the Argument-Categorizing Element and the Argument Structure, but not all, will appear in the formal value of the Propositional Radical. Table 4-II provides an illustrative sample, drawing from the Argument-Categorizing Elements and argument requirements represented in Table 4-I.

TABLE 4-II

⟨xilla-q⟩
⟨NUM: # | RIGHTAN: near non-fut cont sg⟩:
⟨rain⟩

req: [PN]

⟨ ⟩ ⟨. . .⟩
⟨PN⟩ → (⟨NUM: # | RIGHTAN: near non-fut cont sg⟩)
⟨ ⟩ ⟨. . .⟩

as in: xillaq up
is:raining aux

It is raining.

⟨heela-q⟩
⟨NUM: – | RIGHTAN: near non-fut cont sg⟩:
⟨sing⟩

req: [Subject]

⟨ ⟩ ⟨. . .⟩
⟨PN⟩ → (⟨NUM: — | RIGHTAN: near non-fut cont sg⟩; [PN])
⟨ ⟩ ⟨. . .⟩

as in: heelaq up
is:singing aux

He is singing.

⟨heela-quʂ⟩
⟨NUM: — | RIGHTAN: dist non-fut cont⟩:
⟨sing⟩

req: [⟨ASP: — | RIGHTAN: obj⟩ Subject]

⟨heelaxish⟩
[⟨ASP: — | RIGHTAN: obj⟩ PN]
⟨ADAFF: ABS; NUM: number⟩
⟨. . .⟩

⟨. . .⟩
→ (⟨NUM: — | RIGHTAN: dist non-fut cont⟩; [PN])
⟨. . .⟩

as in: heelaquʂ upil heelaxish
was:singing aux song:object

He was singing a song.

⟨heela-an⟩
⟨NUM: — | RIGHTAN: fut⟩:
⟨sing⟩

req: [⟨ASP: — | RIGHTAN: obj⟩ ⟨ASP: — | RIGHTAN: to⟩ Subject]

⟨heelaxish 'oyk⟩
[⟨ASP: — | RIGHTAN: obj⟩ ⟨ASP: — | RIGHTAN: to⟩ PN]
ADAFF: ABS; NUM: number ADAFF: 3sg
⟨. . .⟩

⟨. . .⟩
→ (⟨NUM: — | RIGHTAN: fut⟩; [PN])
⟨. . .⟩

as in: heelaan nupo heelaxish 'oyk
will:sing aux song:object to:you

I will sing a song to you.

⟨yaw-q⟩
⟨NUM: — | RIGHTAN: near non-fut cont sg⟩:
⟨have⟩

req: [⟨ASP: —; ADAFF: Person; NUM: −pl | RIGHTAN: obj⟩ Subject]

⟨pomtoonavi⟩
[⟨ASP: —; ADAFF: 3pl | RIGHTAN: obj⟩ PN]
NUM: number
⟨. . .⟩

⟨. . .⟩
→ (⟨NUM: — | RIGHTAN: near non-fut cont sg⟩; [⟨3pl⟩PN])
⟨. . .⟩

as in:	noo	p	pomtoonavi	yawq
	I	*aux*	*their:basket:object*	*has*

I have their basket.

⟨'alaxwush⟩
⟨ASP: unch | RIGHTAN: number⟩:
⟨ugly⟩

req: [⟨ASP: ASP | RIGHTAN: PERS Number generic⟩ X]

⟨po-'eleeli-lo⟩
[⟨ASP: ASP | RIGHTAN: PERS sg generic⟩ X]
ADAFF: POSS; NUM: —
⟨. . .⟩

⟨. . .⟩
→ (⟨ASP: unch | RIGHTAN: number⟩; [⟨PERS sg⟩])
⟨. . .⟩

as in:	'alaxwush	up	po'eleelilo
	ugly	*aux*	*3sg:crawl:generic*

It is bad to crawl.

⟨'alaxwush⟩
⟨ASP: unch | RIGHTAN: number⟩:
⟨ugly⟩

req: [⟨ASP: Aspect | RIGHTAN: PERS⟩ Subject]

⟨po-yi'yi-pi⟩
[⟨ASP: unch fut | RIGHTAN: PERS⟩ 3sg]
ADAFF: POSS; NUM: —
⟨. . .⟩

⟨. . .⟩
→ (⟨ASP: unch | RIGHTAN: number⟩; [⟨unch fut | PERS⟩ 3sg])
⟨. . .⟩

as in: 'alaxwush up poyi'yipi
ugly *aux* *3sg:play:unchanging:future*

It is bad for him to play.

⟨huu'uni-yam⟩
⟨RIGHTAN: imp pl⟩
⟨teach⟩

req: [⟨RIGHTAN: obj⟩ ⟨ASP: — | RIGHTAN: object⟩ Subject]

⟨hengeemal-i noheelax-i⟩
[⟨ASP: — | RIGHTAN: obj⟩ ⟨ASP: — | RIGHTAN: obj⟩ PN]
ADAFF: 1; NUM: sg ADAFF: 1sg; NUM: number
⟨. . .⟩

⟨. . .⟩
→ (⟨RIGHTAN: imp pl⟩; [PN])
⟨. . .⟩

as in: huu'uniyam hengeemali noheelaxi
teach:imp:pl *boy:object* *my:song:object*

Teach the boy my song!

⟨no-'ari-ax⟩
⟨ASP: generic; ADAFF: 1 # | RIGHTAN: sg⟩:
⟨kick⟩

req: [⟨ASP: — | RIGHTAN: object⟩ Subject]

⟨nanatmalumi⟩
[⟨ASP: — | RIGHTAN: obj⟩ PN]
ADAFF: 1; NUM: pl
⟨. . .⟩

⟨. . .⟩
→ (⟨ASP: generic; ADAFF: 1 # | RIGHTAN: sg⟩; [PN])
⟨. . .⟩

as in: nanatmalumi up no'arax
girls:object *aux* *1sg:kick:generic*

I am good at kicking girls.

⟨'ari-uk⟩
⟨NUM: — | RIGHTAN: near non-fut hab⟩
⟨kick⟩

req: [⟨RIGHTAN: PERS reflexive⟩ Subject]

⟨notaax⟩
[⟨RIGHTAN: PERS refl⟩ 1sg]
⟨. . .⟩

⟨. . .⟩
→ (⟨NUM: — | RIGHTAN: near non-fut hab⟩; [⟨PERS⟩ 1sg])
⟨. . .⟩

as in: notaax nil 'aruk
myself aux kick:distant:non:future:habitual

I used to kick myself.

⟨'aw'-quꞩ⟩
⟨NUM: sg | RIGHTAN: dist non-fut cont⟩:
⟨sit⟩

req: [⟨ASP: — | RIGHTAN: on⟩ Subject]

⟨ꞩaama-nga noxay⟩
[⟨ASP: — | RIGHTAN: on⟩ 1sg]
ADAFF: —; NUM: number
⟨. . .⟩

⟨. . .⟩
→ (⟨NUM: sg | RIGHTAN: dist non-fut cont⟩; [PN])
⟨. . .⟩

as in: ꞩaamanga nil noxay 'aw'quꞩ
on:grass aux 1sg:alone was:sitting

I was sitting on the grass by myself.

⟨'aw'-quꞩ⟩
⟨NUM: sg | RIGHTAN: dist non-fut cont⟩:
⟨sit⟩

req: [⟨ASP: —; ADAFF: PERS | RIGHTAN: Number⟩ Subject]

⟨no-ꞩwaamay⟩
[⟨ASP: —; ADAFF: PERS | RIGHTAN: sg⟩ 1sg]
NUM: #
⟨. . .⟩

⟨. . .⟩
→ (⟨NUM: sg | RIGHTAN: dist non-fut cont⟩; [⟨PERS | sg⟩ 1sg])
⟨. . .⟩

as in: noo pil nos̸waamay 'aw'qus̸
I aux my:daughter was:sitting

I had a daughter.

⟨'aw'-qus̸⟩
⟨NUM: sg | RIGHTAN: dist non-fut cont⟩:
⟨sit⟩

req: [⟨ASP: –; | RIGHTAN: Number⟩
⟨ASP: –; ADAFF: PERS | RIGHTAN: Postposition⟩ Subject]

⟨tapashmal no-kun-nga⟩
[⟨ASP: – | RIGHTAN: sg⟩ ⟨ASP: –; ADAFF: PERS | RIGHTAN: on⟩ 1sg]
ADAFF: l; NUM: # NUM: number
⟨. . .⟩

⟨. . .⟩
→ (⟨NUM: sg | RIGHTAN: dist non-fut cont⟩; [⟨PERS | sg⟩ 1sg])
⟨. . .⟩

as in: noo pil tapashmal nokunnga 'aw'qus̸
I aux mouse my:sack:in was:sitting

I had a mouse in my sack.

⟨miy-q⟩
⟨NUM: – | RIGHTAN: near non-fut cont sg⟩:
⟨be⟩

req: [⟨RIGHTAN: # ⟩ Subject]

⟨'alaxwush⟩
[⟨ASP: unch | RIGHTAN: # ⟩ Pnumber]
ADAFF: sh; NUM: #
⟨. . .⟩

⟨. . .⟩
→ (⟨NUM: – | RIGHTAN: near non-fut cont sg⟩; [⟨ # ⟩ Pnumber])
⟨. . .⟩

as in: 'alaxwush up miyq
ugly aux is

He is ugly.

⟨miy-q⟩
⟨NUM: — | RIGHTAN: near non-fut cont sg⟩:
⟨be⟩

req: [⟨ASP: —; ADAFF: PERS | RIGHTAN: Number⟩ Subject]

⟨no-puush konoknish⟩
[⟨ASP: —; ADAFF: PERS | RIGHTAN: number⟩ 1sg]
NUM: #
⟨. . .⟩

⟨. . .⟩
→ (⟨NUM: — | RIGHTAN: near non-fut cont sg⟩; [⟨PERS | number⟩ 1sg])
⟨. . .⟩

as in:	noo	p	nopuush	konoknish	miyq
	I	*aux*	*1sg:eyes*	*green*	*is*

I have green eyes.

⟨miy-q⟩
⟨NUM: — | RIGHTAN: near non-fut cont sg⟩:
⟨be⟩

req: [⟨ASP: Aspect; ADAFF: POSS | RIGHTAN: PERS⟩ Subject]

⟨no-ngee-pi⟩
[⟨ASP: unch fut | RIGHTAN: PERS⟩ 1sg]
ADAFF: POSS; NUM: —
⟨. . .⟩

⟨. . .⟩
→ (⟨NUM: — | RIGHTAN: near non-fut cont sg⟩; [⟨unch fut | PERS⟩ 1sg]
⟨. . .⟩

as in:	noo	p	nongeepi	miyq
	I	*aux*	*1sg:leave:unchanging:future*	*is*

I have to leave.

⟨no-ma'max-um⟩
⟨ASP: —; ADAFF: 1sg | RIGHTAN: pl⟩
⟨like⟩

req: [⟨ASP: — | RIGHTAN: Number⟩ Subject]

⟨henge'mal-um⟩
[⟨ASP: — | RIGHTAN: pl⟩ PN]
ADAFF: 1; NUM #
⟨. . .⟩

⟨. . .⟩
→ (⟨ASP: —; ADAFF: 1sg | RIGHTAN: pl⟩; [⟨pl⟩ PN])
⟨. . .⟩

as in: noo p henge'malum noma'maxum
I aux boys 1sg:like:pl

I like the boys.

2.3 *Cleaning Up*

The discussion to this point has assumed the rule schema creating a Propositional Radical and has been concerned exclusively with the formal value resulting from the application of an Argument-Categorizing Element to an Argument Structure.

(89) $\langle \text{formal value} \rangle_{\text{Argument-Categorizing Element}}$:
$[\text{formal value}]_{\text{Argument Structure}} \rightarrow$
$(\langle \text{formal value} \rangle_{\text{ACE}}; [x, y]_{\text{AS}})_{\text{Propositional Radical}}$
where x and y are crucial properties of the Argument Structure not analyzed by the Argument-Categorizing Element

The success of the postulation of the Propositional Radical turns on the rule in which it is an argument, i.e. rule (1).

(1) Propositional Functor:
Propositional Radical → Proposition

But one assumption incorporated in the rule creating a Propositional Radical cannot go entirely without comment: (89) assumes that in a combination of an Argument-Categorizing Element and an Argument Structure, the former is the functor and the latter the argument, rather than, as in (90), the Argument Structure being the functor and the Argument-Categorizing Element the argument.[7]

(90) Argument Structure:
Argument-Categorizing Element → Propositional Radical

In fact, there is an argument against (90) and in favor of (89).

The members of the Argument Structure and the Argument-Categorizing Element in the Propositional Radical may be intermingled. Consider the relatively simple case of intermingling in (91), where the single-Word Constituent containing the Argument-Categorizing Element (*huu'uniqus̸*) occurs between the two Constituents in the Argument Structure (*hengeemali* and *poteelay*).

(91)

hengeemal-i	nil	huu'uni-qus̸	poteela-y
boy-object	*aux*	*teach-Tense/Aspect*	*his:language-object*

I taught the boy his language.

The position of the Argument-Categorizing Element need not even obey the boundaries of the Constituents internal to the Argument Structure. Compare the two sentences in (92), both of which involve an Argument Structure formally as in (91) but with a complex Constituent *yawaywichi hengeemali* in place of *hengeemali*. In (92a), these two Words are contiguous; in (92b), they are interrupted by the Argument-Categorizing Element.

(92) a.

poteela-y	nil	yawaywich-i	hengeemal-i
his:language-object	*aux*	*beautiful-object*	*boy-object*

huu'uni-qus̸
teach-Tense/Aspect

I was teaching the good-looking boy his language.

b.

poteelay	nil	yawaywich-i	huu'uni-qus̸
his:language-object	*aux*	*beautiful-object*	*teach-Tense/Aspect*

hengeemal-i
boy-object

I was teaching the good-looking boy his language.

If the Argument-Categorizing Element is the functor, this is entirely non-problematic, of course. Both the Constituent and the Argument Structure are of the same category type — syntactically inaccessible, but phonologically accessible. Thus, the Argument-Categorizing Element may appear internal to an Argument Structure or to a Constituent internal to the Argument Structure. However, were the Argument Structure the functor, as in (90), neither of the sentences in (91) or (92b) should exist. Consider the sentences in (93). In (93a) we find a complex Constituent (*hengeemal yawaywish*) performing as the subject. In (93b), this Constituent is interrupted by the Argument-Categorizing Element. (93a) is fine; (93b) is unacceptable.

(93) a.

potaana-y	upil	'ari-qus̸	hengeemal
his:blanket-object	*aux*	*kick-Tense/Aspect*	*boy*

yawaywish
beautiful

The good-looking boy was kicking his blanket.

(93) b. *potaana-y upil hengeemal 'ari-qus̸
his:blanket-object aux boy kick-Tense/Aspect

yawaywish
beautiful

The Constituent *hengeemal yawaywish* is not part of the Argument Structure, according to the analysis of Chapter Three. (We will see later in this chapter that it is an instance of a function from a Proposition to a Proposition.) The important point for our purposes now is the support that this pair of sentences offers for the idea that the members of an argument are phonologically accessible (or inaccessible) to a functor, but not vice versa. *hengeemal yawaywish* applies to a combination of Argument Structure and Argument-Categorizing Element; it cannot be interrupted by the members of its argument. Given this conclusion, the identification of the Argument Structure as the functor and the Argument-Categorizing Element as the argument (i.e. the rule in (90)) predicts the unacceptability of both (91) and (92b). Since these sentences are fine, this relationship of Argument Structure and Argument-Categorizing Element must be rejected. In contrast, the identification of the Argument-Categorizing Element as the functor is consistent with the order possibilities.

One other loose end is the character of the category label Propositional Radical itself. Recall from Chapter One the category type that is syntactically and phonologically accessible. This category type requires a functor that is obligatory but not listable. By this criteria, the Propositional Radical is of the syntactically and phonologically accessible type. Another rendition of the sentence in (93) suggests its phonological accessibility.

(94) potaana-y upil hengeemal yawaywish
his:blanket-object aux boy beautiful

'ari-qus̸
kick-Tense/Aspect

The good-looking boy was kicking his blanket.

The formal value of a Propositional Radical developed above, containing as it does properties of both functor and argument, directly represents the syntactic accessibility of its parts. But a positive test exists for the syntactic accessibility of the parts of the Propositional Radical.

We have already considered two syntactically accessible categories and have expectations, therefore, as to their characteristics in Luiseño. Crucially, we would expect the Propositional Radical to be the argument in a rule like that in (95):

(95) ⟨ASP: — | RIGHTAN: Number⟩: Propositional Radical →
Propositional Radical

where the functor replaces a person value in its argument. We expect this rule to apply exactly once, *because* the person/number values of the parts of the argument are not independent from one another but are organized in the formal value of the argument so that only one appropriate value exists. This would be the analogue to the rule from Constituent to Constituent that produces (96):

(96)	hengeemal	potaana
	boy	*his:blanket*

the boy's blanket

and the rule from Argument Structure to Argument Structure that produces (97):

(97)	noo	p	hengeemal	potaanay	yawq
	I	*aux*	*boy*	*his:blanket:object*	*have*

I have the boy's blanket.

as discussed in the final section of Chapter Three.

Given the analysis of the Propositional Radical developed above, it is clear that rule (95) is not applicable. Because the formal value of the Propositional Radical simply includes properties of both Argument-Categorizing Element and Argument Structure, it need not have a single person value. Consider the Propositional Radical in (98), as exemplified in (99).

(98) ⟨ASP: –; ADAFF: 1sg ¦ RIGHTAN: sg⟩; [⟨¦ PERS⟩ 1sg]

(99)	notaax	up	no-ma'max
	myself	*aux*	*1sg-like*

I like myself.

(95) would require that *noo* in (100) would be associated with only one of the members of (98).

(100)	noo	p	notaax	no-ma'max
	I	*aux*	*myself*	*1sg-like*

I like myself.

But there is no test, to the best of my knowledge, indicating that this is the case.

Not only does a Propositional Radical differ from both a Constituent and an Argument Structure in regard to its person possibilities, rule (95) allows no way to preclude the presence of two *noo*'s as in the unacceptable (101).

(101)	*noo	p	notaax	noo	no-ma'max
	I	*aux*	*myself*	*I*	*1sg-like*

In short, there is no analogue to the Constituent to Constituent or the Argument Structure to Argument Structure function — and this is precisely as it should be given the analysis sketched in Section 2.1. The Propositional Radical is a different category type than either the Constituent or the Argument Structure.

It is entirely possible to argue for a rule which takes a Propositional Radical and yields a Propositional Radical, but the argument supports the characterization of this category as syntactically accessible. Recall the forms **Possessive-*yaax*** discussed in Section 1.3 above, Constituents that cannot be Argument-Categorizing Elements or Constituents in the Argument Structure.

(102) tooyaquš upil po-yaax
was:laughing aux 3sg-try

He was trying to laugh.

Suppose these forms are analyzed as functions from Propositional Radical to Propositional Radical. (103) represents this schematically for those 'additions' like *poyaax*.[8]

(103) ⟨RIGHTAN: Person try⟩:

Propositional Radical → Propositional Radical

The result of its application cannot be the replacement of a value in its argument; no single value presents itself. In fact, the result of its application appears to be nothing more than the addition of its formal value to that of its argument.

(104) ⟨RIGHTAN: Person try⟩:

$\langle \text{formal value} \rangle_{ACE}$; $[x, y]_{AS}$ →

$\langle \text{formal value} \rangle_{ACE}$; $[x, y]_{AS}$; ⟨RIGHTAN: Person try⟩

But this is consistent with classifying the Propositional Radical as syntactically accessible. Its formal value represents a collection of elements, each of which is available to further composition. And this is not consistent with classifying the Propositional Radical as syntactically inaccessible. In both a Constituent and an Argument Structure the parts are integrated; the whole is available to further composition but the individual parts are not.[9]

2.4 *Concluding Remarks*

The rule developed in this section depends on the constancy of the relationship between the Argument-Categorizing Element and the Argument Structure, the second fact presented in Section 1 above as framing the analysis. The result displays the other two facts explored there as well — the variation in the Constituent containing the Argument-Categorizing Element and the possibilities for multiple person and number markings. With the addition of the function from Propositional Radical to Propositional Radical, its formal value can be viewed as a three-part array — one part identifying the character of the functor; a second identifying the crucial, but unanalyzed, part of the argument; and the third (and optional part) identifying the properties of an 'addition' if present.

(105) $(\text{ACE; AS; ('Add'))}_{\text{Propositional Radical}}$

With the exception of a brief discussion, I have focused exclusively on the formal value of the result. I touch briefly, in conclusion, on the semantic and phonological values. The semantic value of a Propositional Radical will reflect the semantically fixed properties of its parts. (107) is perhaps not unreasonable for the Propositional Radical in (106).

(106) 'ari-q up nawitmal-i
kick-near:non:future:sg aux girl-object
He is kicking the girl.

(107) ⟨'ariq⟩
⟨NUM: — ¦ RIGHTAN: near non-fut cont sg⟩:
⟨kick⟩

req: [⟨ASP: — ¦ RIGHTAN: obj⟩ Subject]

⟨nawitmali⟩
[⟨ASP: — ¦ RIGHTAN: obj⟩ PN] →
ADAFF: l; NUM: sg
⟨girl⟩

⟨. . .⟩
(⟨NUM: — ¦ RIGHTAN: near non-fut cont sg⟩]; [PN])
⟨kick girl⟩

The phonological value of the Propositional Radical represents the phonological values of the functor and its argument. The only interesting aspect for our purposes is the order variation allowed. I noted in regard to Constituents and Argument Structures that their members could occur in any order. Similarly in the Propositional Radical, the Constituent which is the Argument-Categorizing Element and its argument, the Argument Structure, can occur in any order relative to one another. So (108) is an equivalent rendition of (106).

(108) nawitmali up 'ariq
girl:object aux is:kicking

He is kicking the girl.

And we have already seen that the Argument-Categorizing Element can occur internal to the Argument Structure. As with the Constituent and the Argument Structure, the phonological value of the Propositional Radical is a set containing all the ordering possibilities available. The Propositional Radical in (106) has the same formal value as that in (108).

(109) ⟨'ariq⟩
⟨NUM: — | RIGHTAN: near non-fut cont sg⟩:
⟨kick⟩

req: [⟨ASP: — | RIGHTAN: obj⟩ Subject]

⟨nawitmali⟩
[⟨ASP: — | RIGHTAN: obj⟩ PN] →
ADAFF: l; NUM: sg
⟨girl⟩

⟨'ariq nawitmali or nawitmali 'ariq⟩
(⟨NUM: — | RIGHTAN: near non-fut cont sg⟩; [PN])
⟨kick girl⟩

3. THE PROPOSITION: PART ONE

Given the analysis of the Propositional Radical, the rule in (1) which yields a Proposition can be refined as in (110).

(110) Propositional Functor:

(ACE; AS; ('Add'))$_{\text{Propositional Radical}}$ →

Proposition

We have considered only the properties of the argument in this rule. In this section and the next we are concerned with the functor and the result respectively. The Propositional Functor, like the Conditions on Agreement that yield a Constituent and the Conditions on Anti-Agreement that yield an Argument Structure, is a set of conditions across the collection of elements in its argument; that is, the Propositional Functor, like the Conditions on Agreement and the Conditions on Anti-Agreement, is a non-localizable, rigid, and obligatory functor. As the labels suggest, the Conditions on Agreement have to do with *compatibility* across the argument(s) and the Conditions on Anti-Agreement have to do with *uniqueness*, restrictions on multiple occurrences of a single value type, as e.g. multiple person values. The Propositional Functor includes compatibility conditions like the Conditions on Agreement *and* uniqueness restrictions like the Conditions on Anti-Agreement. Specifically, the Propositional Functor requires (1) that the members of its argument (the Argument-Categorizing Element, the Argument Structure, and the 'addition') be compatible in person and number values and (2) that its argument contain no more than one person value of a particular sort — what we will call a 'linked' person value. We revise (110) to make the character of the functor more apparent.

(111) Agreement Conditions$_{\text{compatible person and number}}$:
Anti-Agreement Conditions$_{\text{single-linked person}}$

(ACE; AS; ('Add'))$_{\text{Propositional Radical}}$ →

Proposition

3.1 *A First Pass at the Single Linked Person Condition*

Each of the three elements in the collection which is the Propositional Radical has the possibility of containing a person-marked form, as we have seen. (By the term PERSON-MARKED FORM I mean to exclude the Subject, because the Subject is exclusively a value, not a form.) In the Argument Structure part of the Propositional Radical, this possibility is instantiated in one of four ways:

(112) a. (. . . ; [⟨PERS⟩ Subject] . . .)

e.g. (. . . [⟨PERS⟩ 1sg]; . . .)

notaax upil 'ariqu$\not{s}$
myself *aux* *was:kicking*

I was kicking myself.

b. (. . . ; [⟨Person⟩ Subject] . . .)

e.g. (. . . [⟨1sg⟩ PN] . . .)

wunaal up no-toonav yawq
he *aux* ***1sg****-basket* *has*

He has my basket.

c. (. . .; [⟨PERS | Number⟩ Subject] . . .)

e.g. (. . . [⟨PERS | number⟩ 1sg⟩] . . .)

noo p no-toonav qala
I *aux* ***1sg****-basket* *have*

I have a basket.

(112) d. (. . . [⟨Aspect | PERS⟩ Subject] . . .)
e.g. (. . . [⟨unchanging future | PERS⟩ 1sg] . . .)

noo p no-ngee-pi miyq
I aux ***1sg****-leave-unchanging:future is*

I have to leave.

I refer to the third and fourth of these as 'linked' person, by which I identify the fact that the person-marked form also bears another value in its representation in the Propositional Radical. In both (112a) and (112b), the person-marked form is 'unlinked'; the person-marked form does not bear another value. Both the Argument-Categorizing Element and the 'addition' may contain a person-marked form, as illustrated in (113). Further, in either example in (113), the person value is linked — and linking is the only possibility for either the Argument-Categorizing Element or the addition.

(113) a. (⟨ASP: —; ADAFF: Person | RIGHTAN: Number⟩ . . .)
e.g. (⟨ASP: —; ADAFF: 1pl | RIGHTAN: pl⟩; . . .)

cham-ma'max-um pum henge'malum
1sg*-like-pl aux boys*

We like boys.

b. (. . . ⟨RIGHTAN: Person try⟩)
e.g. (. . . ⟨RIGHTAN: 1sg try⟩)

noo p n-yaax heyiq
I aux ***1sg****-try dig:near:non:future:sg*

I am trying to dig.

Since each of the three parts of the Propositional Radical may include a person-marked form, we might expect a Propositional Radical with more than one such part. (114a) illustrates combinations of person-marked forms in Argument-Categorizing Element and Argument Structure; (114b) illustrates combinations of person-marked forms in Argument Structure and 'addition'.

(114) a. (⟨ASP: —; ADAFF: 1sg | RIGHTAN: sg⟩; [⟨PERS⟩ 1sg])

noo p notaax no-ma'max
I aux ***myself 1sg****-like*

I like myself.

b. (. . . [⟨PERS⟩ 1sg]; ⟨RIGHTAN: 1sg try⟩)

noo p notaax chaqalaqiq noyaax
I aux ***myself*** *is:tickling* ***1sg****:try*

I am trying to tickle myself.

Further, since four distinct formal possibilities present themselves for the Argument Structure, the logical possibilities are expanded. (114b) combines one of the Argument Structure possibilities with a person-marked 'addition'; (115) combines another, also with a person-marked 'addition'.

(115) (. . . [⟨ASP: –; ADAFF: 3 sg; NUM: sg | RIGHTAN: obj⟩ PN]; ⟨1sg | can⟩)

noo p hengeemal po-toonavi
I aux boy ***3sg**-basket:object*

no-yawna-vota-q
***1sg**-have-can-Tense/Aspect*

I can have the boy's basket.

However, only a small number of the logically possible combinations are instantiated. For example, (116), combining person-marked forms in both Argument-Categorizing Element and 'addition', is unacceptable, as is (117), which presents a person-marked form in the Argument Structure (different from those in (114)) and one in the 'addition'.

(116) (⟨ASP: –; ADAFF: 1sg | RIGHTAN: sg⟩; [. . .]; ⟨RIGHTAN: 1sg try⟩)

*noo p hengeemal noyaax no-ma'max
I aux boy ***1sg**:try* ***1sg**-like*

(but cf. 'I am trying to like the boy.')

(117) (⟨. . .⟩; [⟨PERS | sg⟩ 1sg]; ⟨1sg | can⟩)

*noo p no-'aash no-'aw'-vota-q
I aux ***1sg**-pet* ***1sg**-have-can-near:non:future:sg*

(but cf. 'I can have a pet.')

It is clear that the impossibility of either of these sentences has to do with the presence of multiple person-marked forms. There is nothing semantically wrong. Sentences with either meaning are possible in Luiseño, but they must take different forms, forms which do not involve multiple person-marked forms. Compare, for example, (118) to (116).

(118) (⟨NUM: – | RIGHTAN: near non-fut cont sg⟩; [PN])

noo n tu'iq noma'maxi hengeemali
I aux is:trying 1sg:like:object boy:object

I am trying to like the boy.

The difference between the acceptable sentences in (114) and (115) and the unacceptable ones in (116) and (117) is easy to state. The examples in (114) and (115) involve more than one person-marked form, but *only one linked person value*; the examples in (114) involve one Argument Structure with an unlinked person value and the example in (115) involves the other. Both (116) and (117), on the other hand, involve more than one linked person value — in (116) a combination of linked person values in Argument-Categorizing Element and 'addition' and in (117) a combination of linked person values in Argument Structure and addition.

In short, a Propositional Radical involving more than one linked person value is unacceptable.

(119) **Condition on a Single Linked Person Value:**

*⟨. . . linked person . . .⟩ . . . ⟨. . . linked person . . .⟩

Note that nothing in the analysis of Propositional Radicals eliminates the combinations excluded by (119). In fact, it should be clear that, given the analysis of Propositional Radicals, this condition is not capturable in the Propositional Radical: It is not a condition on pairs of function and argument (i.e. on the Argument-Categorizing Element and the Argument Structure or on the Propositional Radical and the 'addition'), but rather on the whole collection of elements which occur in the Propositional Radical. In Chapter Three, we saw that the Argument Structure depends on an antiagreement condition. (119) is antiagreement applying to the Propositional Radical.

3.2 *A First Pass at Compatible Person*

Each of the three members of the Propositional Radical has the possibility of a person value, by which I mean to refer explicitly to a specification including 'P', '1', '2', or '3'. For the Argument-Categorizing Element and the 'addition', the option coincides with the linked person value forms in Section 3.1.

(120) a. (⟨ASP: –; ADAFF: 1sg | RIGHTAN: sg⟩ . . .)

hengeemal	up	no-ma'max
boy	*aux*	***1sg-like***

I like the boy.

b. (. . . ⟨RIGHTAN: 1sg try⟩)

tooyaq	up	noyaax
is:laughing	*aux*	***1sg:try***

I am trying to laugh.

In the Argument Structure, a person value is obligatory to the Subject, unless it is non-referential (what we have identified with the symbol **X**) or there is no Subject.

(121) a. (. . . [PN])

'ariquš upil hengeemali
was:kicking aux boy:object

He was kicking the boy

b. (. . . [⟨PERS⟩ 1sg])

notaax nil 'ariquš
myself aux was:kicking

I was kicking myself.

In addition, there is the unlinked person-marked form in (112b).

(112) b. (. . . [⟨Person⟩ Subject] . . .)

e.g. (. . . [⟨1sg⟩ PN] . . .)

wunaal up no-toonav yawq
he aux ***1sg****-basket has*

He has my basket.

A fair number of the combinations of these person value possibilities are prohibited by the Single Linked Person Condition in (119) — but not all. The combinations in (114), for example, involve more than one person value.

(114) a. (⟨ASP: –; ADAFF: 1sg | RIGHTAN: sg⟩; [⟨PERS⟩ 1sg])

noo p notaax no-ma'max
I aux ***myself 1sg****-like*

I like myself.

b. (. . . [⟨PERS⟩ 1sg]; ⟨RIGHTAN: 1sg try⟩)

noo p notaax chaqalaqiq noyaax
I aux ***myself*** *is:tickling* ***1sg****:try*

I am trying to tickle myself.

But, such combinations are possible only when the person values are compatible according to the following condition:

(122) **Condition on Person Values**

Given a Propositional Radical

$(\langle \ldots i \ldots \rangle\ [\ldots \text{Subject}_j]_{\text{Argument Structure}};\ \langle \ldots k \ldots \rangle)$

adjudge as acceptable iff

i, j, k are non-distinct

(where 1, 2, and 3 are distinct)

The contrast between the examples in (114) and in (123) argues this point. The only difference between these two sets is that the relevant person values in the former are '1(sg)' while in the latter the values vary between '1(sg)' and '3(sg)'.

(123) a. (⟨ASP: –; ADAFF: 1sg | RIGHTAN: sg⟩; [⟨PERS⟩ 3sg])

*noo p potaax no-ma'max
I aux himself 1sg-like

b. (⟨. . .⟩; [⟨PERS⟩ 3sg]; ⟨RIGHTAN: 1sg try⟩)

* noo p potaax noyaax chaqalaqiq
I aux himself 1sg:try is:tickling

According to the Condition on Person Values, person compatibility applies in the Argument Structure only to the Subject. The sentence in (124), where the Argument Structure bears a person value other than the Subject, illustrates that this is correct.

(124) (. . . ; [⟨3sg⟩ PN]; ⟨1sg | can⟩)

noo p po-toonavi no-yawna-vota-q
I aux 3sg-basket:object 1sg-have-can-Tense/Aspect

I can have his basket.

3.3 *A First Pass at Compatible Number*

Given the Condition on Person Values, we might expect an analogous condition for number.

(125) **Condition on Number Values**

Given a Propositional Radical:

(⟨. . . i . . .⟩; [. . . Subject$_j$]; ⟨. . . k . . .⟩)

adjudge acceptable iff

i, j, k are non-distinct

(where sg and pl are distinct)

Contrasts supporting (125) are easy to find. The (b) sentences in (126) through (128) contain combinations of 'sg' and 'pl' and are unacceptable.

(126) a. (⟨NUM: – | RIGHTAN: near non-fut sg⟩; [⟨PERS⟩ 3sg⟩])

potaax up 'ari-q
himself aux kick-near:non:future:sg

He is kicking himself.

(126) b. (⟨NUM: — | RIGHTAN: near non-fut pl⟩; [⟨PERS⟩ 3sg⟩])

*potaax up 'ari-wun
himself aux kick-near:non:future:pl

(127) a. (⟨NUM: — | RIGHTAN: dist non-fut⟩; [⟨PERS⟩ 3sg⟩];
⟨RIGHTAN: 3sg try⟩)

potaax upil poyaax 'ari-qus̸
himself aux 3sg:try kick-distant:non:future

He was trying to kick himself.

b. (⟨NUM: — | RIGHTAN: dist non-fut⟩; [⟨PERS⟩ 3sg];
⟨RIGHTAN: 3pl try⟩]

*potaax up pomyaax 'ari-qus̸
himself aux 3pl:try kick-distant:non:future

(128) a. (⟨NUM: — | RIGHTAN: near non-fut sg⟩; [PN];
⟨RIGHTAN: 3sg try⟩

hengeemali up poyaax 'ari-q
boy:object aux 3sg:try kick-near:non:future:sg

He is trying to kick the boy.

b. (⟨NUM: — | RIGHTAN: near non-fut pl⟩; [PN];
⟨RIGHTAN: 3sg try⟩)

*hengeemali up poyaax 'ari-wun
boy:object aux 3sg:try kick-near:non:future:pl

However, the Condition in (125) is not entirely adequate.

First, number compatibility does not pertain solely to the Subject in the Argument Structure. Like person, number in the Argument Structure can appear in two places — in the Subject or in the argument array. (129) offers a simple example of a number value in the Subject only.

(129) (. . . ; [⟨ # ⟩ Ppl]; . . .)

tooyaxkut-um mil miyqus̸
gonna:laugh-pl aux was

They were gonna laugh.

(130) offers simple examples of number values in both Subject and argument array, examples varying with whether the non-Subject number value is linked in a person-marked form or not. In (130a) the number value is linked; in (130b) it is not.

(130) a. (. . . ; [⟨PERS | pl⟩ 1sg])

noo pum no-ǥwaamay-um qalkutum
I aux 1sg-daughter-pl be:gonna:pl

I am gonna have daughters.

b. (. . . ; [⟨1sg⟩ PN]; . . .)

wunaal up no-toonavi yawq
he aux 1sg-basket:object have

He has my basket.

The non-Subject person value of (130b) is entirely independent of the other person values, according to the Condition on Person Values. This independence extends, unsurprisingly, to the number value. Compare (131) with (130b). In (130b) the Argument-Categorizing Element is 'sg', but in (131) the Argument-Categorizing Element is 'pl'. This has absolutely no effect on the number value appearing in '1sg'.

(131) (⟨NUM: — | RIGHTAN: near non-fut pl⟩; [⟨1sg⟩ PN])

wunaalum pum no-toonavi yaw-wun
they aux 1sg-basket:object have-near:non:future:pl

They have my basket.

We are concerned, then, with the linked number value, as illustrated in (130a). The generalization is quite simple: A linked number value in the Argument Structure participates in number compatibility with the Argument-Categorizing Element, according to the statement in (132).

(132) **Addenda to Conditions on Number Values**

a. *(⟨. . . pl . . .⟩; [⟨. . . | sg⟩ . . .] . . .)

b. *(⟨. . . sg . . .⟩; [⟨. . . | pl⟩ . . .] . . .)

(133) illustrates the application of this Addenda for the case in (130a). (130a) is fine, and here the number value of the Argument-Categorizing Element and the linked number value are compatible.

(133) (⟨ASP: fut unch | RIGHTAN: pl⟩; [⟨PERS | pl⟩ 1sg])

noo pum no-ǥwaamay-um qal-kut-um
I aux 1sg-daughter-pl sit-gonna-pl

I am gonna have daughters.

But neither of the examples in (134) is acceptable, and both violate the Addenda in (132).[10]

(134) a. (⟨ASP: fut unch | RIGHTAN: pl⟩; [⟨PERS | sg⟩ 1sg])

*noo pum no-ꞡwaamay qal-kut-um
I aux 1sg-daughter sit-gonna-pl

b. (⟨ASP: fut unch | RIGHTAN: sg⟩; [⟨PERS | pl⟩ 1sg])

*noo p no-ꞡwaamay-um 'aw'-lut
I aux 1sg-daughter-pl be:gonna:sg

Rather than an extension of required number compatibility, the second problem for the Condition on Number Values limits its application. There are acceptable combinations of 'sg' and 'pl' values, specifically, a 'sg' value in the Constituent containing the Argument-Categorizing Element and a 'pl' value in either the Subject or the 'addition'. The acceptability of the (a) and (b) examples in (135) and (136) is predicted by the Condition on Number Values, as is the unacceptability of the (d) examples. The acceptability of the (c) examples. is not predicted; these examples involve the combination just described.

(135) a. (⟨NUM: — | RIGHTAN: near non-fut sg⟩;
[⟨unch fut | PERS⟩ 1sg])

no-ngeepi up miy-q
1sg-leave:aspect aux be-near:non:future:sg

I have to leave.

b. (⟨NUM: — | RIGHTAN: near non-fut pl⟩;
[⟨unch fut | PERS⟩ 3pl])

pom-ngeepi pum miyx-wun
3pl-leave:aspect aux be-near:non:future:pl

They have to leave.

c. (⟨NUM: — | RIGHTAN: near non-fut sg⟩;
[⟨unch fut | PERS⟩ 3pl])

pom-ngeepi up miy-q
3pl-leave:future aux be-near:non:future:sg

They have to leave.

d. (⟨NUM: — | RIGHTAN: near non-fut pl⟩;
[⟨unch fut | PERS⟩ 1sg])

*no-ngeepi pum miyx-wun
1sg-leave:aspect aux be-near:non:future:pl

(136) a. (⟨NUM: — | RIGHTAN: near non-fut sg⟩; [PN]; ⟨1sg | can⟩)

no-tooya-xvota-q up
1sg-laugh-can-sg:near:non:future aux

I can laugh.

b. (⟨NUM: — | RIGHTAN: near non-fut pl⟩; [PN]; ⟨3pl | can⟩)

pom-tooya-xvota-wun pum
3pl-laugh-can-pl:near:non:future aux

They can laugh.

c. (⟨NUM: — | RIGHTAN: near non-fut sg⟩; [PN]; ⟨3pl | can⟩)

pom-tooya-xvota-q up
3pl-laugh-can-sg:near:non:future aux

They can laugh.

d. (⟨NUM: — | RIGHTAN: near non-fut pl⟩; [PN]; ⟨1sg | can⟩)

*no-tooya-xvota-wun pum
1sg-laugh-can-pl:near:non:future aux

It is clear that we cannot simply modify the Condition on Number Values as follows:

(125′) **Condition on Number Values**

Given a Propositional Radical:

(⟨. . . i . . .⟩; [. . . Subject$_j$]; ⟨. . . k . . .⟩)

adjudge acceptable iff

i, j, k are non-distinct

(where sg and pl are distinct)

except (⟨. . . sg⟩; [. . . pl] . . .) and

(⟨. . . sg⟩; [. . .]; ⟨. . . pl⟩ are acceptable

Not all combinations of 'pl' in the Argument-Categorizing Element and 'sg' in either the Subject or the 'addition' are acceptable. (137) and (138) conform to the original Condition without the exception clause and are to be contrasted with (135) and (136) respectively.

(137) a. (⟨NUM: — | RIGHTAN: near non-fut sg⟩; [⟨PERS⟩ 3sg])

'ari-q up potaax
kick-near:non:future:sg aux himself

He is kicking himself.

(137) b. (⟨NUM: – | RIGHTAN: near non-fut pl⟩; [⟨PERS⟩ 3pl⟩])

pomtaax pum 'ari-wun
themselves aux kick-near:non:future:pl

They are kicking themselves.

c. (⟨NUM: – | RIGHTAN: near non-fut sg⟩; [⟨PERS⟩ 3pl])

*'ari-q up pomtaax
kick-near:non:future:pl aux themselves

d. (⟨NUM: – | RIGHTAN: near non-fut pl⟩; [⟨PERS⟩ 3sg⟩])

*potaax up 'ari-wun
himself aux kick-near:non:future:pl

(138) a. (⟨NUM: – | RIGHTAN: near non-fut sg⟩; [PN];
⟨RIGHTAN: 1sg try⟩)

noyaax up tooya-q
1sg:try aux laugh-near:non:future:sg

I am trying to laugh.

b. (⟨NUM: – | RIGHTAN: near non-fut pl⟩; [PN];
⟨RIGHTAN: 3pl try⟩)

pomyaax pum tooya-an
3pl:try aux laugh-near:non:future:pl

They are trying to laugh.

c. (⟨NUM: – | RIGHTAN: near non-fut sg); [PN];
⟨RIGHTAN: 3pl try⟩)

*pomyaax up tooya-q
3pl:try aux laugh-near:non:future:sg⟩

d. (⟨NUM: – | RIGHTAN: near non-fut pl); [PN];
⟨RIGHTAN: 1sg try⟩)

*noyaax pum tooya-an
1sg:try aux laugh-near:non:future:pl

An examination of these two pairs suggests the limits on acceptable combinations of 'sg' and 'pl' values. In the representation of the Propositional Radicals in (135) the Argument Structure contains a linked person-marked form where the linked person value is 'at one remove' — i.e. is separated by the | symbol — from an aspectual value. In the representation of the Propositional Radicals in (136) the 'addition' contains a linked person-marked form where the linked person value is at one remove from the value 'can'.

(139) a. [⟨Aspect | PERS⟩ Subject]
b. ⟨Person | can⟩

The crucial properties are the presence of a linked form, the idea of one remove, and the character of the linked value as something other than number. The Argument Structure in (137) cannot be so characterized, nor can the 'addition' in (138). No Argument Structure and no 'addition' which are not so characterized may participate in this pattern for number.

The modification in (125′) is not adequate; (125″), incorporating the critical properties, is adequate.

(125″) **Condition on Number Values**

Given a Propositional Radical:

$(\langle \ldots i \ldots \rangle; [\ldots \text{Subject}_j]; \langle \ldots k \ldots \rangle)$

adjudge acceptable iff

i, j, k are non-distinct

(where sg and pl are distinct)

except:

$(\langle \ldots \text{sg} \rangle; [\ldots \text{pl}] \ldots)$ and $(\langle \ldots \text{sg} \rangle; [\ldots]; \langle \ldots \text{pl} \rangle)$ are acceptable if the Argument Structure or the 'addition' involves linked number at one remove.

Number compatibility is more complex than either the Condition on a Single Linked Person Value or the Conditions on Person Values. The complexity here should give us pause. The Conditions present one kind of number compatibility, but allow it to be held in abeyance under certain conditions; the Addenda in (132) adds another kind of number compatibility that must take precedence over the Conditions. These modifications to the simple statement in (125) seem entirely ad hoc.

3.4 *Reconsideration*

Taking the lead from the complexities of number compatibility, we consider a modification of the formalism displaying the collection of person and number values and their linked values. Rather than a simple linear display, I organize them into what we will call an 'agreement grid'. The agreement grid can contain maximally two chains. One chain — the Subject chain — includes the Subject in the Argument Structure; the other chain — the non-Subject chain — does not. The Subject chain includes, in addition, all the person and number values related to the Subject; the non-Subject chain includes exclusively the values which are not related to the Subject.

I begin the modification, necessarily, with the Argument Structures. The Argument Structures in (140) obviously have a Subject chain only.

(140) [Subject]

e.g. (. . .; [PN]; . . .)

heyiqus̸ upil
was:digging aux
He was digging.

[⟨PERS⟩ Subject]

e.g. (137) a. (. . . [⟨PERS⟩ 3sg])

'ari-q up potaax
kick-near:non:future:sg aux himself
He is kicking himself.

[⟨ # ⟩ Subject]

e.g. (129) (. . .; [⟨ # ⟩ Ppl]; . . .)

tooyaxkut-um mil miyqus̸
gonna:laugh-pl aux was
They were gonna laugh.

The Argument Structures in (141) have both Subject and non-Subject chains. I introduce a second line for the second chain.

(141) [Subject]
Number

e.g. (. . . [PN])
pl

noo p noma'maxum henge'mal-um
I aux 1sg:like:pl boys-pl
I like boys.

[⟨PERS⟩ Subject]
Number

e.g. (133) (. . . [⟨PERS⟩ 1sg])
pl

noo pum no-s̸waamay-um qalkut-um
I aux 1sg-daughter-pl be:gonna-pl
I am gonna have daughters.

(141) [Subject]
Person

e.g. (131) (. . . [PN])
1sg

wunaalum pum no-toonavi yaw-wun
they aux 1sg-basket:object have-near:non:future:pl

They have my basket.

[⟨PERS⟩ Subject]

Aspect

e.g. (135a) (. . . [⟨PERS⟩ 1sg])
unch fut

no-ngee-pi up miy-q
1sg-leave-aspect aux be-near:non:future:sg

I have to leave.

The first has a number value unrelated to the Subject value; the second, a linked number value; the third, a person value which is independent of the Subject; the fourth, a linked aspectual value. This agreement grid makes explicit a parallel between these various cases. This is an interesting result, because all four of these cases are involved in the complexities to the statements about the distribution of person-marked forms, person values, and number values. Finally, the Argument Structure may lack a Subject, as e.g. when accompanying weather expressions as in (142); there is no Subject chain in such agreement grids.

(142) (. . .; [ ])
xillaq up
is:raining aux

It is raining.

The extension of the agreement grid beyond the Argument Structure is straightforward. According to the Condition on Person Values, person values in either the Argument-Categorizing Element or the 'addition' are compatible with the Subject.[11] Thus, these person values will appear on the Subject chain. Schematically:

(143) (⟨Person⟩; [Subject])
(⟨. . .⟩; [Subject]; ⟨Person⟩)

According to the discussion of number compatibility, a number value is compatible with the Subject, i.e. appears on the Subject chain, unless one of two conditions holds. (1) The Argument Structure has a number value on the non-Subject chain, i.e. the situation covered in the Addenda. In this case, the number value of the Argument-Categorizing Element also appears on the non-Subject chain.

(144) (⟨ ⟩; [⟨PERS⟩ 1sg⟩)
pl pl

e.g. (133)

(⟨ASP: unch fut | RIGHTAN: pl⟩; [⟨PERS | pl⟩ 1sg])

noo pum no-ʂ̸waamay-um qal-kut-um
I aux 1sg-daughter-pl sit-gonna-pl

I am gonna have daughters.

(2) The number value for the Argument-Categorizing Element is 'sg' and the Argument Structure or the 'addition' involves a linked form with a non-number value at one remove, i.e. the situation leading to the exception clause of (125″). The linked value appears on the non-Subject chain, as does the associated number value.

(145) (⟨ ⟩; [PN]; ⟨3pl⟩)
−log can

e.g. (136c)

(⟨NUM: — | RIGHTAN: near non-fut sg⟩; [PN]; ⟨3pl | can⟩)

pom-tooya-xvota-q up
3pl-laugh-can-sg:near:non:future aux

They can laugh.

Compare the modification of (137a), where neither of these conditions hold.

(146) (⟨NUM: — | RIGHTAN: near non-fut sg⟩; [⟨PERS⟩ 3sg])

yields: (⟨ — | sg⟩; [⟨PERS⟩ 3sg])

'ari-q up potaax
kick-near:non:future:sg aux himself

He is kicking himself.

Of course, if no Subject appears in the Argument Structure, the number value must appear on the non-Subject chain. (147) completes the agreement grid for (142) accordingly.

(147) (⟨ ⟩; [ ])
sg

(⟨NUM: from: | RIGHTAN: near non-fut sg⟩; [ ])

xilla-q up
rain-near:non:future:sg aux

It is raining.

Table 4-III provides a list of the agreement grids.[12]

I noted above one benefit to adopting the argument grid: The problematic cases for the statements of compatibility are all similar in bearing both Subject and non-Subject chains; we will return to a more careful examination of this point. A related result is the simplification possible in the statements of person and number compatibility. (148) can replace the Condition on Person Values, the Conditions on Number Values, and the Addenda to Number Values.

TABLE 4-III

A. *One chain*

i. Non-Subject

1. (⟨ ⟩; [ ])
sg

e.g. xilla-q up
rain-near:non:future:sg aux

It is raining.

2. (⟨ ⟩; [ ]; ⟨3sg⟩)
sg try/can

e.g. xilla-q up poyaax
rain-near:non:future:sg aux 3sg try

It is trying to rain.

3. (⟨ ⟩; [⟨PERS⟩])]
Number Number

e.g. 'alaxwush up po-'arilo paa'ilay
bad aux 3sg-kick:generic turtle:object

It is bad to kick a turtle.

ii. Subject

1. (⟨—⟩; [Subject])

e.g. heela-quš upil
sing-distant:non:future:continuous aux

He was singing.

2. (⟨Number⟩; [Subject])

e.g. heela-q up
sing-near:non:future:sg aux

He is singing.

3. (⟨—⟩; [⟨ # ⟩ Subject])

e.g.	miy-qus̸	upil	yot
	be-distant:non:future:continuous	*aux*	*big:sg*

He was big.

4. (⟨Number⟩; [⟨ # ⟩ Subject])

e.g.	miy-q	upil	yot
	be-near:non:future:sg	*aux*	*big:sg*

He is big.

5. (⟨—⟩; [⟨PERS⟩ Subject])

e.g.	'ari-qus̸	upil	potaax
	kick-distant:non:future:continuous	*aux*	*himself*

He was kicking himself.

6. (⟨Number⟩; [⟨PERS⟩ Subject])

e.g.	'ari-q	upil	potaax
	kick:near:non:future:sg	*aux*	*himself*

He is kicking himself.

B. *Two chains*

i. Number Non-Subject Chain

1. (⟨—⟩; [⟨PERS⟩ Subject])
   Number

e.g.	noo	upil	no-puush	konoknish	miyx-uk
	I	*aux*	*1sg-eye*	*green*	*be-habitual*

I used to have green eyes.

2. (⟨ ⟩; [⟨PERS⟩ Subject])
Number Number

e.g.	noo	p	no-s̸waamay	'aw'-q
	I	*aux*	*1sg-daughter*	*sit-near:non:future:sg*

I have a daughter.

3. (⟨Person⟩; [Subject])
   Number Number

e.g. noo pum henge'mal-um no-ma'max-um
I aux boys-pl 1sg-like-pl

I like the boys.

ii. Non-Number Non-Subject Chains

1. (⟨Person # | Number⟩ [Subject])
generic

e.g. no-tooya-ax up
1sg-laugh-generic aux

I am good at laughing.

2. (⟨Person # | Number⟩ [⟨PERS⟩ Subject])
generic

e.g. no-'ari-ax up notaax
1sg-kick-generic aux myself

I am good at kicking myself.

3. (⟨—⟩; [⟨PERS⟩ Subject])
Aspect

e.g. noo pil no-ngee-pi miy-qus̸
I aux 1sg-leave-aspect be-distant:non:future

I had to leave.

4. (⟨Number⟩; [⟨PERS⟩ Subject])
Aspect

e.g. chaam p cham-ngee-pi miyx-wun
we aux 1pl-leave-aspect be-near:non:future:pl

We have to leave.

5. (⟨—⟩; [Subject]; ⟨Person⟩)
can/try

e.g. chaam pil chamyaax tooya-qus̸
we aux 1pl:try laugh-distant:non:future

We were trying to laugh.

6. (⟨—⟩; [⟨PERS⟩ Subject]; ⟨Person⟩)
can/try

e.g. chaam pil chamtaax chamyaax 'ari-qus̸
we aux ourselves 1pl:try kick-distant:non:future

We were trying to kick ourselves.

7. (⟨Number⟩; [Subject]; ⟨Person⟩)
can/try

e.g. chaam pil chamyaax tooya-q
we aux 1pl:try laugh-near:non:future:sg

We are trying to laugh.

8. (⟨Number⟩; [⟨PERS⟩ Subject]; ⟨Person⟩)
can/try

e.g. chaam p chamtaax chamyaax 'ari-q
we aux ourselves 1pl:try kick-near:non:future:sg

We are trying to kick ourselves.

iii. Person Non-Subject Chains

1. (⟨Number⟩; [Subject])
Person

e.g. noo p pom-toonavi yaw-q
I aux 3pl-basket:object have-near:non:future:sg

I have their basket.

2. (⟨—⟩; [Subject])
Person

e.g. noo pil pom-toonavi yaw-qus̸
I aux 3pl-basket:object have-distant:non:future

I had their basket.

iv. Combination Chains

1. (⟨ ⟩; [⟨PERS⟩ Subject])
sg Aspect

e.g. noo p no-ngee-pi miy-q
I aux 1sg-leave-aspect be-near:non:future:sg

I have to leave.

2. (⟨ ⟩; [Subject]; ⟨Person⟩)
sg can

e.g.	chaam	p	cham-tooyax-vota-q
	we	*aux*	*1pl-laugh-can-near:non:future:sg*

We can laugh.

3. (⟨ ⟩; [⟨PERS⟩ Subject]; ⟨Person⟩)
   sg can

e.g.	chaam	p	chamtaax	cham-'ari-vota-q
	we	*aux*	*ourselves*	*1pl-kick-can-near:non:future:sg*

We can kick ourselves.

4. (⟨ ⟩; [Subject]; ⟨Person⟩)
   sg Person can

e.g.	noo	p	no-yawna-vota-q	po-toonavi
	I	*aux*	*1sg-have-can-near:non:future:sg*	*3sg-basket:object*

I can have his basket.

5. (⟨—⟩; [Subject]; ⟨Person⟩)
   Person can/try

e.g.	noo	pil	no-yawna-vota-qus̸	po-toonavi
	I	*aux*	*1sg-have-can-distant:non:future*	*3sg-basket:object*

I could have his basket.

6. (⟨Number⟩; [Subject]; ⟨Person⟩)
   Person can/try

e.g.	wunaalum	pum	pom-yawna-vota-wun	po-toonavi
	they	*aux*	*3pl-have-can-near:non:future:pl*	*3sg-basket:object*

They can have his basket.

(148) **Conditions on Person and Number Values**

Given a Subject chain:

(⟨i⟩; [j]; ⟨k⟩)

and a non-Subject chain:

(. . .)
x y

adjudge the whole acceptable if the members of the Subject chain ⟨i, j, k⟩ are non-distinct and the members of the non-Subject chain ⟨x, y⟩ are non-distinct.

(148) where: '1', '2', and '3' are distinct and 'sg' and 'pl' are distinct.

The Condition on a Single Linked Person Value can be replaced with (149). We will see the benefits of this restatement below.

(149) **Condition on a Single Linked Person Value:**

$$*(\underset{X}{\text{Person-marked form}} \ldots \underset{X_{\text{non-Subject chain}}}{\text{Person-marked form}})_{\text{Subject chain}}$$

3.5. *Conclusion*

At the beginning of this chapter I proposed that the Propositional Functor is comprised of two conditions across the Propositional Radical, one requiring person and number compatibility across its members (agreement) and the other limiting the number of person-marked forms of a particular type (anti-agreement). The Condition on Person and Number Values and the Condition on a Single Linked Person Value are the statements of these conditions. The proposal is that for a Propositional Radical to be mapped into a Proposition, it must satisfy these two Conditions.

(150) Let C = {z : z ∈ Propositional Radical and z satisfies the Condition on Person and Number Values and the Condition on a Single Linked Person Value}

C → Proposition

This proposal directly incorporates these Conditions in a grammar in a fashion consistent with the treatment of Conditions on Agreement that yield a Constituent and the Conditions on Anti-Agreement that yield an Argument Structure.

One complication is the agreement grid. The application of the two Conditions as stated in (148) and (149) depends on the organization of the relevant values in the Propositional Radical into an agreement grid. Recall now that for the Conditions on Anti-Agreement to apply to the formal values of Constituents, such that a collection of Constituents yield an Argument Structure, a reorganization is also necessary. It might be concluded that anti-agreement conditions depend on such reorganization, but I will leave open how these reorganizations are best accomplished.

I noted at the end of Section 3.2 that the anti-agreement condition cannot be incorporated in the rules which yield a Propositional Radical. It is not a condition on functor and argument pairs, but rather on the entire collection of elements in the Propositional Radical. Similarly, the Condition on Person and Number Values in (148) cannot be incorporated in the rule creating a Propositional Radical, because it too treats all members of the Propositional Radical simultaneously. One result of this analysis is that, although the number and person displays are relatively complicated, there is a unified account of the set. Further, the analysis requires that the conditions on the distribution of person, number, and the rest in combinations of the Argument Structure, the Argument-Categorizing Element, and the 'addition' play a crucial role in the grammar of Luiseño: According to (150), they create a unit of analysis, one we have termed the Proposition. The next section considers the character of this unit. After that, we can address the issue of why these conditions in particular are required to create this unit.

4. THE RESULT

Just as the functor yielding a Proposition is more complicated than either of those yielding a Constituent or an Argument Structure, so too is the formal value. I have proposed, in Chapter Three, that the result of anti-agreement is the addition of a value and that the result of agreement is the assignment to the whole of a single value. Both of these apply in the function from Propositional Radical to Proposition. The first supplies a Subject in the formal value of a Proposition; the second assigns a temporal value to the formal value of a Proposition.

It is worth emphasizing the regularity at issue: An agreement condition, it is proposed, necessarily has the result of assigning a single value to a collection of elements; an antiagreement condition necessarily has the result of adding a value. Although the particulars of agreement in the Constituent and the Proposition differ, as do the particulars of anti-agreement in the Argument Structure and the Proposition, the character of the result does not. The particulars must change because of the difference between the arguments upon which the Constituent and the Proposition or the Argument Structure and the Proposition are based. The regularity of the result is critical to the idea that agreement and anti-agreement are functors: An agreement condition always has the effect of assigning a single value to the whole; an anti-agreement condition always has the effect of adding a value.

4.1 *The Subject*

We begin this analysis of the Proposition by considering the possibility that the Proposition is more than the sum of its parts. The sentence in (152) contains an Argument Structure as in (153) — i.e. an Argument Structure wherein the Subject is open for both person and number.

(152) noyaax nil hengeemali 'ariquś
1sg:try aux boy:object was:kicking

I was trying to kick the boy.

(153) [⟨ASP: – | RIGHTAN: obj⟩ PN]

However, as the gloss of (152) suggests, the kicker is not some unspecified individual; it is specifically '1sg'. In fact, the agreement grid for (152) includes such a specification, as indicated in (154).

(154) (⟨ – ⟩; [PN]; ⟨1sg⟩)
try

Similarly, in (155) is an Argument Structure containing a PN value; see (156).

(155) henge'malum pum noma'maxum
boys aux 1sg:like:pl
I like boys.

(156) [⟨ASP: – | RIGHTAN: pl⟩ PN]

But the liker is again specifically '1sg' and the agreement grid contains such a specification.

(157) (⟨1sg⟩; [PN])
pl pl

These facts support the possibility that the Proposition is the Propositional Radical plus a person/number value, just as the Argument Structure is the argument array plus a person/number value. I will term this value, the SUBJECT OF THE PROPOSITION, just as the person/number value added in the Argument Structure is its Subject.

Given the agreement grid, the principles by which a Subject is assigned to a Proposition are quite simple. The Subject chain in the agreement grid is the set of values compatible with the Subject in the Argument Structure. The Subject chain in the agreement grid yields the Subject of the Proposition given two principles: First, the Subject of the Proposition must be referentially non-distinct from the Subject of the Argument Structure; and, second, the Subject of the Proposition must be as fully specified as any person/number value in the Subject chain — that is, the subject of the Proposition is the unification of all the values in the Subject chain. Both Subject chains in (154) and (157) yield a '1sg' Subject for the Proposition.

The representation of this idea is also entirely straightforward. We indicate the addition of the most fully specified value in the Subject chain as well as its relationship to the other values there. Using the grids in (154) and (157) and adopting conventions used elsewhere in this work, (158) is illustrative.[13] The Subject in the Argument Structure is on the expanded Subject chain, indicating its referential relationship to the Subject of the Proposition, but the value for the Subject of the Proposition need not have the Subject of the Argument Structure as its source.

(158) a. [(⟨ – ⟩; [SUBJ]; ⟨PERS⟩) 1sg]
try

b. [(⟨PERS⟩; [SUBJ]) 1sg]
pl pl

This idea extends naturally to Propositional Radicals lacking a Subject chain, as in (147).

(147) (⟨ ⟩; [ ])
sg
(⟨NUM: # | RIGHTAN: near non-future sg⟩; [ ])
xilla-q up
rain-near:non:future:sg aux
It is raining.

Because the Argument Structure in the Propositional Radical lacks a Subject, the Proposition also lacks a Subject. (159) represents this absence for (147).

(159) [(⟨ ⟩; [ ])]
sg

It also applies to much simpler cases; for example, the Propositional Radical in (160), as represented in (161a), yields the Proposition in (161b).

(160) 'ari-q up potaax
kick-near:non:future:sg aux himself
He is kicking himself.

(161) a. (⟨NUM: – | RIGHTAN: near non-fut sg⟩; [⟨PERS⟩ 3sg])
b. [(⟨ # ⟩; [⟨PERS⟩ SUBJ]) 3sg]

In short, the addition of the Subject to the Propositional Radical provides the analysis of person/number values external to the Argument Structure but in the Subject chain and relates them to the Subject of the Argument Structure. Table 4-IV modifies the agreement grids in Table 4-III accordingly.

4.2 *Temporal Value*

The agreement grid does not exhaust the properties of the Propositional

TABLE 4-IV

A. *One Chain*

i. Non-Subject

1. [(⟨ ⟩; [ ])]
   sg

2. [(⟨ ⟩; [ ]; ⟨3sg⟩]
   sg try/can

ii. Subject

1. [(⟨—⟩; [SUBJ]) Subject]
2. [(⟨ # ⟩; [SUBJ]) Subject]
3. [(⟨—⟩; [⟨ # ⟩ SUBJ]) Subject]
4. [(⟨ # ⟩; ⟨ # ⟩ SUBJ]) Subject]
5. [(⟨—⟩; [⟨PERS⟩ SUBJ]) Subject]
6. [(⟨ # ⟩; [⟨PERS⟩ SUBJ]) Subject]

B. *Two chains*

i. Number Non-Subject Chain

1. [(⟨—⟩; [⟨PERS⟩ SUBJ]) Subject]
   Number

2. [(⟨ ⟩; [⟨PERS⟩ SUBJ]) X]
   Number Number

3. [(⟨ ⟩; [⟨PERS⟩) Subject]
   Number Number

4. [(⟨PERS⟩; [SUBJ]) Subject]
   Number Number

ii. Non-Number Non-Subject Chains

1. [(⟨PERS # | # ⟩ [SUBJ]) Subject]
   generic

2. [(⟨PERS # | # ⟩ [⟨PERS⟩ SUBJ]) Subject]
   generic

3. [(⟨—⟩; [⟨PERS⟩ SUBJ]) Subject]
   Aspect

4. [(⟨ # ⟩; [⟨PERS⟩ SUBJ]) Subject]
   Aspect

5. [(⟨—⟩; [SUBJ]; ⟨PERS⟩) Subject]
   can/try

6. [(⟨—⟩; [⟨PERS⟩ SUBJ]; ⟨PERS⟩) Subject]
   can/try

7. [(⟨ # ⟩; [SUBJ]; ⟨PERS⟩) Subject]
   can/try

8. [(⟨ # ⟩; [⟨PERS⟩ SUBJ]; ⟨PERS⟩) Subject]
   can/try

iii. Person Non-Subject Chains

1. [(⟨ # ⟩; [SUBJ]) Subject]
   Person

2. [(⟨—⟩; [SUBJ]) Subject]
   Person

iv. Combination Chains

1. [(⟨ ⟩; [⟨PERS⟩ SUBJ]) Subject]
   sg Aspect

2. [(⟨ ⟩; [SUBJ]; ⟨PERS⟩) Subject]
   sg can

3. [(⟨ ⟩; [⟨PERS⟩ SUBJ]; ⟨PERS⟩) Subject]
   sg can

4. [(⟨ ⟩; [SUBJ]; ⟨PERS⟩) Subject]
   sg Person can

5. [(⟨—⟩; [SUBJ]; ⟨PERS⟩) Subject]
   Person can/try

6. [(⟨ # ⟩; [SUBJ]; ⟨PERS⟩) Subject]
   Person can/try

Radical. We're concerned in this section with the converse of the agreement grid. This provides the temporal value for a Proposition.

Recall that the Argument-Categorizing Element may occur in a Constituent whose formal value is one of the set of possibilities repeated in (162).[14]

(162) a. ⟨NUM: — | RIGHTAN: Tense/Aspect⟩
e.g. 'ari-qus̸ 'was kicking'
⟨NUM: — | RIGHTAN: Tense/Aspect Number⟩
e.g. 'ari-q 'is kicking'
⟨NUM: Number | RIGHTAN: Tense/Aspect⟩
e.g. 'aw'-qus̸ 'was sitting'
⟨NUM: # | RIGHTAN: Tense/Aspect Number⟩
e.g. 'aw'-q 'is sitting'

b. ⟨RIGHTAN: Imperative Number⟩
e.g. heelax-am 'sing (pl)!'

c. ⟨NUM: Number | RIGHTAN: Unchanging⟩
e.g. kwota-x 'get up (sg)'
⟨NUM: — | RIGHTAN: Unchanging⟩
e.g. heela-x 'sing'

d. ⟨ASP: — | RIGHTAN: Number⟩
e.g. yot 'big (sg)'
⟨ASP: Aspect | RIGHTAN: Number⟩
e.g. heelaqat-um 'have been singing'

e. ⟨ASP: —; ADAFF: Person | RIGHTAN: Number⟩
e.g. no-ma'max-um '1sg likes'
⟨ASP: Generic; ADAFF: Person # | RIGHTAN: Number⟩
e.g. po-heela-ax '3sg is good at singing'

It is relatively easy to see the properties of interest: The temporal value for RIGHTAN is never represented in the agreement grid, nor is any unlinked aspectual value. Thus, only for the second case in (162e) are all the values of the Argument-Categorizing Element represented in the agreement grid. Consider the agreement grid for (163) represented in (164).

(163) (⟨ASP: generic; ADAFF: 1 # | RIGHTAN: sg⟩; [PN])
no-heela-ax up
1sg-sing-generic aux
I am good at singing.

(164) (⟨1 # | sg⟩ PN)

generic

Another complication is apparent as well. Although the first case in both (162d) and (162e) involves a value for the feature ASP, the value is '—'; the value external to the agreement grid has no semantic content. Consider:

(165) (⟨ASP: — | RIGHTAN: sg⟩; [PN])

yot up
big aux

He is big.

(166) (⟨ASP: —; ADAFF: 1sg | RIGHTAN: pl⟩; [⟨pl⟩ PN])

henge'mal-um pum no-ma'max-um
boys-pl aux 1sg-like-pl

I like the boys.

We consider the majority type first, the type where there is a value with content external to the agreement grid, and return to these two types afterwards.

4.2.1 *First Considerations*

The Tense/Aspect value of the Constituent types in (162a) is external to the agreement grid: The agreement grid represents the array of person and number values and those values linked to them. The Tense/Aspect value of this Constituent type falls outside this set. Compare the agreement grids for the examples in (167) through (170) relative to the formal value of the Propositional Radicals.

(167) a. (⟨NUM: — | RIGHTAN: dist non-fut cont⟩; [PN])

heela-quś chamil
sing-distant:non:future:continuous aux

We were singing.

b. (⟨ — ⟩; [PN])

(168) a. (⟨NUM: pl | RIGHTAN: dist non-fut cont⟩; [PN])

waraava-quś chamil
get:up:pl-distant:non:future:continuous aux

We were getting up.

b. (⟨pl⟩; [PN])

(169) a. (NUM: —| RIGHTAN: near non-fut pl⟩; [PN])

heela-an cha
sing-near:non:future:pl aux

We are singing.

b. (⟨— | pl⟩; [PN])

(170) a. (⟨NUM: ≠ | RIGHTAN: near non-future pl⟩ [PN])

waraava-an cha
get:up:pl-near:non:future:pl aux

We are getting up.

b. (⟨ ≠ | pl⟩; [PN])

The first and third cases in (162a) refer to a number of different Affixes — *an, quɬ, uk, ax/'ya,* and *a*; the second and fourth to the Affixes *q* and *an/wun*. Three different temporal properties are included in these Affixes — future (in *an*), distant non-future (in *quɬ, uk,* and *ax/'ya*), and near non-future (in *q, an/wun,* and *a*). (167) and (168) illustrate the second; (169) and (170), the third. The first is illustrated in (171) below.

(171) a. (⟨NUM: — | RIGHTAN: fut⟩; [PN])

heyi-an po
dig-future aux

He will dig.

b. (⟨—⟩; [PN])

The variation in (162a) otherwise has to do with whether the Base Form which is the Argument-Categorizing Element has inherent number or not. In short, given the agreement grids in (167) through (171), we also identify a temporal value — 'distant non-future continuous' in (167) and (168), 'near non-future' in (169) and (170), and 'future' in (171) — that is external to the grid.

The Imperative Constituent type in (162b) also includes a value outside the agreement grid — the value 'imp'. Consider the agreement grid yielded by the Proposition in (172).

(172) a. (⟨RIGHTAN: imp pl⟩; [PN])

heelax-am
sing-imperative:pl

Sing (you all)!

b. (⟨pl⟩; [PN])

The aspectual value of the Constituent type in (162c) and the second case in (162d) is similarly external to the agreement grid. The aspectual value in (162c) is like the tense/aspect and imperative values in being a value for RIGHTAN: the aspectual value for the other is a value for ASP. But this difference is unimportant to the point at issue. Given the agreement grid, the value 'Unchanging' for the Constituent type in (162c) is external to the agreement grid, as the analyses in (173) and (174) indicate.

(173) a. (⟨NUM: — | RIGHTAN: unchanging⟩; [PN])

heela-x xumpo
sing-unchanging aux

They should sing.

b. (⟨—⟩; [PN])

(174) a. [⟨NUM: pl | RIGHTAN: unchanging⟩; [PN])

waraava-x xumpo
get:up:pl-unchanging aux

They should get up.

b. (⟨pl⟩; [PN])

The particular aspectual values available to the second case in (162d) are unspecified there. The three possibilities — 'unchanging future', 'changing', 'unchanging' — are illustrated in (175) through (177).

(175) a. (⟨ASP: unch fut | RIGHTAN: sg⟩; [PN])

heela-xlu-t up
sing-unchanging:future-absolutive aux

He is gonna sing.

b. (⟨sg⟩; [PN])

(176) a. (⟨ASP: ch | RIGHTAN: pl⟩; [PN])

heela-qa-t-um pum
sing-changing-absolutive-pl aux

They have been singing (and will continue).

b. (⟨pl⟩; [PN])

(177) a. (⟨ASP: unch | RIGHTAN: pl⟩; [PN])

yawaywi-ch-um pum
beautiful:unchanging-absolutive-pl aux

They are beautiful.

(177) b. (⟨pl⟩; [PN])

Hence, for these cases the temporal values 'unchanging future', 'changing', 'unchanging' are external to the agreement grid.

In sum, for the cases other than the first in (162d) and both in (162e), there is a part of the Propositional Radical not included in the agreement grid and it involves either a temporal value (from a Tense/Aspect form or an Aspectual form) or an imperative value. In (178) we summarize these values distributed according to the five-way division in (162).

(178) a. distant non-future continuous
distant non-future habitual
distant non-future
future
near non-future

b. imp

c. unchanging

d. unchanging future
changing
unchanging

e. [no temporal/imperative value not otherwise included in agreement grid]

The Subject is an addition to the agreement grid, representing the unification of the values on the Subject chain. The values in (178) are simply external to the person and number value (and the values linked to them) that comprise the agreement grid. We represent them as in (179).

(179) [Temporal/Imperative (⟨agreement grid⟩) Subject]

The problem for generalizing (179) to all Propositions is the existence of Propositional Radicals which lack a temporal value, i.e. the first case in (162d) and both cases in (162e), as illustrated above. No converse to the agreement grids exists. This result is at odds with the proposal that every Proposition is associated with a single temporal or imperative value.

4.2.2 *Revision*

An interesting contrast can be made among the five cases associated with Tense/Aspect in (178a). Future and distant non-future refer to a time with at least one specific endpoint: a Proposition which contains an Argument-Categorizing Element in a Constituent with a future value always refers to a time after the time of utterance and one in a Constituent with a distant non-future value always refers to a time before the time of utterance. In contrast, what I have called near non-future always overlaps with the time of utterance and its temporal extension on either side is essentially open. An interesting way of identifying such temporal distinctions has been suggested to me by Richard Oehrle (personal communication). The value 'future' yields the temporal value [+realizable, −realized]; the temporal value 'distant non-future' (of various types) yields [−realizable, +realized]; the value 'near non-future' yields [+realizable, +realized]. We can assign this higher order temporal value to a Proposition, so rather than the Propositions in (180) we have (181).

(180) a. for (167a) [dist non-fut cont (⟨—⟩; [SUBJ]) PN]
b. for (169a) [near non-fut (⟨ # ⟩; [SUBJ] Ppl]
c. for (171) [fut⟩ (⟨—⟩; [SUBJ]) PN]

(181) a. [+realized, −realizable (⟨—⟩; [SUBJ]) PN]
b. [+realized, +realizable (⟨ # ⟩; [SUBJ]) Ppl]
c. [−realized, +realizable (⟨—⟩; [SUBJ]) PN]

Viewed from this perspective it is an easy matter to incorporate the problematic cases. The Propositions at issue cannot hold of a future (i.e. [+realizable, −realized]) situation nor can they hold of a past (i.e. [−realizable, +realized]) situation. But they do have a temporal assignment. They must include the time of utterance; they also always carry the implication of not simply being localized in the present but rather of describing a temporally open-ended situation. This is essentially what is captured by the characterization [+realized, +realizable]. (182) gives examples of the cases included here; the glosses of these examples are meant to indicate the temporal property just described. (182a) and (182c) are examples of the first case in (162e); (182b) is an example of the first case in (162d); and (182d) is an example of the second case in (162e).

(182) a. noo pum henge'malum no-ma'max-um
I aux boys 1sg-like-pl

I like the boys.

b. noo n 'ona
I aux your:father:singular

I am your father.

c. noo p no-puush konoknish
I aux my-eye:number green:number

I have green eyes.

(182) d. pom-heela-ax-um pum
3pl-sing-generic-pl aux
They are good at singing.

(182a) refers to an emotional condition, i.e. 'to like'; the sentence in (183) is to be classed with that in (182a) although it refers to the opposing emotion.

(183) noo p 'om no-ʂ́alax
I aux you 1sg-hate:singular
I hate you.

Liking and hating are generally long-term conditions. (182b) states a (relatively unchanging) relationship, so if one were to say (184), it would be a statement of long-standing enmity.

(184) noo n 'okaytu
I aux your:enemy:singular
I am your enemy.

(182c) refers to a physical attribute which, in the absence of a physical accident, should continue as long as the person who bears the attribute does. Finally, (182d) states a personal trait, an inherent capacity. These semantic types all illustrate a simple point. Propositions with an Argument-Categorizing Element in a Constituent lacking a temporal value can yield a temporal assignment, a temporal assignment identical to that ascribed to Propositions with an Argument-Categorizing Element in a Constituent with *q*, *an/wun*, or *a*. It refers to a situation which obligatorily overlaps with the time of utterance but which has no fixed endpoint on either side. The formal value for each of the Propositions in (182) is given in (185), accordingly. These formal values are, thus, subsumed under the three-way division introduced above — specifically under [+realized, +realizable].[15]

(185) a. [+realized, +realizable (⟨PERS⟩; [SUBJ]) 1sg]
pl pl

b. [+realized, +realizable (⟨ # ⟩; [SUBJ]) Psg]

c. [+realized, +realizable (⟨PERS⟩; [SUBJ] 1sg]
number

d. [+realized, +realizable (⟨PERS # | # ⟩ [SUBJ] 3pl]
generic

The assignment of the same general temporal value to Propositions lacking a temporal form and those containing a Constituent with *-q*,

-an/wun, or *-a* is interesting on another score. We have yet to consider the incorporation in this system of all the remaining Constituent types, those repeated in (186) below according to the temporal value given them above.

(186) a. ⟨RIGHTAN: Number⟩
changing
unchanging future
unchanging

b. ⟨RIGHTAN: Unchanging⟩
unchanging

c. ⟨RIGHTAN: Imperative Number⟩
imp

The Constituents in (186a) share the obligatory presence of a number value with all those — except for those with the Tense/Aspect form *a* — already identified as [+realized, +realizable]. They also can be temporally characterized in the same fashion — i.e. they include the time of utterance but also carry the implication of describing a temporally open-ended situation. Consider the sentences in (187).

(187) a. chaqalaqi-qa-t up hengeemali
tickle-changing-absolutive:sg aux boy:object
He has been tickling the boy (and will continue).

b. tooya-xku-tum pum
laugh-unchanging:future-absolutive:pl aux
They are gonna laugh.

c. 'ava-an-t up
red-unchanging-absolutive:number aux
He is (permanently) red.

(187a) refers to a situation which holds at the time of utterance, but which is otherwise without terminus. (187b) is a statement about an intention, an intention which holds for the present which is not necessarily limited to it. (187c) refers to a (near) permanent situation. Hence, these Propositions are also assigned the temporal value [+realized, +realizable].

I've proposed the three temporal identifications — [+realized, −realizable], [−realized, +realizable], and [+realized, +realizable]. This suggests of course a fourth logical possibility — [−realizable, −realized]. Since [+realized, −realizable] and [−realized, +realizable] always apply to

Constituents with Tense/Aspect for the feature RIGHTAN and since [+realized, +realizable] always applies to Constituents with a number value for this feature, this fourth possibility is reasonably applied to (186b) — a Constituent type which shares neither of these properties. Interestingly enough, such Propositions always occur (as we will see in Chapter Five) with a Sentence-Defining Element marking roughly the equivalent of English 'should'.

(188) tooya-x xumpo
laugh-unchanging aux
They should laugh.

Modality is reasonably viewed as removing a situation from being either necessarily +realized or +realizable; thus, the Constituent type in (186b) yields a Proposition with the temporal value [−realized, −realizable].

Only (186c) remains. I will propose in Chapter Five to follow that the value 'imp' for the feature RIGHTAN in such Constituents is an equivalent of the aux. That is, this identification is outside of the temporal classification just described. This is the position I will assume here: There are imperative and non-imperative Propositions; the four temporal identifications [+realized, −realizable], [−realized, +realizable], [+realized, +realizable], and [−realized, −realizable] are subtypes of the latter and the former has its own assignment, as indicated in (189).

(189) [Imp (⟨ ≠ ⟩; . . .) Subject]

I have argued here that the display of person, number, and linked values across which agreement is defined yields a temporal value for the Proposition. The analysis offered is more complicated than the simple identification of this property in the Propositional Radical, but it has the important consequence of generalizing across all Proposition types. The major point to remember is that the Condition on Person and Number Values, by identifying a subset of the available values in the Propositional Radical, allows the assignment of this value to the Proposition. As with a Constituent, agreement has the consequence of assigning a single value to the collection which meets its requirements.

4.3 *Conclusion*

The result of the considerations adduced in this section is a simple statement of the formal value for a Proposition.[16]

(190) [Temporal or Imp (agreement grid) Subject]$_{\text{Proposition}}$

The consequence emphasized at the beginning of this chapter is now apparent. Because the analysis builds structure from the bottom up and draws the feature/value pairs from the morphological properties of Words, the Temporal and Subject values (and the values remaining in the agreement grid) are dependent on the morphology. Although the source of these values is found in the morphology, they are the syntactically relevant properties of the Proposition. What I have done, basically, is introduce a set of mechanisms whereby some values are eliminated and other values are carried up. Those values that are carried up are organized finally into what we have called the Proposition's formal value.

Except for the inclusion of the agreement grid, the parallel between this collection of values and what is termed INFL in Government-Binding theory is obvious, and a comparison of the two proposals casts the character of that advocated here into sharp relief. Consider the characterization of INFL in Chomsky (1981: 52), "... let us assume that INFL may in principle be the collection of features [[± Tense], (AGR)]." The effect of the application of the agreement and anti-agreement conditions on the Propositional Radical is the identification of these two values in the formal value of the Proposition. Given this resemblance, the differences are worthy of note. First, the elements which give rise to the temporal (or imp) and person/number values are distributed across the Proposition. The temporal (or imp) and person/number values of the Proposition do not comprise a single constituent within the Proposition. Nor does either the temporal value alone or the person/number value alone comprise a constituent independently. Compare:

> I have been assuming the expansion (10) for S in English:
> (10) S → NP INFL VP
> ... In surface structure, INFL may appear phonetically as part of a verbal affix system, but I will assume here that in S-Structure the representation is as in (10). (Chomsky (1981: 52))

The temporal (or imp) and person/number values obviously represent certain of Luiseño's morphological properties, but the analysis we have proposed allows the forms giving rise to these values to be Word-internal while their collective effect appears in the Proposition. It is difficult to see how we might collect all the various properties in the formal value of a Proposition into a Constituent and distribute them to the members of the Proposition. A second noteworthy difference has to do with the unit the temporal and person/number values are associated with. INFL is a constituent of a sentence; the temporal and person/number values are associated rather with what I have called a Proposition. Although we will explore it further in Chapter Five, the necessity of the distinction is quite clear at this point: The presence of the temporal and person/number values is not sufficient for a sentence; the collection of second position particles has not yet been incorporated into the analysis.

5. THE RELATIONSHIP BETWEEN THE FUNCTOR AND THE FORMAL VALUE

The functor yielding a Proposition involves agreement (the Condition on Person and Number Values) and anti-agreement (the Condition on a Single Linked Person Form). According to Chapter Three, an agreement functor should yield a unit associated with a single value and an anti-agreement functor should yield a unit which adds a value to those available in its argument. Agreement behaves precisely as expected. Agreement allows the identification of a single value type for all Propositions, by identifying the value which is external to the display of person, number, and linked values. That is, agreement insures that the formal value of a Proposition will include a temporal value or the imperative value. More complicated is the idea that the condition on multiple linked person forms is obligatorily associated with the addition of a Subject value.

Anti-agreement, as stated in (149) above:

(149) $*(\underset{X}{\text{Person-marked form}} \ldots \underset{X_{\text{non-Subject chain}}}{\text{Person-marked Form}})_{\text{Subject chain}}$

eliminates two occurrences of linked person forms. An examination of Propositions involving either reveals interesting generalizations. A part of an agreement grid as in (191):

(191) Person
Number

indicates a relationship between two objects, where one object depends on the other. The agreement grids at issue are in (192) with illustrative examples.

(192) a. [. . . (⟨PERS⟩; [SUBJ]) 1sg]
number

noo p no-puush konoknish
I aux 1sg-eye green

I have green eyes.

b. [. . . (⟨—⟩; [SUBJ]) 1sg]
number

noo upil no-puush konoknish miyxuk
I aux 1sg-eye green used:to:be

I used to have green eyes.

(192) c. [. . . (⟨ ⟩; [SUBJ]) 1sg]

sg sg

noo p no-ʂ̸waamay 'aw'-q
I aux 1sg:daughter sit-near:non:future:sg

I have a daughter.

d. [. . . (⟨PERS⟩; [SUBJ]) 1sg]

pl pl

noo pum henge'mal-um no-ma'max-um
I aux boys-pl 1sg-like-pl

I like the boys.

The first three of these refer to a situation where two objects are related because one is the possessor of the other, i.e. '1sg' and 'eye' in (192a) and (192b), and '1sg' and 'daughter' in (192c). (192d) has to do not with possession but with an emotion. The two related objects in such a case are, I propose, an emotion and someone holding the emotion. With possession, the possessed depends for its extension on the possessor; so too with emotion, the emotion depends on the existence of someone who might hold it. This relationship mediates whatever relationship might be taken to exist in regard to that about which the emotion is held. So, while agreement grids of the abstract form in (191) have two different possibilities, depending on the particulars of both chains, all Propositions containing such a grid involve two related objects.

An agreement grid of the form:

(193) Person
non-number

indicates the existence of a relationship between an action and an individual, where the relationship depends crucially on the capacities of the individual. (193) and this characterization apply to four semantically distinct cases. The four cases can be characterized as 'good at', 'have to', 'can', and 'try', glosses suggestive of the characterization I have proposed for the set. In each case there is the relationship, e.g. 'try'; there is the action, e.g. what is being tried; and there is the individual. The action need not be accomplished, but even in the absence of its accomplishment the individual and the relationship exist.[17] That is, the action is dependent in the same sense that the second object in the possession and emotion cases is. Consider, then, examples of each of these four types.[18]

(194) a. [. . . (⟨PERS # | # ⟩; [SUBJ]) 3sg]
generic

po-waaqi-ax up
3sg-sweep-generic aux

He is good at sweeping.

b. [. . . (⟨—⟩; [⟨PERS # | # ⟩ SUBJ]) 3pl]
generic

pom-waaqi-ax-um upil miyqus̸
3pl-sweep-generic-pl aux was

They were good at sweeping.

(195) [. . . (⟨—⟩; [⟨PERS⟩ SUBJ]) 3pl]
unchanging
future

pom-ngee-pi up miyqus̸
3pl-leave-unchanging:future aux was

They have to leave.

(196) [. . . (⟨ # ⟩; [SUBJ]; ⟨PERS⟩) 3pl]
can

pom-'ari-vota-wun pum hengeemali
3pl-kick-can-near:non:future:pl aux boys:object

They can kick the boy.

(197) [(. . . ⟨ # ⟩; [SUBJ]; ⟨PERS⟩) 3pl]
try

'ariwun pum hengeemali pomyaax
are:kicking aux boys:object 3pl:try

They are trying to kick the boy.

In sum, while agreement grids of the abstract form in (193) have a number of different possibilities, depending on the particulars of both chains, all Propositions containing such a grid involve an action and a relationship to this action and a single individual.

The semantic regularity is a nice result of the formalism developed to represent the person and number compatibility. And it is crucial to an account of the Condition on a Single Linked Person Form and its necessity to the addition of a Subject in a Proposition.

Consider, first, the possibility of an agreement grid as in (198). The first member of this sequence would have to be associated with the Argument-

Categorizing Element; the second with the Argument Structure. (The pair at issue can be associated with these two parts of the Propositional Radical only, since the 'addition' does not yield the appropriate grid type.)

(198) (⟨Person⟩ [Person])
Number Number

Both of the pairs in (198) require the existence of a relationship between two objects, specifically, one where the object represented in the non-Subject chain is dependent on the other (the one represented in the Subject chain). The symbol *r* in (199) identifies such a relationship.

(199) (⟨Person⟩ [Person])
r^1 r^2
Number Number

Person and number compatibility require the two values in the Subject chain to be identical. This requires further that the objects these identify must be identical (and together yield the Subject of the Proposition).

(200) [(⟨PERS⟩ [SUBJ]) Subject]
r^1 r^2
Number Number

Number compatibility requires that the two values in the non-Subject chain also be compatible.

(201) [(⟨PERS⟩ [SUBJ]) Subject]
r^1 r^2
Number = Number

If r^1 equals r^2, then (201) is a Proposition indicating the same thing twice — something like 'I have a daughter as my daughter.' or schematically as in (202).

(202) [(⟨PERS⟩ [SUBJ]) Subject]
$r^i = r^i$
Number = Number

If r^1 does not equal r^2, then the Subject and its dependent are simultaneously in two distinct relationships, both of which require, however, that the extension of the dependent depends on the Subject. (203) represents the situation.

(203) [(⟨PERS⟩ [SUBJ]) Subject]
$r^i \neq r^j$
Number = Number

No reasonable English sentence offers itself as a possible approximation of this situation, but (204) represents it schematically.

(204) Subject
/ \
r^i r^j
\ /
Dependent object

Consider, next, an agreement grid as in (205). In this case the members of either pair could be localized to any of the three parts of a Propositional Radical.

(205) (. . . Person . . . . . . Person . . .)
Non-Number Non-Number

Both pairs in (205) require the existence of an event, an individual, and a relationship between them. Because the Person values in the Subject chain are necessarily compatible and yield the Subject, we can localize the individual here. The value represented as 'Non-Number', then, indicates the event.

(206) [(. . . PERS . . . . . . PERS . . .) Subject]
r^1 r^2
Non-Number Non-Number

There is no requirement in (206) that the two events be identical; in fact, since person/number compatibility does not apply to the values at issue, they could only be accidentally identical. (Were this the case, the situation outlined in regard to (203) above applies here as well. If r^1 equals r^2, then (206) is a Proposition indicating the same thing twice. If r^1 does not equal r^2, then the Subject and its dependent are simultaneously in two distinct relationships.) Assume, then, that the events in (206) are not identical.

(207) [(. . . PERS . . . . . . PERS . . .) Subject]
r^1 r^2
Non-Number $\neq$ Non-Number

If r^1 does not equal r^2, then the Subject in (207) has to be holding distinct relationships to two events simultaneously. Thus, (208) would describe a situation where an event X is simultaneously dependent on, for example, the Subject's trying to X and being good at X.

(208) [(. . . PERS . . . . . . PERS . . .) Subject]
r^i $\neq$ r^j
Non-Number $\neq$ Non-Number

If r^1 equals r^2, then the Subject holds a single relationship to two events simultaneously. Thus, (209) would describe a situation where an event X and an event Y are both (and simultaneously) dependent on, for example, a Subject's ability.

(209) [(. . . PERS . . . . . . PERS . . .) Subject]

$r^i = r^i$

Non-Number ≠ Non-Number

Finally, consider an agreement grid combining relationships to objects and events, as in (210).

(210) (. . . Person . . . . . . Person . . .)

Number Non-Number

Again, the values in the Subject chain must be identical, yielding the Subject of the Proposition.

(211) [(. . . PERS . . . . . . PERS . . .) Subject]

Number Non-Number

But in this case we know that the two dependents cannot be identical. According to the first pair in (211) the Subject of the Proposition is related to and establishes the extension of an object; according to the second pair in (211) the Subject of the Proposition is associated with an event. We also know, therefore, that the relationships at issue must be distinct.

(212) [(. . . PERS . . . . . . PERS . . .) Subject]

$r^i \neq r^j$

Number ≠ Non-Number

Hence, in this Proposition both an object and an event would be simultaneously and in necessarily distinct ways dependent on the Subject.

The Condition on a Single Linked Person Form eliminates situations as just described in (202), (203), (208), (209), and (212). Thus, there is a relationship between the Condition and the result (i.e. the Subject in the Proposition). Because this Condition eliminates such situations, it insures that whenever there is a referentially dependent element in the Proposition, it will have a unique relationship to the Subject; conversely, this Condition insures that the Subject will analyze no more than one referentially dependent form in any Proposition. The difficulties inherent in any other situation are apparent in the characterization of the various combinations just considered.

The contrast between agreement grids involving combinations as in (191) and (193):

(191) Person
Number

(193) Person
Non-Number

and agreement grids with a part as in (213) is worth considering in this light.

(213) Person
Person

Such a grid is like (191) and (193) in having both a Subject and a non-Subject chain. We expect on the basis of our discussion above that such Propositions will involve a relationship; in fact, on the basis of (191), we might expect that the relationship will apply to two objects. However, the non-Subject map in (213) is formally different from (191), a difference which has a semantic reflex. All such agreement grids involve the Argument Structure termed in Chapter Three TRANSITIVE-POSSESSIVE and characterized there as requiring that the referent of the Subject of the Argument Structure and the individual with rights to the possessed object be disjoint.

(214) noo p pom-toonav-i yawq
I aux 3pl-basket-object has

I have their basket.

That is, embedded in the agreement grid in (213) is an Argument Structure as in (215).

(215) [PN]
Person

In such an Argument Structure the Subject has physical possession of the object, but the object is extensionally independent of the Subject. Since the Subject of the Argument Structure is referentially non-distinct from the Subject of the Proposition, as required in the Subject chain of the agreement grid, this property of (215) remains unaltered in a Proposition. Thus, any such agreement grid involves two objects, one of which is the Subject and the other of which is referentially disjoint. (216) gives the formal value of the Proposition in (214) as illustration.

(216) [+realized, +realizable (⟨ ≠ ⟩; [SUBJ]) Psg]
3pl

The explanation of the Condition on a Single Linked Person form above turns on the agreement grid making available no more than one element which is dependent on the Subject. Given the proposal just made in regard to (215), I do not preclude its cooccurrence with a configuration as in either (191) or (193). (218) with the agreement grid in (217) is just such a case.

(217) (⟨pl⟩; [PN]; ⟨3pl⟩)
1sg can

(218) pom-yawna-vota-wun pum no-toonavi
3pl-hold-can-near:non:future:pl aux 1sg-basket:object
They can have my basket.

We know that the pair 3pl/*can* involves the dependency relationship described in (193); we know further that the pair PN/1sg involves an obligatorily independent relationship. A Capital R identifies the latter.

(219) (⟨pl⟩; [PN]; ⟨3pl⟩)
R^i r^j
1sg can

The person and number values in the Subject chain are compatible, yielding the Subject '3pl'.

(220) [(⟨ # ⟩; [SUBJ]; ⟨PERS⟩) 3pl]
r^i r^j
1sg can

The Subject of the Proposition in (220) is independent of the person value in the non-Subject chain, but involved in the dependency relation described above in regard to 'can'.[19] That is, this is not a situation with multiple dependencies on the Subject. The Condition on a Single Linked Person Form precludes Propositional Radicals which afford the possibility of such multiple dependencies from yielding a Proposition.

Section 3 argues that both an agreement condition and an antiagreement condition apply to a Propositional Radical, yielding a Proposition. Section 4 argues that the effect of these conditions is a formal value of a particular sort. The point of this section has been to explore the relationship between the formal value of a Proposition and the antiagreement condition (the Condition on a Single Linked Person Form). The proposal is that the Condition eliminates Propositional Radicals which would yield an analytically impossible situation for the Subject, the value that antiagreement adds.

6. THE CATEGORY TYPE

We've considered the functor, the result, and the connection between them in the schematic rule:

(221) $\left\{\begin{array}{l}\text{Conditions on Person and Number Values}\\ \text{Condition on a Single Linked Person Form}\end{array}\right\}$:
Propositional Radical → Proposition

It remains to show that the type of the result is as predicted by the type of the functor.[20] The function from Propositional Radical to Proposition is rigid and non-localizable, like the functors yielding the Constituent and Argument Structure. Thus, like a Constituent and an Argument Structure, the Proposition is a category whose members are syntactically inaccessible but phonologically accessible, according to the proposals of Chapter One. If a Proposition is of this type — like the Constituent and the Argument Structure — we expect that there will be a rule as in (222):

(222) ⟨ASP: — | RIGHTAN: Number⟩:
Proposition → Proposition

where the functor will be compatible with the person/number value in the Proposition's formal value (the Subject of the Proposition) and where, given this compatibility, the functor will replace the person/number value in its argument. That is, we expect (222) because of the existence of the rules in (223).

(223) a. ⟨ASP: — | RIGHTAN: Number⟩:
$\langle \ldots \text{ADAFF: Person} \ldots \rangle_{\text{Constituent}}$ →
$\langle \ldots \langle \text{ASP: — | RIGHTAN: Number} \rangle \ldots \rangle_{\text{Constituent}}$

b. ⟨ASP: — | RIGHTAN: Number⟩:
$[\langle \text{ADAFF: Person} \ldots \rangle \ldots]_{\text{Argument Structure}}$ →
$[\ldots \langle \text{ASP: — | RIGHTAN: Number} \rangle \ldots]_{\text{Argument Structure}}$

Our expectations are fulfilled.

Consider the pairs of sentences in (224).

(224) a. i. 'ariwun pum hengeemali
are:kicking aux boy:object
They are kicking the boy.

ii. nanatmalum pum hengeemali 'ariwun
girls aux boy:object are:kicking
The girls are kicking the boy.

(224) b. i. chaqalaqiqus̸ upil nawitmali poyaax
was:tickling aux girl:object 3sg:try

He was trying to tickle the girl.

ii. chaqalaqiqus̸ upil ya'ash nawitmali poyaax
was:tickling aux man girl:object 3sg:try

The man was trying to tickle the girl.

c. i. hengeemal up chamma'max
boy aux 1pl:like

We like the boy.

ii. chaam up hengeemal chamma'max
we aux boy 1pl:like

We like you.

Leaving aside the aux, the first member of each of these pairs contains a Proposition, i.e. a sequence which satisfies the Conditions on Person and Number Values and the Condition on a Single Linked Person Form.

(225) a. [+realized, +realizable near (⟨#⟩; [SUBJ]) Ppl]

b. [+realized, −realizable cont (⟨ ⟩; [SUBJ]; ⟨PERS⟩) 3sg]
try

c. [+realized, +realizable (⟨PERS⟩; [SUBJ]) 1pl]
sg sg

But the second member of each pair contains, in addition, another Constituent — *nanatmalum, ya'ash,* and *chaam* respectively. It is the presence of such 'additions' to the Proposition that the rule in (222) is intended to account for.

The 'additions' to these Propositions are, indeed, of the appropriate formal type. *nanatmalum* and *ya'ash* have the formal values in (226):

(226) a. ⟨ASP: –; ADAFF: l; NUM: # | RIGHTAN: pl⟩

b. ⟨ASP: –; ADAFF: sh; NUM: # | RIGHTAN: sg⟩

and *chaam* is the '1pl' pronoun.

Further, in each case these 'additions' must be made to the Proposition; that is, neither the rule allowing an 'addition' to a Constituent (223a) nor the rule allowing an 'addition' to an Argument Structure (223b) can apply. If we examine the Argument Structures in each of these cases, it is obvious that none are of the formal type required for the rule in (223b); none has a person value independent of the Subject. (227a) is the Argument Structure for both (224a-i) and (224b-i); (227b) is the Argument Structure for (224c-i).

(227) a. [⟨ASP: – | RIGHTAN: obj⟩ PN]
b. [⟨ASP: – | RIGHTAN: sg⟩ PN]

No single reason accounts for the required non-application of the rule which adds a Constituent to a Constituent. (228) provides an analysis of the Constituents in each of the three (i) examples.

(228) a. ⟨hengeemali⟩
⟨ASP: –; ADAFF: l; NUM: sg | RIGHTAN: obj⟩
⟨boy⟩

⟨ariwun⟩
⟨ASP: –; ADAFF: –; NUM: – | RIGHTAN: near non-fut pl⟩
⟨kick⟩

b. ⟨nawitmali⟩
⟨ASP: –; ADAFF: l; NUM: sg | RIGHTAN: obj⟩
⟨girl⟩

⟨chaqalaqiqus̸⟩
⟨ASP: –; ADAFF: –; NUM: – | RIGHTAN: dist non-fut⟩
⟨tickle⟩

⟨poyaax⟩
⟨ASP: –; ADAFF: POSS; NUM: – | RIGHTAN: 3sg try⟩

c. ⟨hengeemal⟩
⟨ASP: –; ADAFF: l; NUM: # | RIGHTAN: sg⟩
⟨boy⟩

⟨chamma'max⟩
⟨ASP: –; ADAFF: 1pl; NUM: – | RIGHTAN: sg⟩
⟨like⟩

In neither of the Constituent sets in (228a) or (228b) is there a Constituent to which *nanatmalum* or *ya'ash* respectively could be added — in neither case is there a Constituent whose formal value includes ⟨ADAFF: Person⟩. The Constituent *chamma'max* in (228c) does have this formal value, but were *chaam* to be an addition to this Constituent, the Possessive which is a crucial part of the Proposition's analysis — cf. (225c) — would be unavailable to the formal value of the Proposition. In short, neither of the rules in (223) will do. The 'additions' here are not 'additions' to the Argument Structure or to Constituents within the Proposition; they can only, therefore, be 'additions' to the Proposition.

Finally, the compatibility between the functor and its argument is as expected from our previous encounters with comparable rules. In (225a) the Subject of the Proposition is 'Ppl' and *nanatmalum* has a formal value specifying 'pl'; in (225b) the Subject of the Proposition is '3sg' and *ya'ash* has a formal value specifying 'sg'; in (225c) the Subject of the Proposition is '1pl' and *chaam* is '1pl'. Contrast the bad sequences in (229) which maintain the Propositions in (225) but where the 'addition' is not compatible with it. All I've done is shuffle the three Constituents *nanatmalum, ya'ash,* and *chaam.*

(229) a. *ya'ash pum 'ariwun hengeemali
man aux are:kicking boy:object

b. *chaqalaqiqu$\not{s}$ upil chaam nawitmali poyaax
was:kicking aux we girl:object 3sg:try

c. *nanatmalum up hengeemal chamma'max
girls aux boy we:like

If the 'addition' is to be represented in the formal value of a Proposition — and the character of the formal value maintained — it necessarily will replace the person/number value with which it is compatible, i.e. the Subject of the Proposition. So, the formal values of (225), representing the first member of the pairs in (224), are modified for the the second member of these pairs accordingly.

(230) a. [+realized, +realizable near
(⟨ # ⟩; [SUBJ])⟨ASP: – | RIGHTAN: pl⟩]

b. [+realized, −realizable cont
(⟨ ⟩; [SUBJ]; ⟨PERS⟩)⟨ASP: – | RIGHTAN: sg⟩]
try

c. [+realized, +realizable (⟨PERS⟩; [SUBJ]) 1pl]
sg sg

The addition of a lexical element which is compatible with the Subject of the Proposition, the rule in (222), should be viewed as fixing the Subject of the Proposition. This suggests a further modification of the formal values. The application of (222), in fixing the Subject, should also fix all the values on the Subject chain of the agreement grid. Because the members of the Subject chain are referentially dependent on the Subject, their referentiality must be held in abeyance until the Subject is assigned a referential value. The 'addition', therefore, not only makes the Subject referential, it fixes the reference of the Subject-dependent forms. We can represent this by removing all the values from the Subject chain in the agreement grid. Thus, we modify (230) as in (231).

(231) a. [+realized, +realizable near (⟨ ⟩; [ ])
⟨ASP: – | RIGHTAN: pl⟩]

(231) b. [+realized, −realizable cont (⟨ ⟩; [ ]) ⟨ASP: — | RIGHTAN: sg⟩]
try

c. [+realized, +realizable (⟨ ⟩; [ ]) 1pl]
sg sg

Note that we maintain the non-Subject chain. The non-Subject chain represents something which is referentially dependent on the Subject. Fixing the Subject establishes the reference of what is in this dependent relationship, but it doesn't remove the relationship. Thus, the existence of a non-Subject chain and the values therein are not erased by application of the Proposition to Proposition rule.

One effect of this decision in regard to the Subject chain is the distinction it allows between the formal value of Propositions with a pronoun Subject and the formal value of Propositions with a person/number Subject. In the formal values in (230c) and (225c), there is no difference between the presence versus the absence of *chaam*. But in the formal values in (231c) and (225c), there is. The presence of *chaam* — or any pronominal instantiation of the functor in the Proposition to Proposition rule — is reflected the Subject chain. If a Subject which is simply a person/number value is not referential, but a pronominal 'addition' makes it referential, we require a distinction between Propositions with a pronominal Subject and Propositions with a person/number Subject.

The contrast between Propositions to which the Proposition to Proposition rule has applied and those to which it has not is now quite striking. Compare (225), which represents the first member of the pairs in (224), to (231), which represents the second member. In (225) the Subject of the Proposition is not fixed and, thus, all members of the Subject chain in the agreement grid are present in the formal value of the Proposition. In (231) the Subject of the Proposition has been made referential and, thus, all members of the Subject chain are eliminated from the formal value of the Proposition.

In sum, the rule taking Propositions to Propositions has the various instantiations in (232).[21]

(232) a. ⟨ASP: — | RIGHTAN: sg⟩: [⟨. . . Subject$_{-pl}$⟩] →
[⟨. . . ( ) ⟨ASP: — | RIGHTAN: sg⟩⟩]
possible non-Subject chain

b. ⟨ASP: — | RIGHTAN: pl⟩: [⟨. . . Subject$_{-sg}$⟩] →
[⟨. . . ( ) ⟨ASP: — | RIGHTAN: pl⟩⟩]
possible non-Subject chain

(232) c. ⟨ASP: — | RIGHTAN: number⟩ [⟨. . . Subject⟩] →
[⟨. . . ( ) ⟨ASP: — | RIGHTAN: number⟩⟩]
possible non-Subject chain

d. ⟨noo⟩: [⟨. . . $\text{Subject}_{1\text{sg or} -\text{pl}}$⟩] →
[⟨. . . ( ) 1sg⟩]
possible non-Subject chain

e. ⟨'om⟩: [⟨. . . $\text{Subject}_{2\text{sg or} -\text{pl}}$] →
[⟨. . . ( ) 2sg⟩]
possible non-Subject chain

f. ⟨po⟩: [⟨. . . $\text{Subject}_{3\text{sg or} -\text{pl}}$⟩] →
[⟨. . . ( ) 3sg⟩]
possible non-Subject chain

g. ⟨chaam⟩: [⟨. . . $\text{Subject}_{1\text{pl or} -\text{sg}}$⟩] →
[⟨. . . ( ) 1pl⟩]
possible non-Subject chain

h. ⟨'omom⟩: [⟨. . . $\text{Subject}_{2\text{pl or} -\text{sg}}$⟩] →
[⟨. . . ( ) 2pl⟩]
possible non-Subject chain

i. ⟨pomom⟩: [⟨. . . $\text{Subject}_{3\text{pl or} -\text{sg}}$⟩] →
[⟨. . . ( ) 3pl⟩]
possible non-Subject chain

I have argued, then, for the expected parallel between a Proposition on the one hand and an Argument Structure and a Constituent on the other. All three of the categories that are typed by the classification in Chapter One as syntactically inaccessible and phonologically accessible allow the addition of specific kind of Constituent and in all three cases this Constituent replaces a person/number value, with the effect of fixing this value (and all values dependent on it). Since this category type depends on an obligatory, listable and non-localizable functor, this parallel is an argument for the rule by which a Proposition is created.

I conclude this section by noting some interesting consequences of this treatment of the Constituent compatible with the Subject. First, recall the asymmetry discussed at various points above between the lexical subject and the other arguments. The subject alone among these cannot be interrupted by the Argument-Categorizing Element. (233) is one rendition of 'The ugly man was tickling the beautiful girl.' In this sentence both the subject and the object are complex Constituents, but for neither is there any discontinuity.

(233) chaqalaqiquꞩ upil ya'ash 'alaxwush nawitmali
was:tickling aux man ugly girl:object

yawaywichi
beautiful:object

The ugly man was tickling the beautiful girl.

The Argument-Categorizing Element *chaqalaqiquꞩ* can be intercalated in the object *nawitmali yawaywichi*:

(234) ya'ash upil alaxwush nawitmali chaqalaqiquꞩ
man aux ugly girl:object was:tickling

yawaywichi
beautiful:object

The ugly man was tickling the beautiful girl.

but not in the subject *ya'ash 'alaxwush.*

(235) *nawitmali upil yawaywichi ya'ash chaqalaqiquꞩ
girl:object aux beautiful:object man was:tickling

'alaxwush
ugly

This asymmetry is predicted by the rule which takes Propositions to Propositions, if we also assume that a functor may interrupt its argument (if the argument is of the appropriate type), but not vice versa.

Second, the analysis predicts the absence of a lexical subject with weather expressions. Recall that, by the Principle of Extended Functional Application, the Subject in the Argument Structure that accompanies a weather expression is not represented in the formal value of the Propositional Radical. For example:

(236) ⟨xillaq⟩
⟨NUM: # | RIGHTAN: near non-fut sg⟩:
⟨rain⟩

req: [PN]

$$[\mathrm{PN}] \rightarrow \begin{array}{l}\langle \text{xillaq} \rangle \\ \langle \text{NUM: \# } \mid \text{ RIGHTAN: near non-fut sg} \rangle \\ \langle \text{rain} \rangle\end{array}$$

Therefore, the Proposition which contains this Propositional Radical will similarly lack a Subject.

(237) [+realized, +realizable near non-fut ( )]
sg

The rule from Propositions to Propositions is, thus, inapplicable. (238a) is fine, but (238b) is impossible.

(238) a. xillaq up
is:raining aux

It is raining.

b. *po up xillaq
it aux is:raining

Third, at the end of Chapter Three, we considered sentences like (239) briefly, to argue that the form *chaam* is not a member of a Constituent *chaam chamngeepi.*

(239) chaam up chamngeepi miyq
we aux 1pl:leave:future:unchanging is

We have to leave.

The rule taking Propositions to Propositions provides an analysis of such a Constituent. The Proposition in (239) has the formal value in (240).

(240) [+realized, +realizable near (⟨ ⟩; [⟨PERS⟩ [SUBJ]) 1pl]
sg unch fut

chaam, thus, applies to this Proposition and replaces the Subject value, yielding the Proposition in (241).

(241) [+realized, +realizable near (⟨ ⟩; [ ]) 1 pl]
sg unch fut

In short, this treatment has clear benefits for the analysis of Luiseño, even without considering the argument it provides for the category type of the Proposition. It also connects in an interesting fashion with the dichotomy established in recent work between 'pronominal argument' and 'lexical argument' languages. (See Manandise (1984), Jelinek (1984), Nishida (1987), and Bresnan and Mchombo (1987).) The analysis of Luiseño presented here takes the Subject to be a value extracted from the various members of a Propositional Radical and necessarily localized to none. It shares, then, with the other proposals mentioned the idea that an argument need not be identified with an NP position; it differs from them in not associating this argument with a 'pronominal' form. The characterization of the optional lexical form as an endocentric function from Proposition to Proposition also distinguishes this analysis from these others.

7. CONCLUSION

This chapter has presented an analysis of the Proposition in Luiseño, using the idea that agreement and anti-agreement are functors which yield a category of a particular formal character relative to their arguments. An interesting result of the application of this idea is the formal value of the Proposition: With no additional assumptions and mechanisms, the formal value of a Proposition reflects a temporal value and a person/number value. Although the sources of these values are the morphological pieces of Words, there is no difficulty with assigning these syntactic status — because of the procedure by which some values are carried up and others are eliminated. Insofar as other theories must simply stipulate this status for such morphological forms or must tag certain values as necessarily carried up or not, this analysis has obvious benefits. Another interesting aspect is the treatment of a 'lexical' subject. If a Proposition is the result of the functor type also yielding Constituents and Argument Structures, we predict a rule as in (221), the rule taking Propositions to Propositions. The existence of such a rule, therefore, supports the proposed analysis. The results of the rule allow a simple treatment of what have been problematic cases, as e.g. weather expressions and 'sentential subjects'. The rule itself is also a refinement of the recent claims that in some languages the lexical forms are not the 'real arguments'. Here the lexical subject is an endocentric modifier on the Proposition and the rule which allows its addition is precisely characterized.

The absolutely critical point for our purposes, however, is the existence of what we have called the Proposition and the role for agreement and anti-agreement in its composition: Unless the Condition on Person and Number Values and the Condition on a Single Linked Person Form are met, the Proposition doesn't exist. The effect of these Conditions is a formal value of the following sort:

(242) [Temporal/Imp (non-Subject chain) Subject]

This result resolves the analytical problems introduced in Chapter One, a fact demonstrated in Chapter Five to follow.

NOTES

[1] Should this seem unremarkable, consider the so-called "nominative object" of Finnish and Slavic. Although Timberlake (1975) doesn't put it in exactly these terms, the form in which the object appears in these languages varies with the form that the verb takes. So, a tensed verb takes an accusative object, but the same verb in either an imperative form or a particular kind of infinitive form takes a nominative object. The other Takic languages Serrano, Cupeño, and Cahuilla offer a similar phenomenon.

[2] (15d) doesn't include an aux form. The analysis offered in Chapter Five incorporates these in the compatibility at issue between an aux and its set-theoretic complement.

[3] Although for different reasons, HPSG and GB hold in common the idea that if the argument possibilities change, the verb must also be different. It is important for the analysis of Luiseño defended here that we not take this position. Vital to this analysis is the specification of the range of Subject possibilities available to an Argument-Categorizing Element. This range is available only when the argument requirements of an Argument-Categorizing Element include a set of possibilities.

[4] For other forms the postulation of distinct Argument-Categorizing Elements might appear initially appealing. Consider that *'aw'* is always glossed 'sit' with the Argument Structure in (i) and 'have' with the Argument Structure in (ii).

(i) [⟨ASP: — | RIGHTAN: Postposition⟩ Subject]

(ii) [ASP: —; ADAFF: PERS | RIGHTAN: Number⟩ Subject]

However, *'aw'* is not the only such form; in fact, there are a number of forms that exhibit essentially the same alternation. If there were two Argument-Categorizing Elements of the form *'aw'* — and similar pairs for the parallel forms — we lose the fact that there is a regularity. Further, it is entirely possible to predict the meaning of the Argument-Categorizing Element from the Argument Structure choice.

[5] The semantic value of such forms is not entirely obvious. Their formal value exhausts what I have otherwise included in semantic values — in (54) 'try'.

[6] The solution shares with Bach (1983b) the incorporation of argument values in the result. But his solution and this one differ in how this is accomplished.

[7] Note that this choice suggests that the argument can determine the interpretation of the functor, in cases like those discussed in Note 4. Keenan and Timberlake (1987) uses the existence of such phenomena to argue that the argument in a functor/argument relationship may determine the interpretation of the functor, the point being that sometimes the functor and sometimes the argument determine the interpretation of the other. I would suggest that the relationship is much less fluid. The obligatory functor in the Propositional Radical is drawn from an open class; the argument possibilities in a Propositional Radical, on the other hand, are listable. Where such a situation exists — and only then — may the argument fix the interpretation of its functor.

[8] The abbreviated representaton of the set of *yaax* forms adopted in (103) is consistent with choices made elsewhere in this work. Because all of the values for ASP, ADAFF, and NUM are predictable, I represent only the value for RIGHTAN.

[9] Possessive-*yaax* forms are not the only forms which can serve in the function from Propositional Radical to Propositional Radical. Others are attached to the Argument-Categorizing Element.

(i) a. po-tooyax-vota-quš upil
*3rd:sg-laugh-**can**-tense/aspect aux*
He could laugh.

b. tooyax-vichu-quš upil
*laugh-**want:to**-tense/aspect aux*
He wants to laugh.

Incorporating these in the analysis of the Propositional Radical is slightly more complicated, because they are not obviously 'added' in the same fashion as the *yaax* forms. The solution turns on the idea developed in regard to the formal value of the Propositional Radical: The formal value reflects the unanalyzed values of the Argument-Categorizing Element and Argument Structure. Because these 'additional' parts of the Argument-Categorizing Element are not exhausted in the combination of the Argument-Categorizing Element and an Argument Structure, they appear in the formal value of the Propositional Radical as well. I represent the two in (i) as illustrated below.

(ii) a. (. . .⟨3sg | can⟩)

b. (. . .⟨want⟩)

[10] I analyze the 'tough' Argument Structure as containing a linked number value — and, therefore, as obeying the Addenda to Conditions on Number Values.

(i) (⟨ASP: — | RIGHTAN: number⟩ [⟨PERS sg⟩])

poloov up po-wiiwilo
good aux 3sg-make:wiwish:generic
It is nice to make wiwish.

Obviously, if any number compatibility exists in (i) between the Constituent containing the Argument-Categorizing Element and the Argument Structure, it cannot be between the Argument-Categorizing Element and the Subject since the Subject here has no number value. It is difficult, however, to illustrate both parts of the Addenda for such a case, because the Constituent containing the Argument-Categorizing Element has only the two number possibilities 'pl' and 'number'.

(ii) (⟨ASP: — | RIGHTAN: pl⟩; [⟨PERS pl⟩])

poplov-umpum pom-wiiwilo
good-pl aux 3pl-make:wiwish:generic
It is nice to make wiwish.

(i) and (ii) conform to the Addenda, as does the combination in (iii).

(iii) (⟨ASP: — | RIGHTAN: number⟩; [⟨PERS pl⟩])

poloov up pom-wiiwilo
good:number aux 3pl-make:wiwish:generic
It is nice to make wiwish.

What should be bad according to the Addenda — and is — is the combination in (iv).

(iv) (⟨ASP: — | RIGHTAN: pl⟩; [⟨PERS sg⟩])

*poplov-um pum po-wiiwilo
good-pl aux 3sg-make:wiwish:generic

[11] Sentences with weather expressions and an 'addition' pose an interesting analytical problem.

(i) xillaq up poyaax
is:raining aux 3sg:try
It is trying to rain.

If we are to maintain a standard representation for an addition ⟨3sg try⟩ — and the claim that any person value in the Argument-Categorizing Element or the 'addition' appears in the Subject chain — the agreement grid for (i) must be:

(ii) (⟨ ⟩; [ ]; ⟨3sg⟩)
sg try

even though there is no Subject in the Subject chain. One benefit to (ii) is the possible account it offers for the unacceptability in such Sentences of an 'addition' with any other person value.

(iii) *xillaq up noyaax
is:raining aux 1sg:try

The agreement condition could include a clause that only '3sg' is compatible with no Subject.

[12] There is a small simplification to the list in Table 4-III. The list includes the source of a person value internal to an Argument Structure, as e.g. in A-ii-6 where we find ⟨PERS⟩ in the Argument Structure. But it includes the source of a number value (i.e. #) internal to an Argument Structure only in the simple cases, e.g. in the single chain agreement grids. The value 'PERS' in an Argument Structure is sometimes connected to the non-Subject chain and sometimes not; the value '#' is never so connected.

[13] Propositions containing the 'tough' Argument Structure will lack a subject. That is, the Propositional Radical in (i) will yield the Proposition in (ii).

(i) (⟨ASP: — | RIGHTAN: number⟩ [⟨PERS sg⟩])
e.g. poloov po-heelilo
good 3sg-sing:generic
It is good to sing.

(ii) [(⟨ ⟩; [⟨PERS⟩ SUBJ])]
number sg

[14] (162) is slightly different from (12′). (12′) indicates particular number values; (162) indicates the presence of a number value only.

[15] The incorporation of the agreement grids in (185) suggests a modification of the temporal assignment proposed above. The temporal value [+realized, +realizable] subsumes different subtypes. We should be able to distinguish in the temporal value between a Proposition which has a Propositional Radical with the temporal value 'near non-future' as in (180b) as its source and one which has a Propositional Radical as in (185). The modification is reasonably simple: Where the higher order temporal value does not have a single temporal subtype in a Propositional Radical, we will include in the Proposition's formal value both the higher order temporal value and the specific temporal value. [−realized, +realizable] includes only 'future' in Luiseño and, therefore, does not involve further modification. [+realized, −realizable] always identifies a Propositional Radical with 'distant non-future', but this identification subsumes three different aspectual types. There is 'distant non-future habitual' (the Affix *uk*), 'distant non-future continuous' (the Affix *quš*), and simple 'distant non-future' (the Affix *'ya/ax*). Because all these share 'distant non-future', we need only add the aspectual value, if there is one, to the Proposition's formal value.

Now, [+realized, +realizable] has two subtypes — one with a specific temporal value as in (180b):

(i) [+realized, +realizable near]

and one as in (185) without a specific temporal value.

(ii) [+realized, +realizable]

[16] I have ignored the semantic and phonological values of a Proposition. Because the Propositional Functor is phonologically non-additive, the phonological value is nothing more and nothing else than the phonological value of the Proposition. I will treat the semantic value, largely for simplicity, as similarly identical to the semantic value of the contained Propositional Radical. (i) presents a few examples.

(i) a. ⟨heel'ya⟩
⟨+realized, −realizable (⟨—⟩; [SUBJ]) PN⟩
⟨sing⟩

(i) b. ⟨chaqalaqin hengeemali or
hengeemali chaqalaqin⟩
⟨−realized, +realizable (⟨—⟩; |SUBJ|) PN⟩
⟨tickle the boy⟩

c. ⟨noma'maxum henge'malum or
henge'malum noma'maxum⟩
⟨+realized, +realizable (⟨PERS⟩; |SUBJ|) 1sg⟩
pl pl
⟨like the boys⟩

[17] Much the same restriction in regard to English 'try' has been commented on, but I am unaware of similar observations in regard to 'can', 'have to', or 'good at'.

[18] The semantic range subsumed under 'have to' is more extensive than simply the English equivalent. I include also 'has (just) Xed' and 'has Xed regularly'.

(i) a. |⟨*ASP: unch pst* | *RIGHTAN: PERS*⟩ *3pl*|

pom-ngee-vo up miy-q
3pl-leave-unchanging:past aux be-near:non:future:sg

They have (already) left.

b. |⟨*ASP: unch* | *RIGHTAN: PERS*⟩ *3pl*|

pom-waaqi up miy-q
3pl-sweep:unchanging aux be-near:non:future:sg

They have swept (on a regular basis).

[19] One logical possibility involving the combination in (220) but in a different configuration is:

(i) |(⟨PERS⟩ |SUBJ|) Subject|
generic Person

Such a Proposition would have a gloss 'X is good at holding Y's Z', an example of which is:

(ii) no-yaw-ax up po-toonavi
1sg-have-generic aux 3sg-basket:object

(ii) should mean 'I am good at holding his basket'. My consultant agrees this should be a good sentence, but doesn't like it.

Another possibility allowed by the preceding but uninstantiated to the best of my knowledge is (iii).

(iii) (⟨Person⟩ |PN|)
Number Person

Whether this is an accidental gap or not, I leave to further research.

[20] If a domain (above the level of a Word) is phonologically accessible, its members need not be connected. Since the function from Propositional Radical to Proposition adds nothing to the Propositional Radical and since we have seen that the members of a Propositional Radical can be interrupted, it follows that the members of a Proposition can be interrupted. The examples in (i) illustrate this point. In each case the element interrupting the Proposition is an instantiation of the aux. In (ia) the Constituent containing the Argument-Categorizing Element is separated from the Argument Structure; in (ib), one member of the Argument Structure is separated from the remainder of the Proposition; in (ic), the instantiation of the 'addition' is separated from the remainder of the Proposition; and in (id), the aux occurs internal to a Constituent in the Proposition.

(i) a.	'ariq	up	nawitmali	
	is:kicking	*aux*	*girl:object*	
	He is kicking the girl.			
b.	nawitmali	up	'ariq	
	girl:object	*aux*	*is:kicking*	
	He is kicking the girl.			
c.	poyaax	up	'ariq	nawitmali
	3sg:try	*aux*	*is:kicking*	*girl:object*
	He is trying to kick the girl.			
d.	nawitmali	up	yawaywichi	'ariq
	girl:object	*aux*	*beautiful:object*	*is:kicking*
	He is kicking the beautiful girl.			

The implications of the placement of the aux are discussed in Chapter Five to follow.

[21] As always, I've concentrated in this discussion on the formal values involved in the rule. However, the rule does involve semantic and phonological values as well. In the corresponding rule which takes Constituents to Constituents and also in the rule which takes Argument Structures to Argument Structures, I took the position that the semantic value of the argument is unchanged by the rule; I will take the same position here. Phonologically, the functor adds its phonological value to that of its argument. We expect, from what we have seen of non-obligatory functors that this 'addition' will have no fixed position relative to its argument and, further, that it may interrupt its argument. Both these expectations are fulfilled. (224b-ii) shows that an instantiation of this 'addition' may intervene between the Constituent containing an Argument-Categorizing Element and the Argument Structure; this is in contrast to (224a-ii) and (224c-ii) where the instantiations of the function from Proposition to Proposition occur to the left of its argument, a distinction which argues that the 'addition' holds no fixed position. Hence, the phonological value of a Proposition which is the result of the application of the 'addition' yields a set of possible orders. For example, in regard to (224b-ii) in particular, we have the following phonological value.

(i) ⟨chaqalaqiquś ya'ash nawitmali poyaax or
chaqalaqiquś ya'ash poyaax nawitmali or
chaqalaqiquś nawitmali ya'ash poyaax or
chaqalaqiquś nawitmali poyaax ya'ash or
chaqalaqiquś poyaax nawitmali ya'ash or
chaqalaqiquś poyaax ya'ash nawitmali or
ya'ash chaqalaqiquś nawitmali poyaax or
ya'ash chaqalaqiquś poyaax nawitmali or
ya'ash poyaax chaqalaqiquś nawitmali or
ya'ash poyaax nawitmali chaqalaqiquś or
ya'ash nawitmali chaqalaqiquś poyaax or
ya'ash nawitmali poyaax chaqalaqiquś or
nawitmali ya'ash poyaax chaqalaqiquś or
nawitmali poyaax ya'ash chaqalaqiquś or
nawitmali ya'ash chaqalaqiquś poyaax or
nawitmali poyaax chaqalaqiquś ya'ash or

(i) nawitmali chaqalaqiqus̸ ya'ash poyaax or
nawitmali chaqalaqiqus̸ poyaax ya'ash or
poyaax nawitmali chaqalaqiqus̸ ya'ash or
poyaax nawitmali ya'ash chaqalaqiqus̸ or
poyaax chaqalaqiqus̸ nawitmali ya'ash or
poyaax chaqalaqiqus̸ ya'ash nawitmali or
poyaax ya'ash chaqalaqiqus̸ nawitmali or
poyaax ya'ash nawitmali chaqalaqiqus̸⟩

CHAPTER FIVE

THE UTILITY OF THE PROPOSITION

0. INTRODUCTION

The analysis of the Proposition proposed in Chapter Four has precisely the right results for the problems raised in Chapter One. Given the analysis of Chapter Four, the Sentence in (1a) is comprised of two parts — the aux *nil* and the Proposition *hengeemali 'ariquꞩ*.

(1) a. hengeemali nil 'ariquꞩ
boy:object aux was:kicking

I was kicking the boy.

One basic problem raised in Chapter One has to do with compatibilities between the aux and its set-theoretic complement — now, the Proposition. No aux form is equally good with every Proposition. For example, (1b) holds the Proposition in (1a) constant and replaces the aux, with the result being an unacceptable sentence.

(1) b. *hengeemali nupo 'ariquꞩ
boy:object aux was:kicking

As presented in Chapter One the problem is in distinguishing among the properties of its complement in a principled fashion, since the aux is sensitive only to a small range of the possibilities potentially available. For example, changing the transitive Argument Structure in (1) to an intransitive doesn't affect the aux possibilities (compare (2a) to (1a)), but changing the tense of the Argument-Categorizing Element does (compare (2b) to (1b)).

(2) a. tooyaquꞩ nil
was:laughing aux

I was laughing.

b. hengeemali nupo 'arin
boy:object aux will:kick

I will kick the boy.

This problem is resolved by the character of the Proposition's formal value, as proposed in Chapter Four. The distribution of aux forms depends on just those values represented in the Proposition's formal value. For example, the aux in (1a) cannot be sensitive to the properties of *hengeemali,* since these have no place in the formal value, but the properties of *'ariquś* do: They contribute the temporal value.

(3) [+realized, −realizable cont (⟨ ⟩; [SUBJ]) PN]

Further, the aux refers to all the value types represented in the Proposition's formal value. The contrast between (1a) and (1b) suggests that *nupo* is incompatible with the temporal value in (3). But the one constant in the two aux forms — the part *n* in both — argues for a part sensitive to person and number values. Sections 2 and 3 of this chapter present the resolution of the problem of the relationship between the aux and the Proposition's formal value.

A second problem has to do with the position of the aux in the Proposition. In (1a) the aux occurs internal to the Proposition. In fact, the aux occurs second in the Proposition. (4) offers a somewhat more striking example.

(4) hengeemali nil yawaywichi 'ariquś
boy:object aux beautiful:object was:kicking

I was kicking the good-looking boy.

The positional characteristics of aux forms follow directly from the characterization of the Proposition as syntactically inaccessible, but *phonologically* accessible. Thus, the fact that the aux can occur internal to the Proposition — even internal to a Constituent within the Proposition — is entirely non-problematic. Section 4 presents the resolution of this problem.

These are the basic analytical problems with which we began in Chapter One. This chapter, therefore, takes us full circle. But in completing the circle, we do more than solve the analytical problems for Luiseño. The Luiseño analysis argues that the sentence has a richer structure than is commonly assumed. A theory which takes the major compositional parts of a sentence to be a Noun Phrase and a Verb Phrase (or Noun Phrases and a Verb), as e.g. Head-driven Phrase Structure Grammar or Generalized Phrase Structure Grammar, must be enriched. A theory which takes the major compositional parts to be these plus INFL, as it is currently defined in Government-Binding theory, is also inadequate. Neither of these two options is rich enough to accommodate both the Proposition, a unit with temporal and person/number values, and the aux. In the first, there is no place for the aux; in the second, there is no reason to expect both the aux and the values identified in the formal value of the Proposition.

1. THE AUX ANALYZED[1]

Every instantiation of the Luiseño aux is to be analyzed into two parts, represented as the pair ⟨A, N⟩. The A part expresses the speaker's assessment of the situation described in the Proposition, where by 'speaker's assessment' I refer roughly to the whole range of notions encompassing subjective modality and mood. The other part has no connection to such assessments and will be identified as the N (for *non-assessment*) part.

Morphologically, the aux is a string with four positions. Position three is always filled. The first, second, and fourth positions may be filled, but need not. The configuration of particles in these three positions expresses the assessment, i.e. is the part associated with A. Position three in the aux is, therefore, the part associated with N. (5) presents a few aux forms with the A and N parts identified.

(5) a. nil

Ø — Ø — . . . — il	(A)
n	(N)

b. ǥumpo

ǥu — Ø — . . . — po	(A)
m	(N)

c. kunun

Ø — kun — . . . — Ø	(A)
n	(N)

d. up

Ø — Ø — . . . — Ø	(A)
up	(N)

e. ǥukunum

ǥu — kun — . . . — Ø	(A)
m	(N)

1.1 *The A Part*

To state the assessments associated with the A-parts, we note first that each of the particle configurations involving positions 1, 2, and 3 can be given a general characterization. First, there is a major division between those lacking a particle in position 2 and those containing one — specifically, the form *kun*, the only particle available to this position. A sentence with an aux containing *kun* is one in which the speaker is giving someone else's assessment of a situation. I refer to such sentences as 'quotative speech'. A sentence without *kun*, i.e. with an empty position 2 in the aux, is one in which the assessment can be directly ascribed to the speaker. I refer to such sentences as 'non-quotative speech'. Consider, for example, the contrast between (6) and (7). In (7) the speaker is not reporting the fact that s/he is sick, but rather that someone else is the source of this information, for which the speaker is not to be held responsible.

(6) noo n takwayaq
I Ø-Ø-n-Ø is:sick

I'm sick.

(7) noo kun-n takwayaq
I Ø-2-n-Ø is:sick

I'm sick, so I'm told.

Given this major division, we have the eight possibilities in (8), where **3** is simply a place holder for the full range of particle possibilities in this position, **Ø** indicates the absence of a particle, and **X** represents the presence of a particle.

(8) a. Ø-Ø-3-Ø
Ø-Ø-3-X
X-Ø-3-Ø
X-Ø-3-X

b. Ø-kun-3-Ø
Ø-kun-3-X
X-kun-3-Ø
X-kun-3-X

Each of these configurations can be associated with an assessment type.

(9) a. $\left.\begin{array}{l}\text{Ø-Ø-3-Ø}\\ \text{Ø-Ø-3-X}\end{array}\right\}$ non-modal assertion

X-Ø-3-Ø non-assertion

X-Ø-3-X modal assertion

b. $\left.\begin{array}{l}\text{Ø-kun-3-Ø}\\ \text{Ø-kun-3-X}\end{array}\right\}$ assertion

$\left.\begin{array}{l}\text{X-kun-3-Ø}\\ \text{X-kun-3-X}\end{array}\right\}$ non-assertion

The particle choices in each position yield distinctions within each of these general groupings. (10) lists the A parts, associating each with an informal, but reasonably precise, characterization of the assessment. The validity of these can be tested by examining the glosses of the sentences offered throughout this discussion.

(10) a.	without *kun*	Non-quotative	
1.	Ø-Ø...Ø		Assertion about near time
2.	Ø-Ø...po	i	Assertion about future
	Ø-Ø...il	ii	Assertion about past
	Ø-Ø...kwa	iii	Assertion about non-past
	Ø-Ø...pokwa	iv	Assertion about future
3.	ǵu-Ø...Ø	i	Question
	xu-Ø...Ø	ii	Suggestion
4.	ǵu-Ø...po	i	Assertion of an inference, based on world knowledge
	ǵu-Ø...il	ii	Assertion of an inference, based on contextual details
	ǵu-Ø...kwa	iii	Assertion of an inference, based on a guess from contextual details
	ǵu-Ø...pokwa	iv	Assertion of an inference, based on a guess from contextual details
	xu-Ø...po	v	Obligation
	xu-Ø...kwa	vi	Weak obligation
	xu-Ø...pokwa	vii	Past Obligation
b.	with *kun*	Quotative	
1.	Ø-kun...Ø		Assertion
2.	Ø-kun...a'		Attenuated Assertion
3.	ǵu-kun...Ø	i	Question
	xu-kun...Ø	ii	Very polite suggestion
4.	ǵu-kun...a'		Attenuated Question

1.2 *The N Part*

The value of the N part is obvious from the identification above of the A part. Consider what remains in the aux after that which yields the A part is eliminated. The particle in position 3 always identifies a person/number value, the range of which is indicated in (11) below.

(11)	n	1sg
	cha(m)	1pl
	um	2pl
	up	non-1sg
	pum	3pl
	m	non-1pl in aux with empty position 1, otherwise Ppl
	Ø	PN

Evidence of the presence of such values is clear from Sentences as in (13). All these contain the same Proposition, a Proposition whose Subject is 'PN' as (12) indicates. But the English gloss reflects the difference in person/number values among them; this difference is localized to the aux.

(12) ⟨tooyaquś⟩
[⟨+realized, −realizable cont (⟨ ⟩; [SUBJ]) PN⟩]
⟨laugh⟩

(13) a. tooya-quś nil
laugh-distant:non:future:continuous *aux*
I was laughing.

b. tooya-quś chamil
laugh-distant:non:future:continuous *aux*
We were laughing.

c. tooya-quś mil
laugh-distant:non:future:continuous *aux*
You (pl)/they were laughing.

d. tooya-quś pil
laugh-distant:non:future:continuous *aux*
You (sg)/he/she/it was laughing.

1.3. *Combinations*

The position 3 particles have certain restrictions on their occurrence with the configuration of other particles surrounding them, as suggested in some of the specifications in (11). Thus, the partial analyses offered in (10) are not to be multiplied by seven. (14) illustrates a number of complete analyses. The full range is to be found in Table 5-I.

TABLE 5-I

1. Ø-Ø-X-Ø

   i. ⟨n⟩
   ⟨non-quotative assertion about near time, 1sg⟩

   ii. ⟨up⟩
   ⟨non-quotative assertion about near time, non-1sg⟩

   iii. ⟨cha⟩
   ⟨non-quotative assertion about near time, 1pl⟩

   iv. ⟨um⟩
   ⟨non-quotative assertion about near time, 2pl⟩

   v. ⟨pum⟩
   ⟨non-quotative assertion about near-time, 3pl⟩

2. Ø-Ø-X-X

   i. ⟨nukwa⟩
   ⟨non-quotative assertion about non-past, 1sg⟩

   ii. ⟨chamkwa⟩
   ⟨non-quotative assertion about non-past, 1pl⟩

   iii. ⟨upkwa⟩
   ⟨non-quotative assertion about non-past, non-1sg⟩

   iv. ⟨umkwa⟩
   ⟨non-quotative assertion about non-past, non-1pl⟩

   v. ⟨nupo⟩
   ⟨non-quotative assertion about future, 1sg⟩

   vi. ⟨chapo⟩
   ⟨non-quotative assertion about future, 1pl⟩

   vii. ⟨uppo⟩
   ⟨non-quotative assertion about future, non-1sg⟩

   viii. ⟨mo⟩
   ⟨non-quotative assertion about future, non-1pl⟩

   ix. ⟨nupokwa⟩
   ⟨non-quotative assertion about future, 1sg⟩

   x. ⟨chapokwa⟩
   ⟨non-quotative assertion about future, 1pl⟩

xi. ⟨upkwa⟩
⟨non-quotative assertion about future, non-1sg⟩

xii. ⟨mokwa⟩
⟨non-quotative assertion about future, non-1pl⟩

xiii. ⟨nil⟩
⟨non-quotative assertion about past, 1sg⟩

xiv. ⟨chamil⟩
⟨non-quotative assertion about past, 1pl⟩

xv. ⟨upil⟩
⟨non-quotative assertion about past, non-1sg⟩

xvi. ⟨mil⟩
⟨non-quotative assertion about past, non-1pl⟩

3. X-Ø-X-Ø

i. ⟨ǵu⟩
⟨non-quotative question, PN⟩

ii. ⟨ǵun⟩
⟨non-quotative question, 1sg⟩

iii. ⟨ǵush⟩
⟨non-quotative question; 1pl⟩

iv. ⟨ǵum⟩
⟨non-quotative question, pl⟩

v. ⟨xu⟩
⟨Suggestion, PN⟩

vi. ⟨xun⟩
⟨Suggestion, 1sg⟩

vii. ⟨xush⟩
⟨Suggestion, 1pl⟩

viii. ⟨xum⟩
⟨Suggestion, pl⟩

4. X-Ø-X-X

i. ⟨ǵupo⟩
⟨non-quotative assertion about an inference based on world knowledge, PN⟩

ii. ⟨ʂunpo⟩
⟨non-quotative assertion about an inference based on world knowledge, 1sg⟩

iii. ⟨ʂushpo⟩
⟨non-quotative assertion about an inference based on world knowledge, 1pl⟩

iv. ⟨ʂumpo⟩
⟨non-quotative assertion about an inference based on world knowledge, pl⟩

vii. ⟨ʂil⟩
⟨non-quotative assertion about an inference based on contextual details, PN⟩

viii. ⟨ʂunil⟩
⟨non-quotative assertion about an inference based on contextual details, 1sg⟩

ix. ⟨ʂumil⟩
⟨non-quotative assertion about an inference based on contextual details, pl⟩

x. ⟨ʂukwa⟩
⟨non-quotative assertion about an inference based on a guess from contextual details, PN⟩

xi. ⟨ʂunkwa⟩
⟨non-quotative assertion about an inference based on a guess from contextual details, 1sg⟩

xii. ⟨ʂushkwa⟩
⟨non-quotative assertion about an inference based on a guess from contextual details, 1pl⟩

xiii. ⟨ʂumkwa⟩
⟨non-quotative assertion about an inference based on a guess from contextual details, pl⟩

xiv. ⟨ʂupokwa⟩
⟨non-quotative assertion about an inference based on a guess from contextual details, PN⟩

xv. ⟨ʂunpokwa⟩
⟨non-quotative assertion about an inference based on a guess from contextual details, 1sg⟩

xvi. ⟨ꞩushpokwa⟩
⟨non-quotative assertion about an inference based on a guess from contextual details, 1pl⟩

xvii. ⟨ꞩumpokwa⟩
⟨non-quotative assertion about an inference based on a guess from contextual details, pl⟩

xviii. ⟨xupo⟩
⟨Obligation, PN⟩

xix. ⟨xunpo⟩
⟨Obligation, 1sg⟩

xx. ⟨xushpo⟩
⟨Obligation, 1pl⟩

xxi. ⟨xumpo⟩
⟨Obligation, pl⟩

xxii. ⟨xukwa⟩
⟨Weak obligation, PN⟩

xxiii. ⟨xunkwa⟩
⟨Weak obligation, 1sg⟩

xxiv. ⟨xushkwa⟩
⟨Weak obligation, 1pl⟩

xxv. ⟨xumkwa⟩
⟨Weak obligation, pl⟩

xxvi. ⟨xupokwa⟩
⟨Past obligation, PN⟩

xxvii. ⟨xunpokwa⟩
⟨Past obligation, 1sg⟩

xxviii. ⟨xushpokwa⟩
⟨Past obligation, 1pl⟩

xxix. ⟨xumpokwa⟩
⟨Past obligation, pl⟩

5. Ø-X-X-Ø

i. ⟨kun⟩
⟨Quotative assertion, PN⟩

ii. ⟨kunun⟩
⟨Quotative assertion, 1sg⟩

iii. ⟨kunush⟩
⟨Quotative assertion, 1pl⟩

iv. ⟨kunum⟩
⟨Quotative assertion, pl⟩

6. Ø-X-X-X

i. ⟨kuna'⟩
⟨Quotative attenuated assertion, PN⟩

7. X-X-X-Ø

i. ⟨śukun⟩
⟨Quotative question, PN⟩

ii. ⟨śukunun⟩
⟨Quotative question, 1sg⟩

iii. ⟨śukunush⟩
⟨Quotative question, 1pl⟩

iv. ⟨śukunum⟩
⟨Quotative question, pl⟩

v. ⟨xukun⟩
⟨Very polite suggestion, PN⟩

vi. ⟨xukunun⟩
⟨Very polite suggestion, 1sg⟩

vii. ⟨xukunush⟩
⟨Very polite suggestion, 1pl⟩

viii. ⟨xukunum⟩
⟨Very polite suggestion, pl⟩

8. X-X-X-X

i. ⟨śukuna'⟩
⟨Quotative attenuated question, PN⟩

(14) a. nil ⟨non-quotative assertion about past, 1sg⟩
b. ∉umpo ⟨non-quotative inference based on world knowledge, Ppl⟩
c. kunun ⟨quotative assertion, 1sg⟩
d. up ⟨non-quotative assertion about near time, non-1sg⟩
e. ∉ukunum ⟨quotative question, Ppl⟩

2. THE A PART AND ITS ARGUMENT

Because (15a) is fine and (15b) is unacceptable, the pair of Sentences below illustrate a necessary compatibility between the A part of the aux and the temporal value of the Proposition.

(15) [+realized, +realizable near (⟨ # ⟩; [SUBJ]) Psg]

i. ⟨non-quotative assertion about near time, non-1sg⟩

'ari-q up hengeemali
kick-near:non:future:sg *aux* *boy:object*

You (sg) are/(s)he is kicking the boy.

ii. ⟨non-quotative assertion about past, non-1sg⟩

*'ari-q upil hengeemali
kick-near:non:future:sg *aux* *boy:object*

Recall that the formal value of a Proposition must have one of the five possibilities in (16). (The ellipses indicate the possibility of additional temporal information.)

(16) ⟨+realized, +realizable . . .⟩
⟨+realized, −realizable . . .⟩
⟨−realized, +realizable⟩
⟨−realized, −realizable⟩
⟨Imp⟩

Given the number of A parts and the five possibilities in (16), mastering the details of the compatibility suggested by (15) is not an insignificant feat. Table 5-II provides a summary; the Appendix to this chapter gives examples of each combination.

These data argue for the compatibility merely suggested by (15). We focus here on the orderliness of this set of data. If the distribution of aux form to Propositional value were random, it would still be possible to argue that the aux exhausts the value sets available in the Proposition. But we might decide, justifiably, that the interaction is linguistically uninteresting, maybe even accidental. The orderliness to the distribution makes this an unacceptable decision.

In Steele et al. (1981) it was proposed that the propositional basis of

TABLE 5-II

A-Part	**Proposition Type**
Non-quotative	
Non-modal assertions	
1. ⟨Assertion about near time⟩	⟨+realized, +realizable⟩
2. ⟨Assertion about future⟩	⟨−realized, +realizable⟩
3. ⟨Assertion about past⟩	⟨+realized, −realizable⟩
4. ⟨Assertion about non-past⟩	⟨+realized, +realizable⟩ ⟨−realized, +realizable⟩
Non-assertions	
5. ⟨Non-quotative Question . . .⟩	⟨+realized, +realizable⟩ ⟨+realized, −realizable⟩ ⟨−realized, +realizable⟩ ⟨−realized, −realizable⟩
6. ⟨Suggestion⟩	⟨−realized, −realizable⟩
Modal assertions	
7. ⟨Inference based⟩ on world knowledge	⟨+realized, +realizable⟩ ⟨+realized, −realizable⟩ ⟨−realized, +realizable⟩
8. ⟨Inference based⟩ on contextual details	⟨+realized, +realizable⟩ ⟨+realized, −realizable⟩
9. ⟨Inference based⟩ on a guess from contextual details	⟨+realized, +realizable⟩ ⟨+realized, −realizable⟩
10. ⟨Obligation⟩	⟨−realized, −realizable⟩
11. ⟨Weak obligation⟩	⟨−realized, −realizable⟩
12. ⟨Past obligation⟩	⟨−realized, −realizable⟩

Quotative

Assertions

13. ⟨Quotative assertion⟩	⟨+realized, +realizable⟩
	⟨+realized, −realizable⟩
	⟨−realized, +realizable⟩
14. ⟨Quotative attenuated assertion⟩	⟨+realized, −realizable⟩

Non-assertions

15. ⟨Quotative question⟩	⟨+realized, +realizable⟩
	⟨+realized, −realizable⟩
	⟨−realized, +realizable⟩
16. ⟨Very polite suggestion⟩	⟨−realized, −realizable⟩
17. ⟨Quotative attenuated question⟩	⟨+realized, −realizable⟩

imperatives is responsible to deed while the propositional basis of non-imperatives (specifically there assertions and questions) is responsible to fact. Here I maintain a basic difference between imperatives and non-imperatives, but the proposed distinction will be slightly different. Let's say that the propositional basis of imperatives is representational; that is, the Proposition in an imperative will correctly represent a model if the hearer performs what s/he is commanded. The propositional basis of a non-imperative, on the other hand, is relational. The relationship between the Proposition in a non-imperative and a model is a function of the temporal character indicated in, what I have termed for Luiseño, the formal value of the Proposition — i.e. one of the four values ⟨+realized, +realizable⟩, ⟨+realized, −realizable⟩, ⟨−realized, +realizable⟩, and ⟨−realized, −realizable⟩. The relationship in the first three of these is obvious. A Proposition which is ⟨+realized, +realizable⟩ must have a model with a present location; a Proposition which is ⟨+realized, −realizable⟩, a model with a past location; and a Proposition which is ⟨−realized, +realizable⟩, a model with a future location. A Proposition which is ⟨−realized, −realizable⟩ cannot be related to a model by fixing its time. However, if we generalize across Propositons which are positively specified for either 'realized' or 'realizable' as having a factual relationship to a model, we can characterize this last as having a non-factual (or counter-factual) relationship to a model. (17) summarizes these distinctions among propositional types.

(17) Propositional Types

A. Representational = ⟨Imp⟩

B. Relational

(17) i. Counter-factual = ⟨−realized, −realizable⟩
ii. Factual
a. ⟨+realized, −realizable⟩
b. ⟨+realized, +realizable⟩
c. ⟨−realized, +realizable⟩

In light of these distinction among propositional types and given the analysis of the A-part of the aux, the distribution in Table 5-II is strikingly well-organized. I note first that no aux form is compatible with a representational Proposition. This is entirely consistent with the idea of an A-part, a part which indicates an assessment. (We will return to representational Propositions in Section 5 below.)

(18) **Propositional type** **no A-part**
A. Representational
Propositional type **A-part**

One A-part is compatible with all four relational Propositions — ⟨Non-quotative question . . .⟩ The lack of restriction is unexceptionable if we consider that a factual relationship between model and Proposition cannot possibly be required for a question, nor can a particular factual type (i.e. present, past etc.). Simply put, a question can require only that its argument not be representational.

(19) **Propositional type** **no A-part**
A. Representational
Propositional type **A-part**
B. Relational ⟨Non-quotative question⟩

An aux which indicates suggestion or obligation, of whatever sort, is compatible with the counter-factual propositional type. This seems right: A suggestion or an obligation requires that the situation to which it applies be counterfactual; a suggestion or an obligation can't apply to a situation which is (already) a fact.

(20) **Propositional type** **no A-part**
A. Representational
Propositional type **A-part**
B. Relational ⟨Non-quotative question⟩
i. Counter-factual ⟨Obligation⟩
⟨Weak obligation⟩
⟨Past obligation⟩
⟨Suggestion⟩
⟨Very polite suggestion⟩

The set of A-parts ⟨Inference based on world knowledge . . .⟩, ⟨Quotative assertion . . .⟩, ⟨Quotative question . . .⟩, and ⟨Lack of speaker knowledge . . .⟩ all share the property of requiring that the Proposition be ⟨. . . +realiz . . .⟩, which is to say according to the schema in (17) that they all require a propositional type responsible to fact. In all these cases, the assessment requires the absence of direct observation, but the existence of a reason or reasons to make the assessment. The Proposition accompanying such an assessment could be neither representational nor counter-factual; similarly, it could not be dependent on a specific factual type. Thus, again the match between the A-part and its argument is coherent.

(21)	**Propositional type**	**no A-part**
	A. Representational	
	Propositional type	**A-part**
	B. Relational	⟨Non-quotative question⟩
	i. Counter-factual	⟨Obligation⟩
		⟨Weak obligation⟩
		⟨Past obligation⟩
		⟨Suggestion⟩
		⟨Very polite suggestion⟩
	ii. Factual	⟨Inference based on world knowledge⟩
		⟨Quotative assertion⟩
		⟨Quotative question⟩
		⟨Lack of speaker knowledge⟩

All A-parts which mark a modal assertion where the inference is based on contextual details require an argument specified +realized — that is, a non-future propositional type. Clearly, an inference based on contextual details depends on observation; a future (i.e. −realized) propositional type can't be (or can't have been) observed.

(22)	**Propositional type**	**no A-part**
	A. Representational	
	Propositional type	**A-part**
	B. Relational	⟨Non-quotative question⟩
	i. Counter-factual	⟨Obligation⟩
		⟨Weak obligation⟩
		⟨Past obligation⟩

(22)		⟨Suggestion⟩
		⟨Very polite suggestion⟩
	ii. Factual	⟨Inference based on world knowledge⟩
		⟨Quotative assertion⟩
		⟨Quotative question⟩
		⟨Lack of speaker knowledge⟩
	a. +realized	⟨Inference based on contextual details⟩
		⟨Inference based on a guess from contextual details⟩

The A-parts in (23) remain.

(23) a. ⟨Assertion about non-past . . .⟩
b. ⟨Assertion about future . . .⟩
c. ⟨Assertion about near time . . .⟩
d. ⟨Assertion about past . . .⟩
e. ⟨Quotative attenuated assertion . . .⟩
f. ⟨Quotative attenuated question . . .⟩

The first four are assertions and, therefore, assumedly require a factual propositional type. Otherwise, they involve simple matches between the time specified in the A-part and the time of the Proposition — non-past and +realizable, future and −realized, +realizable, near time and +realized, +realizable, and past and +realized, −realizable. The A-parts in the last two — ⟨Quotative attenuated assertion⟩ and ⟨Quotative attenuated question⟩, respectively — have the same propositional basis as (23d). Recall that the other two quotative cases are good with any Proposition type that is responsible to fact. The distinction between those two cases and these is the presence in the A-part of the specification 'attenuated'. Since any quotative Sentence indicates that the speaker is necessarily not the source of the information offered, the distinction at issue here is the possibility of validation. A quotative sentence which is simply responsible to fact has the possibility of being validated; an attenuated quotative sentence does not. Hence, these are good with the Proposition type that is responsible to *past* fact.

With the addition of these last few cases, Table 5-III completes the schematic representation of the pairing between the A-part of the Sentence-Defining Element and the character of its argument.

Let me sketch an analysis capturing the distributional facts in Table 5-III, according to the rule schema in (24).

TABLE 5-III

Propositional type	**no A part**
A. Representational	
Propositional type	**A-part**
B. Relational	⟨Non-quotative question⟩
i. Counter-factual	⟨Obligation⟩ ⟨Weak obligation⟩ ⟨Past obligation⟩ ⟨Suggestion⟩ ⟨Very polite suggestion⟩
ii. Factual	⟨Inference based on world knowledge⟩ ⟨Quotative assertion⟩ ⟨Quotative question⟩ ⟨Lack of speaker knowledge⟩
a. +realized	⟨Inference based on contextual details⟩ ⟨Inference based on a guess from contextual detail⟩
b. +realizable	⟨Assertion about non-past⟩
c. +realized, −realizable	⟨Assertion about past⟩ ⟨Quotative attenuated assertion⟩ ⟨Quotative attenuated question⟩
d. +realized, +realizable	⟨Assertion about near time⟩
e. −realized, +realizable	⟨Assertion about future⟩

(24) aux: Proposition → Sentence

None of the Propositional types is possible with exactly one A-part, yet there are A-parts which accept exactly one Propositional type. This argues quite clearly that it is possible to predict from an A-part to a Propositional type, but not vice versa. Consider, for example, the sentence in (27) which combines the Proposition in (25) and the aux in (26).

(25) ⟨heyin⟩
⟨−realized, +realizable . . .⟩
⟨. . .⟩

(26) nil ⟨non-quotative assertion about future . . .⟩

(27) heyi-n nil
dig-future aux
I will dig.

In light of this direction of fit, the formal value of the sentence must represent the A-part of the aux, but it need not represent the particular temporal value of the Proposition where this can be predicted from the A-part. This is simply another instance of the Principle of Extended Functional Application developed in Chapter Four: Where the functor requires a particular kind of value in its argument but does not determine among the possibilities available to this value, the argument value appears in the result. Combining the values of both Proposition and aux, (28) is a reasonable representation of (part of) the formal value of the sentence in (27). (The ellipses indicate that the value is not yet complete.)

(28) ⟨. . . non-quotative assertion about future . . .⟩

In many sentence types, the temporal value in the Proposition is not fixed by the aux, of course. The aux in (29) accepts the Proposition in (25):

(29) ǥun ⟨non-quotative question . . .⟩

(30) heyi-n ǥun
dig-future aux
Will I dig?

as well as that in (31).

(31) ⟨heyiquǥ⟩
⟨+realized, −realizable continuous . . .⟩
⟨. . .⟩

(32) heyi-quǥ ǥun
dig-distant:non:future:continuous aux
Was I digging?

The formal values for the Sentences in (30) and (32) reflect both the temporal value of the Proposition and the A value of the aux. Where both Proposition and aux contribute to the formal value of a Sentence, we will represent each, with the value of the Proposition first separated by that of the aux by a vertical line.

(33) ⟨−realized, +realizable . . . | non-quotative question . . .⟩

(34) ⟨+realized, +realizable cont . . . | non-quotative question . . .⟩

The result of the rule mapping a Proposition to a Sentence in (24), therefore, is a set of features. A Luiseño Sentence is necessarily associated with one mood value (i.e. question, assertion, imperative) and, where the mood value is not imperative, a temporal value, as well as an indication of the information source (i.e. quotative or non-quotative); it may also involve aspect and modality. These values have a variety of sources, but the analysis adopted here collects them entirely regularly in the formal value of the Sentence.

3. THE N PART AND ITS ARGUMENT

Because (35a) is fine and (35b) is unacceptable, the pair of Sentences in (35) suggests that the N-part of the aux is sensitive to the Subject in the Proposition.

(35) [+realized, +realizable near (⟨ # ⟩; [SUBJ]) Ppl]

a. ⟨non-quotative assertion about near time, 3pl⟩

'ari-wun pum hengeemali
kick-near:non:future:pl aux boy:object

They are kicking the boy.

b. ⟨non-quotative assertion about near time, non-1sg⟩

*'ari-wun up hengeemali
kick-near:non:future:pl aux boy:object

It is not enough, of course, for the N-part to be sensitive to the Subject in the Proposition, it must also be sensitive to the non-Subject chain in the agreement grid. The A-part is sensitive to the temporal value, but the Proposition's formal value includes also the Subject value and the value in the non-Subject chain. Therefore, *only* if the N-part is sensitive to both the Subject and the non-Subject chain can the aux be said to exhaust the properties included in the formal value of the Proposition. The N-part behaves precisely as desired. And, again, we find an orderliness in the distributional facts.

3.1 *Background*

Recall from the analysis of Chapter Four that, given the exclusion of the temporal/imperative value, the formal value of a Proposition can be one of the five distinct types listed in (36).

(36) a. (. . . ( ) Subject)

b. (. . . ( ) Subject)
z

c. (. . . (x . . . y) Subject)

d. (. . . (x . . . y) Subject)
z

e. (. . . ( ))
z

(36e) is different from all the rest in that the Proposition lacks a Subject. (37) is an example we have previously considered.

(37) [+realized, +realizable near (⟨ ⟩)]
sg

xilla-q up
rain-near:non:future:sg aux

It is raining.

The remaining four divide into two groups. (36a) and (36b) are different from (36c) and (36d) in that they contain a lexical Subject; this property is reflected in the absence of a Subject chain in the agreement grid. Within each of these two groups is the division into formal values without and with a non-Subject chain; so (36a) and (36c) share the absence of a non-Subject chain, while (36b) and (36d) share its presence. (38) illustrates (36a) and (36b) respectively. (39) illustrates (36c) and (36d) respectively.

(38) a. [+realized, +realizable near
(⟨ ⟩; [ ]) ⟨ASP: —; ADAFF: 1; NUM: # | RIGHTAN: pl⟩]

henge'mal-um pum nawitmali chaqalaqi-wun
boys-pl aux girl:object tickle-near:non:future:pl

The boys are tickling the girl.

b. [+realized, +realizable near (⟨ ⟩; [ ]) 1pl]
sg unch fut

chaam p cham-ngee-pi miy-q
we aux 1pl-leave-unchanging:future be-near:non:future:sg

We have to leave.

(39) a. [+realized, +realizable near (⟨ # ⟩; [SUBJ]) Ppl]

chaqalaqi-wun	pum	nawitmali
tickle-near:non:future:pl	*aux*	*girl:object*

They are tickling the girl.

b. [+realized, +realizable near (⟨ ⟩ [SUBJ]) 1pl]
sg unch fut

cham-ngee-pi	up	miy-q
1pl-leave-unchanging:future	*aux*	*be-near:non:future:sg*

We have to leave.

Each of the four possibilities in (36a) through (36d) is still a shorthand for a number of different value sets. The sentences in (38) and (39) illustrate three Subject possibilities. The entire set is listed in (40).

(40) PN
Pnumber
Psg
Ppl
⟨ASP: – | RIGHTAN: sg⟩
⟨ASP: – | RIGHTAN: pl⟩
1sg
2sg
3sg
1pl
2pl
3pl

The first four values in (40) are associated with a non-lexical Subject only and, thus, are found only in (36c) and (36d); the next two indicate a lexical Subject and, thus, are found only in (36a) and (36b); and the last six can be found in both. (39a) illustrates the first set; (38a), the second; and (38b) and (39b), the third. Similarly, three sets of formal possibilities are available to the non-Subject chain — one involving a value without number:

(41) can
try
generic
etc.

one involving Number:

(42) sg
pl
number

and one involving Person:[2]

(43) ⟨ASP: — | RIGHTAN: sg⟩
⟨ASP: — | RIGHTAN: pl⟩
1sg
2sg
3sg
1pl
2pl
3pl

(37) illustrates (42). (44) and (45) below offer examples of (41) and (43) respectively.

(44) [+realized, −realizable cont (⟨ ⟩; [ ]) 1pl]
unch

chaam upil chamngee-pi
we aux 1pl:leave-unchanging:future

miy-qus̸
be-distant:non:future continuous

We had to leave.

(45) [+realized, +realizable near
(⟨ ⟩; [ ]) ⟨ASP: — | RIGHTAN: sg⟩]
1sg

wunaal up no-toonavi yaw-q
he aux 1sg-basket:object have-near:non:future:sg

He has my basket.

There is also the possibility of combinations of these, of course, subject to the Conditions yielding a Proposition. (38b) and (39b) illustrate one such; (46), another.

(46) [+realized, +realizable near
(⟨ ⟩; [ ]; ⟨ ⟩) ⟨ASP: –; ADAFF: NUM: # | RIGHTAN: sg⟩]
1sg can

wunaal	up	no-toonavi	po-yawna-vota-q
he	*aux*	*1sg-basket:object*	*3sg-have-can-near:non:future:sg*

He can have my basket.

To properly state the compatibility between the N-part of the aux and the Proposition, we have to keep this set of possibilities in mind.

3.2 *Subject Chains*

Each of the seven N-parts is compatible with a Subject chain. With minimal complications, the requirement is quite simple: An N-part requires a Subject with which it can unify. This is simply an extension of the requirement between the Subject of the Argument Structure and the Subject of the Proposition. The person values '1', '2', and '3' may not unify with one another, nor may the number values 'sg' and 'pl'. Because of the character of the Subject in the Proposition, we must also add: '1' and '2' may not unify with ⟨ASP: – | RIGHTAN: Number⟩ and, obviously, a non-Subject may not unify with anything. This last might give rise to the expectation that Propositions with this Subject will be incompatible with all N-parts — and, thus, with any aux form. (47) shows that this is clearly not true.

(47) [+realized, +realizable (⟨ ⟩; [⟨PERS⟩ SUBJ]) X]
number sg

poloov	up	po-wiiwilo
good	*aux*	*3sg-make:wiwish:generic*

It is nice to make wiwish.

All such Propositions involve a non-Subject chain, however, and the N-part is also sensitive to its presence. We return to sentences like (47) in Section 3.3 below. Here we are concerned only with person-Subject chains.

We expect the N-part PN to be compatible with all person values available to a Subject chain. The variety of Subject values in the four cases in (48) supports our expectation.

(48) a. [+realized, +realizable near
(⟨ ⟩; [ ]) ⟨ASP: — | RIGHTAN: sg⟩]

tooya-q ǥupo hengeemal
laugh-near:non:future:sg *aux:**PN*** *boy*

I guess the boy is laughing.

b. [+realized, +realizable near
(⟨ ⟩; [ ]) ⟨ASP: — | RIGHTAN: pl⟩]
sg unch fut

wunaalum ǥupo pom-ngee-pi miy-q
they *aux:**PN*** *3pl-leave-aspect* *be-near:non:future:sg*

I guess they have to leave.

c. [+realized, +realizable near (⟨ ≠ ⟩: [SUBJ]) Psg]

tooya-q ǥupo
laugh-near:non:future:sg *aux:**PN***

I guess he is/you (sg) are/I am laughing.

d. [+realized, +realizable near (⟨ ⟩; [SUBJ]) 1pl]
sg unch fut

cham-ngee-pi ǥupo miy-q
1pl-leave-aspect *aux:**PN*** *be-near:non::future:sg*

I guess we have to leave.

The three N-parts in (49) are predictably more restrictive.[3]

(49) a. ... up ... ⟨... non-1sg⟩
b. Ø-Ø-m ... ⟨... non-1pl⟩
c. X ... m ... ⟨... pl⟩

By unification, (49a) should be incompatible with a '1' or 'pl' Subject, (49b) with a '1' or 'sg' Subject, and (49c) with a 'sg' Subject. The Sentences in (50) through (52) illustrate the range of Subjects available to each, a range in each case consistent with these predictions.

(50) a. [+realized, −realizable cont (⟨—⟩: [SUBJ]) PN]

naachaxan-quǥ upil
eat-distant:non:future *aux:**non:l:sg***

He was/you (sg) were eating.

(50) b. [+realized, +realizable near (⟨#⟩; [SUBJ]) Psg]

naachaxan-q	up
eat-near:non:future:sg	*aux:**non:l:sg***

He is/you (sg) are eating.

c. [+realized, −realizable cont (⟨−⟩; [⟨PERS⟩ SUBJ]) 3sg]

chaqalaqi-qus̸	upil	potaax
tickle-distant:non:future:continuous	*aux:**non:l:sg***	*himself*

He was tickling himself.

d. [+realized, −realizable cont (⟨−⟩; [⟨PERS⟩ SUBJ]) 2sg]

chaqalaqi-qus̸	upil	'otaax
tickle-distant:non:future:continuous	*aux:**non:l:sg***	*yourself*

You (sg) were tickling yourself.

e. [+realized, −realizable cont (⟨ ⟩; [ ]) ⟨ASP: − | RIGHTAN: sg⟩]

chaqalaqi-qus̸	upil	hengeemal
tickle-distant:non:future:continuous	*aux:**non:1sg***	*boy*

potaax
himself

The boy was tickling himself.

(51) a. [+realized, −realizable cont (⟨−⟩; [SUBJ]) PN]

naachaxan-qus̸	mil
eat-distant:non:future:continuous	*aux:**non:l:pl***

They/you (pl) were eating.

b. [+realized, −realizable cont (⟨−⟩; [⟨#⟩ SUBJ]) Ppl]

yawaywichum	mil	miy-qus̸
beautiful	*aux:**non:l:pl***	*be-distant:non:future:continuous*

They/You (pl) were good-looking.

c. [+realized, −realizable cont (⟨−⟩; [⟨PERS⟩ SUBJ]) 3pl]

chaqalaqi-qus̸	mil	pomtaax
tickle-distant:non:future:continuous	*aux:**non:l:pl***	*themselves*

They were tickling themselves.

d. [+realized, −realizable cont (⟨−⟩; [⟨PERS⟩ SUBJ] 2pl]

chaqalaqi-qus̸	mil	'omtaax
tickle-distant:non:future:continuous	*aux:**non:l:pl***	*yourselves*

You (pl) were tickling yourselves.

e. [+realized, −realizable cont (⟨ ⟩; [ ]) ⟨ASP: — | RIGHTAN: pl⟩]

chaqalaqi-qus̸	mil	henge'malum
tickle-distant:non:future:continuous	*aux:**non:l:pl***	*boys*

pomtaax
themselves

The boys were tickling themselves.

(52) a. [+realized, −realizable cont (⟨ ⟩; [SUBJ] PN]

naachaxan-qus̸	s̸um
eat-distant:non:future:continuous	*aux:**pl***

Were they/you (pl) eating?

b. [+realized, +realizable near (⟨ # ⟩; [SUBJ]) Ppl]

naachaxan-wun	s̸um
eat-near:non:future:pl	*aux:**pl***

Are they/you (pl) eating?

c. [+realized, +realizable near (⟨ # ⟩; [⟨PERS⟩ SUBJ]) 3pl]

chaqalaqi-wun	s̸um	pomtaax
tickle-near:non:future:pl	*aux:**pl***	*themselves*

Are they tickling themselves?

d. [+realized, +realizable near (⟨ # ⟩; [⟨PERS⟩ SUBJ]) 2pl]

chaqalaqi-wun	s̸um	'omtaax
tickle-near:non:future:pl	*aux:**pl***	*yourselves*

Are you (pl) tickling yourselves?

e. [+realized, +realizable near
(⟨ ⟩; [ ]) ⟨ASP: — | RIGHTAN: pl⟩]

chaqalaqiwun	s̸um	henge'malum	pomtaax
tickle-near:non:future:pl	*aux:**pl***	***boys***	*themselves*

Were the boys tickling themselves?

A non-1sg N-part should be compatible with any argument whose Subject is not '1' and/or 'pl'; the Sentences in (50) conform to this prediction and the sentences in (53) which do not are unacceptable.

(53) a. [+realized, +realizable near (⟨#⟩; [SUBJ]) Ppl]

*naachaxan-wun up
eat-near:non:future:pl *aux:**non:l:sg***

b. [+realized, −realizable cont (⟨−⟩; [⟨PERS⟩ SUBJ]) 1sg]

*chaqalaqi-qus̸ upil notaax
tickle-distant:non:future:continuous *aux:**non:l:sg*** *myself*

A non-1pl N-part should be compatible with an argument whose Subject is not '1' and/or 'sg'. The sentences in (51) conform to this prediction; those in (54) which do not are unacceptable.

(54) a. [+realized, −realizable cont (⟨−⟩; [⟨#⟩ SUBJ]) Psg]

*yot mil miy-qus̸
big *aux:**non:l:pl*** *be-distant:non:future:continuous*

b. [+realized, −realizable cont (⟨−⟩; [⟨PERS⟩ SUBJ]) 1pl]

*chaqalaqi-qus̸ mil chamtaax
tickle-distant:non:future:continuous *aux:**non:l:pl*** *ourselves*

Finally, a pl N-part should be compatible with any argument which is not 'sg'. The Sentences in (52) conform to this prediction; those in (55) do not and are unacceptable.

(55) a. [+realized, +realizable near (⟨#⟩; [SUBJ]) Psg]

*naachaxan-q s̸um
eat-near:non:future:sg *aux:**pl***

b. [+realized, +realizable near (⟨#⟩; [⟨PERS⟩ SUBJ]) 3sg)

*chaqalaqi-q s̸um potaax
tickle-near:non:future:sg *aux:**pl*** *himself*

c. [+realized, +realizable near (⟨#⟩; [⟨PERS⟩ SUBJ]) 2sg]

*chaqalaqi-q s̸um 'otaax
tickle-near:non:future:sg *aux:**pl*** *yourself*

The four N-parts with specific person values remain.

(56) a. ... n ... ⟨... 1sg⟩
b. ... cha(m) ... ⟨... 1pl⟩
c. ... um ... ⟨... 2pl⟩
d. ... pum ... ⟨... 3pl⟩

Each of these is predictably the most restrictive in regard to the Subject. If the Subject in the Proposition accompanying these N-parts has a specific person or number value, it must be identical to the value of the N-part. A '1sg' N-part should be compatible with a Proposition whose Subject is '1sg' or 'Psg' or 'PN' only. (57) illustrates the range available to (56a).

(57) a. [+realized, −realizable cont (⟨—⟩; [SUBJ]) PN]

tooya-qus̸	nil
laugh-distant:non:future:continuous	*aux:**1sg***

I was laughing.

b. [+realized, −realizable hab (⟨—⟩; [⟨ # ⟩ SUBJ]) Psg]

miyx-uk	nil	yot
be-distant:non:future:habitual	*aux:**1sg***	*big*

I used to be big.

c. [+realized, −realizable cont (⟨—⟩; [⟨PERS⟩ SUBJ]) 1sg]

chaqalaqi-qus̸	nil	notaax
tickle-distant:non:future:continuous	*aux:**1sg***	*myself*

I was tickling myself.

d. [+realized, −realizable cont (⟨ ⟩; [ ]) 1sg]

noo	nil	chaqalaqi-qus̸	notaax
I	*aux:**1sg***	*tickle-distant:non:future:continuous*	*myself*

I was tickling myself.

The sentences in (58) are predictably unacceptable.

(58) a. [+realized, −realizable hab (⟨—⟩; [SUBJ]) Ppl]

*miyx-uk	nil	momkatum
be-distant:non:future:habitual	*aux:**1sg***	*big*

b. [+realized, −realizable cont (⟨—⟩; [⟨PERS⟩ SUBJ]) 3sg]

*chaqalaqi-qus̸	nil	potaax
tickle-distant:non:future:continuous	*aux:**1sg***	*himself*

A '1pl' N-part should be compatible with a Proposition whose Subject is '1pl', 'Ppl', or 'PN'. The sentences in (59) illustrate the range available to (56b).

(59) a. [+realized, −realizable cont (⟨—⟩; [SUBJ]) PN]

tooya-qus̸	chamil
laugh-distant:non:future:continuous	*aux:**1pl***

We were laughing.

(59) b. [+realized, +realizable near (⟨ # ⟩; [SUBJ]) Ppl]

chaqalaqi-wun cha nawitmali
*tickle-near:non:future:pl aux:**1pl** girl:object*

We are tickling the girl.

c. [+realized, +realizable near (⟨ # ⟩; [⟨PERS⟩ SUBJ]) 1pl]

chaqalaqi-wun cha chamtaax
*tickle-near:non:future:pl aux:**1pl** ourselves*

We are tickling ourselves.

d. [+realized, +realizable near (⟨ ⟩; [ ]) 1pl]

chaam cha chaqalaqi-wun chamtaax
*we aux:**1pl** tickle-near:non:future:pl ourselves*

We are tickling ourselves.

The sentences in (60) are predictably unacceptable.

(60) a. [+realized, +realizable near (⟨ # ⟩; [SUBJ]) Psg]

*chaqalaqi-q cha nawitmali
*tickle-near:non:future:sg aux:**1pl** girl:object*

b. [+realized, +realizable near (⟨ # ⟩; [⟨PERS⟩ SUBJ]) 2pl]

*chaqalaqi-wun cha 'omtaax
*tickle-near:non:future:pl aux:**1pl** yourselves*

A '3pl' N-part should be compatible with a Proposition whose Subject is '3pl', 'Ppl', 'PN' or ⟨RIGHTAN: pl⟩. The acceptable sentences in (61) conform to this prediction and those in (62) which do not are unacceptable.

(61) a. [+realized, +realizable near (⟨—⟩; [SUBJ]) PN]

monaa-a pum
*walk-near:non:future aux:**3pl***

They are walking.

b. [+realized, +realizable near (⟨ # ⟩; [SUBJ]) Ppl]

naachaxan-wun pum
*eat-near:non:future:pl aux:**3pl***

They are eating.

c. [+realized, +realizable near (⟨ # ⟩; [⟨PERS⟩ SUBJ]) 3pl]

chaqalaqi-wun pum pomtaax
*tickle-near:non:future:pl aux:**3pl** themselves*

They are tickling themselves.

(61) d. [+realized, +realizable near (⟨ ⟩; [ ]) ⟨ASP: — | RIGHTAN: pl⟩]

naachaxan-wun pum henge'malum
eat-near:non:future:pl ***aux:3pl*** *boys*

The boys are eating.

(62) a. [+realized, +realizable near (⟨ # ⟩; [SUBJ]) Psg]

*naachaxan-q pum
eat-near:non:future:sg ***aux:3pl***

b. [+realized, +realizable near (⟨ # ⟩; [⟨PERS⟩ SUBJ]) 1pl]

*chaqalaqi-wun pum chamtaax
tickle-near:non:future:pl ***aux:3pl*** *ourselves*

c. [+realized, +realizable near (⟨ ⟩; [ ]) ⟨ASP: — | RIGHTAN: sg⟩]

*naachaxan-q pum hengeemal
eat-near:non:future:sg ***aux:3pl*** *boy*

Finally, the N-part ⟨2pl⟩. The Subject in the accompanying Proposition must be '2pl', a compatibility consistent with the more general notion of non-distinctness but clearly more restrictive.

(63) a. [+realized, +realizable near (⟨ ⟩; [ ]) 2pl]

'omom um tooya-an
you:pl ***aux:2pl*** *laugh-near:non:future:pl*

You (pl) are laughing.

b. [+realized, +realizable near (⟨ ⟩; [ ]) 2pl]

'omom um chaqalaqi-wun 'omtaax
you:pl ***aux:2pl*** *tickle-near:non:future:pl* *yourselves*

You are tickling yourselves.

The sentences in (64) are predictably unacceptable.

(64) a. [+realized, +realizable near (⟨ # ⟩; [SUBJ]) Ppl]

*chaqalaqi-wun um nawitmali
tickle-near:non:future:pl ***aux:2pl*** *girl:object*

b. [+realized, +realizable near (⟨ # ⟩; [⟨PERS⟩ SUBJ]) 1pl]

*chaqalaqi-wun um chamtaax
tickle-near:non:future:pl ***aux:2pl*** *ourselves*

In fact, as (63) suggests, this N-part not only requires a '2pl' Subject, it requires the presence of a lexical Subject — and, therefore the presence of *'omom*, the only '2pl' lexical Subject.[4] The test case for the claim is (65) which is like (63b) but lacks *'omom*; here even in the absence of this form the Subject is '2pl', but the Sentence is unacceptable.

(65) [+realized, +realizable near (⟨ # ⟩; [⟨PERS⟩ SUBJ]) 2pl]
*'omtaax um chaqalaqi-wun
yourselves aux:2pl tickle-near:non:future:pl

The evidence considered to this point, then, argues for the correspondences in (66). The value associated with the Proposition gives the most well-specified compatible value. Thus, for example, '1sg' includes 'Psg' and 'PN'.

(66)

	N-Parts	Proposition
a.	⟨. . .⟩ ⟨. . . PN⟩	[. . .]
b.	⟨. . . up . . .⟩ ⟨. . . non-1sg⟩	[. . . 2/3sg]
c.	⟨Ø-Ø-m . . .⟩ ⟨. . . non-1pl⟩	[. . . 2/3pl]
d.	⟨X . . . m . . .⟩ ⟨. . . pl⟩	[. . . pl]
e.	⟨. . . pum . . .⟩ ⟨. . . 3pl⟩	[. . . 3pl]
f.	⟨. . . n . . .⟩ ⟨. . . 1sg⟩	[. . . 1sg]
g.	⟨. . . cha(m) . . .⟩ ⟨. . . 1pl . . .⟩	[. . . 1pl]
h.	⟨. . . um . . .⟩ ⟨. . . 2pl . . .⟩	[. . . (. . . [ ]) 2pl]

(66) is relatively uncomplicated, but we have considered only the Subject chain in the agreement grid.

3.3 *The Non-Subject Chain*

In (67) and (68) are Propositions whose agreement grid lacks a Subject chain entirely; yet these Propositions cooccur with an N-part.

(67) a. [+realized, +realizable near [⟨ ⟩; [ ])]
sg

xilla-q s̷upo
*rain-near:non:future:sg aux:**PN***

I guess it is raining.

b. [+realized, +realizable near (⟨ ⟩; [ ])]
sg

xilla-q up
*rain-near:non:future:sg aux:**non:1:sg***

It is raining.

(68) a. [+realized, +realizable (⟨ ⟩; [⟨PERS⟩ SUBJ])]
pl pl

poplov-um pum pom-wiiwilo
*good-pl aux:**3pl** 3pl-make:wiwish:generic*

It is nice to make wiwish.

b. [+realized, +realizable (⟨ ⟩; [⟨PERS⟩ SUBJ])]
pl pl

poplov-um s̷um pom-wiiwilo
*good-pl aux:**pl** 3pl-make:wiwish:generic*

Is it nice to make wiwish?

Consider also the sentences in (69). The Subjects in these three sentences are '1sg', '1pl', and '2pl' respectively. Yet in each of these sentences is the N-part 'non-1sg', which according to (66) is compatible with a '2sg' or a '3sg' Subject only.

(69) a. [+realized, −realizable cont (⟨ ⟩; [ ]) 1sg]
unch fut

noo upil no-ngee-pi miy-qus̷
*I aux:**non:l:sg** 1sg-leave-aspect be-distant:non:future*

I had to leave.

(69) b. [+realized, +realizable near (⟨ ⟩; [ ]) 1pl]
sg sg

chaam p cham-ʂwaamay 'aw'-q
we *aux:**non:l:sg*** *1pl-daughter* *sit-near:non:future:sg*
We have a daughter.

c. [+realized, +realizable near (⟨ ⟩; [ ]) 2pl]
sg unch pst

'omom up 'om-waaqi-vo miy-q
you *aux:non:**l:sg*** *2pl-sweep-aspect* *be-near:non:future:sg*
You have already swept.

The sentences in (67) and (68) argue that the N-part of the aux must be sensitive to more than the Subject in the Proposition: The Proposition in both (67) and (68) lacks a Subject-chain. If the N-part can be sensitive to the non-Subject chain, we have a way to account for the sentences in (69), sentences which are anomalous by (66). Because the N-part of an aux is sensitive to a single value, an aux cannot be simultaneously compatible with both Subject and non-Subject chains. But this set of examples suggests that an aux is not compatible with a Subject chain only. This fact is critical to the claim that the aux exhausts the properties of the Proposition's formal value.

Not all N-parts are sensitive to the non-Subject chain. The range of N-parts in (67) and (68) is suggestive in this regard: An N-part which requires a '1' or a '2' Subject (i.e. the N-parts in (66f), (66g), and (66h)) may cooccur with a Proposition containing a non-Subject chain, but it is never sensitive to the values specified there. The sentences in (70) show that these N-parts are impossible with a Proposition involving a non-Subject chain only.

(70) [+realized, +realizable near (⟨ ⟩; [ ])]
sg

a. *xilla-q n
rain-near:non:future:sg *aux:**1sg***

b. *xilla-q cha
rain-near:non:future:sg *aux:1pl*

c. *xilla-q um
rain-near:non:future:sg *aux:**2pl***

The Propositions in (71) include both Subject and non-Subject chains. These three N-parts appear with the appropriate Propositions according to (66).

(71) a. [+realized, −realizable cont (⟨ ⟩; [ ]) 1sg]
unch fut

noo nil no-ngee-pi miy-qus̸
*I aux:**1sg** 1sg-leave-aspect be-distant:non:future:continuous*
I had to leave.

b. [+realized, +realizable near (⟨ ⟩; [ ]) 1pl]
sg sg

chaam cha cham-s̸waamay 'aw'-q
*we aux:**1pl** 1pl-daughter sit-near:non:future:sg*
We have a daughter.

c. [+realized, +realizable near (⟨ ⟩; [ ]) 2pl]
sg unch pst

'omom um 'om-waaqi-vo miy-q
*you aux:**2pl** 2pl-sweep-aspect be-near:non:future:sg*
You have already swept.

In short, only the five N-parts in (66a) through (66e) can be sensitive to the non-Subject chain, that is, only N-parts other than '1' and '2' — 'PN', 'non-1sg', 'non-1pl', 'pl', and '3pl'.

Before we move on to these N-parts, it is important to emphasize the contrasts between the sentences in (69) and those in (71). The Propositions in (69a) and (71a), in (69b) and (71b), and in (69c) and (71c) are identical, including most critically a '1sg', a '1pl', and a '2pl' Subject respectively. Thus, in (71), the N-part clearly is sensitive to the Subject; in (69), the N-part just as clearly is sensitive to the non-Subject chain.[5]

The Subject-chain compatibilities in (66) are suggestive of the non-Subject chain requirements for these N-parts: 'PN' is compatible with any non-Subject chain; 'non-1sg', only with a non-Subject chain that does not contain a number value 'pl'; and '3pl', 'non-1pl', and 'pl', all with a non-Subject chain that includes a number value 'pl'. Recall first that the non-Subject chains offer three formal possibilities — a number value (e.g. (69b)), a non-number value (e.g. (71a)), and a person value (e.g. (45), repeated below):

(45) [+realized, +realizable near (⟨ ⟩; [ ])⟨ASP: – | RIGHTAN: sg⟩]
1sg

wunaal up no-toonavi yaw-q
he aux 1sg-basket:object have-near:non:future:sg

He has my basket.

and that these formal possibilities are not mutually exclusive (e.g. (71c)). The idea is, then, that the N-part 'PN' can occur with any non-Subject chain, that the N-part 'non-1sg' is somewhat more restrictive in not being compatible with a 'pl' value for the formal possibility with number, and that the other three the N-parts are the most restrictive in requiring a non-Subject chain with a number value, specifically 'pl'.

In (67a), 'PN' occurs with a 'sg' non-Subject chain; in (72), with a 'pl' non-Subject chain:

(72) [+realized, +realizable (⟨ ⟩; [⟨PERS⟩ SUBJ])]
pl pl

poplov-um ǥu pom-wiiwilo
*good-pl aux:**PN** 3pl-make:wiwish:generic*

Is it nice to make wiwish?

and in (73) with non-Subject chains containing either a non-number value or a person value.

(73) a. [+realized, –realizable cont (⟨–⟩; [⟨PERS⟩ SUBJ]) 1pl]
unch fut

cham-ngee-pi ǥu miy-quǥ
*1pl-leave-aspect aux:**PN** be-distant:non:future:continuous*

Did we have to leave?

b. [+realized, +realizable near (⟨ ⟩; [ ]) 1sg]
3pl

noo ǥu pom-toonavi yaw-q
*I aux:**PN** 3pl-basket:object have-near:non:future:sg*

Do I have their basket?

The N-part 'non-1sg' accepts a non-Subject chain with 'sg' number values, as illustrated in (69b). It also accepts a non-Subject chain with any non-number value or any person value.

(74) [+realized, −realizable cont (⟨ ⟩; [ ]) 1pl]
unch fut

cham-ngee-pi upil miy-qus̸
1pl-leave-aspect *aux:**non:l:sg*** *be-distant:non:future:continuous*

We had to leave.

(75) [+realized, +realizable near (⟨ ⟩; [ ]) 1sg]
3pl

noo p pom-toonavi yaw-q
I *aux:non:**l:sg*** *3pl-basket:object* *have-near:non:future:sg*

I have their basket.

But it doesn't accept a 'pl' number value. The contrast between (68a) and (76) is illustrative.

(76) [+realized, +realizable (⟨ ⟩; [⟨PERS⟩ SUBJ])]
pl pl

*poplov-um up pom-wiiwilo
good-pl *aux:**non:l:sg*** *3pl-make:wiwish:generic*

The N-parts 'non-1pl', '3pl', and 'pl' accept only 'pl' non-Subject chains. (68a) and (68b) illustrate the presence of 'pl', and the contrast between (77) and (67b) argues that 'sg' is impossible.

(77) [⟨+realized, +realizable near non-fut (⟨ ⟩; [ ])⟩]
sg

a. *xillaq pum
is:raining *aux:**3pl***

b. *xillaq s̸um
is:raining *aux:**pl***

However, none of these N-parts is good with a Proposition as in (78), even when the person value is 'pl' — arguing the necessity of a 'pl' *number* value.

(78) [( )]
Person

Compare (75) and (79).

(79) [+realized, +realizable near (⟨ ⟩; [ ]) 1sg]
3pl

*noo pum pom-toonavi yaw-q
I *aux:3:pl* *3pl-basket:object* *have-near:non:future:sg*

The compatibility between N-Part and the non-Subject chain of the agreement grid is summarized in (80).

(80)	N-Parts	Proposition
a.	⟨. . .⟩	[⟨. . .⟩]
	⟨. . . PN⟩	. . .
b.	⟨. . . up . . .⟩	[⟨. . .⟩]
	⟨. . . non-1sg⟩	−pl
c.	⟨. . . pum . . .⟩	[⟨. . .⟩]
	⟨. . . 3pl⟩	pl
d.	⟨Ø-Ø-m . . .⟩	[⟨. . .⟩]
	⟨. . . non-1pl⟩	pl
e.	⟨X . . . m . . .⟩	[⟨. . .⟩]
	⟨. . . pl⟩	pl

Given the two sets of compatibilities in (66) and (80), the alternation between N-parts for some Propositions, as exemplified in (69) and (71), is entirely nonproblematic. The Sentences in (71) are a consequence of the correspondences in (66f), (66g), and (66h) while their pairs in (69) are a consequence of the correspondences in (80). A further consequence is the conclusion that at least some of the N-parts in aux are sensitive to both Subject chain and non-Subject chain (albeit not simultaneously), thereby providing the argument that the aux does indeed exhaust the properties of the Proposition.

This point is worth stressing. In the absence of the agreement grid — a representation of the interrelationships among all the person, number, and linked values in the Proposition — and, in particular, in the absence of the distinction between the Subject and non-Subject chains, the distribution of the N-parts seems arbitrary in the extreme. Try, for example, to provide a simple reasoned account of the differences among the three sentences in (81). Only the '1pl' N-part is possible in (81a); either the '1pl' N-part or the 'non-1sg' N-part is possible in (81b); and either the '1pl' or the '3pl' N-part is possible in (81c).

(81) a. chamtaax cha 'ariwun
ourselves 1pl are:kicking
We are kicking ourselves.

b. chamngeepi cha/up miyxwun
we:leave 1pl/non1:sg are
We have to leave.

(81) c. henge'malum cha/pum chamma'maxum
boys *1pl/3pl* *we:like:pl*

We like the boys.

However, on the analysis here, these various possibilities are entirely regular. The Proposition's formal value represents the agreement grid and its division into Subject and non-Subject chains. The Propositions in these three cases are formally distinct for these properties.

(82) a. [+realized, +realizable near (⟨ # ⟩; [⟨PERS⟩ SUBJ]⟩ 1pl]

b. [+realized, +realizable near (⟨ # ⟩; [⟨PERS⟩ SUBJ]) 1pl]
unch fut

c. [+realized, +realizable (⟨PERS⟩; [SUBJ]) 1pl]
pl pl

A sentence is comprised of an aux and a Proposition. Because the aux is sensitive to the properties of the Proposition — specifically, because the N-part of the aux is sensitive to the non-temporal properties of the Proposition — the differences among these properties will be reflected in the aux choice.

3.4 *Conclusion*

In conjunction with the A-part requirements, the correspondences for the N-part demonstrate that the aux does indeed refer to all the value types represented in the Proposition's formal value. Let me conclude this discussion by incorporating the observations developed here into the notation developed at the end of Section 2.

Earlier in this section I proposed the rule schema repeated in (83):

(83) aux: Proposition → Sentence

and suggested that the formal value of a Sentence contains the value of the A-part and whatever parts of the Proposition's formal value are not predictable from the A-part, according to the idea of extended functional application developed in Chapter Four. So, given the A-part in (84) and the partial formal value in (85):

(84) ⟨Non-quotative assertion about near time⟩

(85) ⟨+realized, +realizable near . . .⟩

the sentence in (81a) has the partial formal value in (86).

(86) ⟨Non-quotative assertion about near time⟩

In (86), the temporal value can be predicted from the A-part. The sentence in (87), on the other hand, has the Proposition in (85), but the A-part in (88).

(87) chamtaax ǥu 'ariwun
ourselves aux are:kicking
Are we kicking ourselves?

(88) ⟨non-quotative question . . .⟩

Thus, the temporal value in the formal value of the sentence is independent of the A-part.

(89) ⟨+realized, +realizable near | non-quotative question . . .⟩

Not only is the relationship between the aux and the Proposition represented in the formal value of the sentence, the formal value of the sentence necessarily represents a type of value no more than once. These ideas are easily extended to the correspondences developed in this section.

We note, first, the non-extension of the asymmetry which holds between A-part and Propositional temporal value, allowing the latter to be predicted from and therefore fixed by the former. The correspondences in (66) and (80) above require only that N-part and Proposition be unifiable; they don't require that one or the other will necessarily bear the most well-specified value. If the Subject of the Proposition is '1sg', the N-part can be '1sg', 'Psg', or 'PN'; conversely, if the N-part is '1sg', the Subject of the Proposition can be '1sg', 'Psg', or 'PN'. In the formal value of a sentence, the most well-specified of an N-part and the Proposition will maintain its original value. The well-specified hierarchy is given in (90):

(90) lexical Subject
person value
number value
PN

Where both are equally well-specified, the N-part will maintain its original value. Although somewhat arbitrary, this choice is consistent with the A-part asymmetry.

Continuing with (87), we complete the A-part of the aux and the formal value of the Proposition as in (91) and (92) respectively.

(91) ⟨non-quotative question; PN⟩

(92) [+realized, +realizable near (⟨ # ⟩; [⟨PERS⟩ SUBJ]) 1pl]

According to the considerations above, the formal value of this Sentence is as in (93).

(93) ⟨+realized, +realizable near
((⟨ # ⟩; [⟨PERS⟩ SUBJ]) 1pl | non-quotative question⟩

The Sentence in (94) varies from (87) only in the presence of a lexical subject.

(94) chaam ǵu chamtaax 'ariwun
we aux:PN ourselves are:kicking
Are we kicking ourselves?

Thus, the formal value of the Proposition is as in (95) rather than as in (92):

(95) [+realized, +realizable near (⟨ ⟩; [ ]) 1pl]

and the formal value of the Sentence is as in (96) rather than (93). (96) reflects the presence of a lexical subject, because only a Subject value is present in the Subject chain.

(96) ⟨+realized, +realizable near (⟨ ⟩; [ ]) 1pl | non-quotative question⟩

In contrast to these cases where the Subject value is contributed by the Proposition, consider the Sentence in (97).

(97) hengeemali ǵush 'ariwun
boy:object aux:1st:pl are:kicking
Are we kicking the boy?

The Proposition here differs from (92) in that the Subject value is 'Pl'.

(98) [+realized, +realizable near (⟨ # ⟩; [SUBJ]) Ppl]

And the N-part of the aux is more well-specified.

(99) ⟨non-quotative question; 1pl⟩

The formal value of (97) is thus as in (100).

(100) ⟨+realized, +realizable near ( ) | non-quotative question; 1pl⟩

Not only is the Subject value in the Proposition gone, the values that it was connected to in the agreement grid are also eliminated. Where the Subject is fixed by the aux, so too are the values that it fixes. Finally, return to (81a).

(81) a. chamtaax cha 'ariwun
ourselves 1:pl are:kicking
We are kicking ourselves.

Here the Subject in the Proposition and the N-part of the aux are equally well-specified.

(101) ⟨non-quotative assertion about near time; 1pl⟩

(102) [+realized, +realizable near (⟨ # ⟩; [⟨PERS⟩ SUBJ]) 1pl]

Thus, the formal value of the sentence is as in (103).

(103) ⟨( )| non-quotative assertion about near time; 1pl⟩

One interesting consequence of this notation should not go without comment. Following the line of reasoning developed above, the Sentence in (104) with the Proposition in (105) and the aux in (106) should have the formal value in (107).

(104) chaam p chamśwaamay 'aw'q
we aux our:daughter is:sitting

We have a daughter.

(105) [+realized, +realizable near (⟨ ⟩$_{sg}$; [ ]$_{sg}$) 1pl]

(106) ⟨non-quotative assertion about near time; non-1sg⟩

(107) ⟨(⟨ ⟩; [ ]) 1pl | non-quotative assertion about near time; non-1sg⟩

Interestingly, there is a marked preference for a lexical subject in sentences with both Subject and non-Subject chains. So, (104) is preferable to (108).

(108) chamśwaamay up 'aw'q
our:daughter aux is:sitting

We have a daughter.

Further, although the N-part of the aux in such sentences can be compatible with the Subject, the preference is for an N-part compatible with the non-Subject chain. So, (104) is preferable to (109).

(109) chaam cha chamśwaamay 'aw'q
we aux our:daughter is:sitting

We have a daughter.

And (110) is correspondingly the least preferred of the four.

(110) chamśwaamay cha 'aw'q
our:daughter aux is:sitting

We have a daughter.

The formal values of (108), (109), and (110) are distinct from one another and from (107), as they should be if speakers distinguish among them. Yet all four represent the presence of both Subject and non-Subject chain in the agreement grid. (111), (112), and (113) are the formal values of (108), (109), and (110) respectively; they can be compared to (107).

(111) ⟨(⟨ ⟩; [⟨PERS⟩ SUBJ]) 1pl
|non-quotative assertion about near time; non-1sg⟩

(112) ⟨(⟨ ⟩; [ ]) 1pl | non-quotative assertion about near time⟩
sg sg

(113) ⟨(⟨ ⟩: [ ]) | non-quotative assertion about near time; 1pl⟩
sg sg

The difference between the most preferred of these four possibilities and the others suggests the basis of the judgment. Only in (107) are both Subject and non-Subject chains eliminated from the formal value of the Sentence. We might hypothesize, then, that a formal value in which the agreement grid is eliminated is more highly valued. Two rules impinge on the character of the agreement grid: (1) the rule which adds a Constituent compatible with the Subject (in the rule which takes Propositions to Propositions) and (2) the rule which adds an aux (in the rule which takes Propositions to Sentences). The first rule referentially fixes the Subject and, therefore, all the values related to it. Given the data set above, let's propose that the rule which adds an aux supplies a 'situational index' to the values to which it is sensitive. The manipulation of person and number values in the Sentence presented above could be taken to directly reflect this possibility: The elimination of the members of the Subject chain with the addition of a lexical subject parallels the elimination of person and number values in the Proposition with the addition of the aux. A Sentence is more highly valued, therefore, if all values in the agreement grid are fixed. So, the sentence with the formal value in (107) is preferred to any of the other three. A small adjustment accounts for why (113) is the least preferred. (107) makes maximum use of the possibilities for fixing the properties of its agreement grid. The rule from Proposition to Proposition can fix the Subject chain only, but the rule from Proposition to Sentence can fix either the Subject chain or the non-Subject chain. Thus, when the Proposition contains both chains, maximum use of the aux is to make it sensitive to the non-Subject chain. (111) makes maximum use of the aux, but does not employ the rule from Proposition to Proposition; (112) employs the rule from Proposition to Proposition but does not make maximum use of the aux; and (113) neither employs the rule from Proposition to Proposition nor makes maximum use of the aux.

4. THE POSITION OF THE AUX

Sections 2 and 3 argue that the aux exhausts the formal value of its argument, the Proposition, if the Proposition is analyzed as in Chapter Four. This not only resolves the compatibility problems raised in Chapter

One about combinations of the aux and its set-theoretic complement, it is a strong argument in favor of the hypothesis that its set-theoretic complement — the Proposition — is to be assigned categorial status and in support of the formal value assigned to this category, i.e. the combination of temporal value, Subject value, and agreement grid. We haven't yet dealt with one aspect of this combination — the position of the aux relative to the Proposition: The aux occurs internal to its argument, in second position.

Attention to the fact that some languages can position certain elements in second position has a long history; the usual citation in this regard is Wackernagel's Law. Since Wackernagel's Law is nothing more than the statement that some languages can position certain elements in second position, its presumed explanatory character in regard to this property is curious at best. (Cf. Kaisse (1981), for example.) Hale (1981) proposes a new — and unique — component to handle the second position character of the Warlpiri AUX; he says that the position of the AUX in Warlpiri is subject to the 'Punctuation Component', the existence of which acts to filter out all instantiations of the AUX which are not in sentential second position. Recall, now, that every rule presented in this book involves a phonological consequence — the phonological value in the triple which is the category. Thus, the addition of an instantiation of the aux requires indication of its position in the result of its application. In this sense, the positional properties of an aux are no more and no less complex than the position of any other (non-global) functor.

A mechanism which positions the aux internal to its argument and in second position is available in categorial grammar — Bach's right wrap.

(114) RWRAP: If a is simple, then RWRAP(a, b) is $a^\frown b$. If a has the form $[_{XP}\, X\ W]$, then RWRAP(a, b) is $X^\frown b^\frown W$.

The application of the aux form *up* in (104) to the Proposition *chaam chamɨwaamay 'aw'q* yields the sequence *chaam up chamɨwaamay 'aw'q*. (114) is not entirely satisfactory, however. It neither defines first position nor delimits the domains of its own application; a rule which invokes right wrap could apply to the result of a rule which also requires the application of right wrap. An examination of these problems provides support for the analysis presented in Chapter Four beyond that adduced in Sections 2 and 3 above. Here we are concerned not with the possibility that the aux is sensitive to the formal properties of its complement in a sentence, but rather with the possibility that the aux is sensitive to its phonological properties.

Let's begin by considering the definition of first position.[6] Leaving the aux and the Sentence aside, the preceding chapters have introduced five different categories — a Word, a Constituent, an Argument Structure, a

Propositional Radical, and a Proposition. It is clear that the aux can occur after the first Word in a Sentence. We need only examine sentences with complex Constituents at the beginning. In (115), for example, the initial Constituent is *taanat yuvaataanti* 'black blanket (object)'. The aux appears after *taanat.*

(115)	taanat	nil	yuvaataanti	poyk	'ooviqus̸
	blanket	*aux*	*black*	*to:him*	*was:giving*

I was giving the black blanket to him.

At the end of Chapter Two, we considered briefly the category type of a Luiseño Word and I offered an argument that a Word is phonologically inaccessible. If this assignment is right, (115) argues that second position is defined as *after the first phonologically inaccessible unit.*

From this definition and from the characterization of a Proposition as syntactically inaccessible but phonologically accessible, it follows that first position may not refer to the entire Proposition. If it did, a Sentence as in (116) corresponding to (115) but with the aux at the end should be fine.

(116)	*taanat	yuvaataanti	poyk	'ooviqus̸	nil
	blanket	*black*	*to:him*	*was:giving*	*aux*

Of course, a Sentence as in (117) is not a counter-example to this generalization, since the Proposition is comprised of a single Word.

(117)	tooyaqus̸	upil
	was:laughing	*aux*

He/she/it was/you sg. were laughing.

From this definition and from the proposal that the Proposition, the Argument Structure, and the Constituent are of the same category type, I predict that first position would similarly not refer to the Argument Structure or the Constituent. With one complication, this prediction holds. It is easy to demonstrate that second position is not sensitive to the Argument Structure, another syntactically inaccessible but phonologically accessible category. If it were, a sentence as in (118), corresponding to (115) but with the aux after *poyk*, should be fine. It is, in fact, unacceptable.

(118)	*taanat	yuvaataanti	poyk	nil	'ooviqus̸
	blanket	*black*	*to:him*	*aux*	*was:giving*

The unacceptability of (118) is predicted if the aux occurs after the first phonologically inaccessible category. The complication has to do with Constituents. The Sentence in (119), where the aux follows the sequence *taanat yuvaataanti* 'black blanket', is acceptable.

(119) taanat yuvaataanti nil poyk 'ooviqus̸
[blanket black] aux to:him was:giving

I was giving the black blanket to him.

The existence of such sentences does not deal a death blow to the generalization that an aux occurs only after the first phonologically inaccessible category. First, where there are pairs as in (115) and (119), the first is generally preferred. More importantly, there are Constituents after which the aux cannot appear. For example, in a two-Word Constituent containing *'ivi* 'this', second position must be directly following the first Word and not after the Constituent.

(120) a. 'ivi p taanat 'alaxwush
this aux blanket ugly

This blanket is ugly.

b. *'ivi taanat up 'alaxwush
this blanket aux ugly

Even if the order of *taanat* and *'ivi* in (120) is reversed, the aux must follow the first Word in the Constituent.

(121) a. taanat up 'ivi 'alaxwush
blanket aux this ugly

This blanket is ugly.

b. *taanat 'ivi up 'alaxwush
blanket this aux ugly

Equally important, second position can never be after a Constituent if the members of that Constituent are non-contiguous. So, the first Sentence in (122) with the Constituent *nawitmali yawaywichi*, where the aux follows the first Word in the Constituent, is fine; but the second Sentence, where the aux follows the Constituent, is unacceptable.

(122) a. nawitmali nil chaqalaqiqus̸ yawaywichi
girl:object aux was:tickling beautiful:object

I was tickling the beautiful girl.

b. *nawitmali chaqalaqiqus̸ yawaywichi nil
girl:object was:tickling beautiful:object aux

Consider also the more complicated case involving the Constituent *hengeemal potootal yuvaataantal* 'with the boy's black rock' in (123). In both Sentences in (123) the Argument-Categorizing Element is intercalated between the last Word in this Constituent and the other two. (123a) in which the aux follows the first Word is fine, but (123b) in which it follows the first two Words is unacceptable.

(123) a.

hengeemal	nil	potootal	xechiquš	yuvaataantal	poy
boy	*aux*	*his:rock:with*	*was:hitting*	*black:with*	*him*

I was hitting him with the boy's black rock.

b.

*hengeemal	potootal	nil	xechiquš	yuvaataantal	poy
boy	*his:rock:with*	*aux*	*was:hitting*	*black:with*	*him*

These Sentences should be compared to those in (124), Sentences where the Constituent at issue is not interrupted by the Argument-Categorizing Element and in which the aux can occur (preferably) after the first Word and after the entire Constituent.

(124) a.

hengeemal	nil	potootal	yuvaataantal	xechiquš	poy
boy	*aux*	*his:rock:with*	*black:with*	*was:hitting*	*him*

I was hitting him with the boy's black rock.

b.

hengeemal	potootal	yuvaataantal	nil	xechiquš	poy
boy	*his:rock:with*	*black:with*	*sde*	*was:hitting*	*him*

I was hitting him with the boy's black rock.

We have to allow for the possibility that the phonological property necessarily associated with a Word can be extended to some Constituents — if this Word is part of a continuous Constituent and the Constituent does not contain Words otherwise precluding any other possibility. However, given the restrictions on this possibility and the preference for following the first Word, the similarity among Constituent, Argument Structure, and Proposition is clear and is predicted by their identification as members of a single category type, a category type which I have characterized as syntactically inaccessible and phonologically accessible.

The position of the aux after the first Word (the first phonologically inaccessible category in its argument) allows, thus, a simple test of the phonological availability of the parts of a Proposition (and the parts of a Constituent or Argument Structure) — precisely as predicted by the classification offered in Chapter One: The parts of a Proposition are phonologically available, because the Proposition is not a phonologically evaluated category. Further, we can offer a modification of right wrap. This operation has been considered to be purely phonological. The Luiseño analysis suggests that this operation applies only when phonological properties alone are available to manipulation, i.e. only to syntactically inaccessible and phonologically accessible categories. Finally, given the category types proposed in Chapter One, the definition of Luiseño second position is very simple.

I conclude this section by fleshing out the rule from Proposition to Sentence, repeated in (125).

(125) aux: Proposition → Sentence

Sections 2 and 3 considered the formal value of the result. In light of this discussion we can consider the phonological value. The members of each of the Luiseño categories Constituent, Argument Structure, and Proposition, as I have noted, occur in free order relative to one another. The representation of the phonological value of each of these categories, therefore, is a set of sequences, e.g.:

(126) a. Constituent

⟨taanat yuvaataanti or yuvaataanti taanat⟩
⟨ASP: –; ADAFF: ABS; NUM: number | RIGHTAN: obj⟩
⟨. . .⟩

b. Argument Structure

⟨taanat yuvaataanti poyk or
poyk taanat yuvaataanti or
poyk yuvaataanti taanat or
yuvaataanti taanat poyk⟩
⟨[⟨ASP: – | RIGHTAN: obj⟩ [⟨ASP: – | RIGHTAN: to⟩PN]⟩
ADAFF: ABS; NUM: number [ADAFF: 3sg
⟨. . .⟩

c. Proposition

⟨'ooviquś taanat yuvaataanti poyk or
'ooviquś poyk taanat yuvaataanti or
'ooviquś poyk yuvaataanti taanat or
'ooviquś yuvaataanti taanat poyk or
taanat yuvaataanti 'ooviquś poyk or
poyk 'ooviquś taanat yuvaataanti or
yuvaataanti taanat 'ooviquś poyk or
poyk 'ooviquś yuvaataanti taanat or
poyk taanat yuvaataanti 'ooviquś or
taanat yuvaataanti poyk 'ooviquś or
yuvaataanti taanat poyk 'ooviquś or
poyk yuvaataanti taanat 'ooviquś or
poyk taanat 'ooviquś yuvaataanti or
poyk yuvaataanti 'ooviquś taanat or

(126) taanat ’ooviquś yuvaataanti poyk or
yuvaataanti ’ooviquś taanat poyk⟩
⟨[+realized, −realizable cont (⟨ ⟩; [SUBJ]) PN]⟩
⟨. . .⟩

The addition of an aux (the aux *nil*) to (126c) has the result indicated in (127).

(127) ⟨’ooviquś nil taanat yuvaataanti poyk or
’ooviquś nil poyk taanat yuvaataanti or
’ooviquś nil poyk yuvaataanti taanat or
’ooviquś nil yuvaataanti taanat poyk or
taanat nil yuvaataanti ’ooviquś poyk or
taanat yuvaataanti nil ’ooviquś poyk or
poyk nil ’ooviquś taanat yuvaataanti or
yuvaataanti nil taanat ’ooviquś poyk or
yuvaataanti taanat nil ’ooviquś poyk or
poyk nil ’ooviquś yuvaataanti taanat or
poyk nil taanat yuvaataanti ’ooviquś or
taanat nil yuvaataanti poyk ’ooviquś or
taanat yuvaataanti nil poyk ’ooviquś or
yuvaataanti nil taanat poyk ’ooviquś or
yuvaataanti taanat nil poyk ’ooviquś or
poyk nil yuvaataanti taanat ’ooviquś or
poyk nil taanat ’ooviquś yuvaataanti or
poyk nil yuvaataanti ’ooviquś taanat or
taanat nil ’ooviquś yuvaataanti poyk or
yuvaataanti nil ’ooviquś taanat poyk⟩
⟨continuous ( ) | non-quotative assertion about past; 1sg⟩
⟨. . .⟩

The phonological value of the category in (127) has a number of possibilities, but in all the aux occurs in second position.

5. EXPANSION

In this argument for the utility of the Proposition, I have concentrated entirely on its relationship with the aux. In fact, the various instantiations of the aux are members of a larger set of elements that, in combination with a Proposition, form a Sentence. Consider, for example, the sentences in (128). Neither contains an aux form. Rather (128a) has the form *wuꞩkapi* and (128b), the form *ta'*.

(128) a.	wuꞩkapi	hengeemal	nawitmali	'ariq		
	wuꞩkapi	*boy*	*girl:object*	*is:kicking*		

I wonder if the boy is kicking the girl.

b.	xwaan	up	kopaqpomal	noo	ta'	tavolvush
	John	*aux*	*short*	*I*	*ta'*	*tall*

John is short, but I (on the other hand) am tall.

wuꞩkapi and *ta'* are both mutually exclusive with an aux form — and with each other.

(129) a.	*wuꞩkapi	hengeemal	up	nawitmali	'ariq		
	wuꞩkapi	*boy*	*aux*	*girl:object*	*is:kicking*		
b.	*xwaan	up	kopaqpomal	noo	up	ta'	tavolvush
	John	*aux*	*short*	*I*	*aux*	*ta'*	*tall*
c.	*xwaan	up	kopaqpomal	wuꞩkapi	noo	ta'	tavolvush
	John	*aux*	*short*	*wuꞩkapi*	*I*	*ta'*	*tall*

Further, each is reasonably associated with the sort of notion involved in the A-part of an aux. As the gloss of (128a) suggests, *wuꞩkapi* indicates speaker uncertainty; as the gloss of (128b) suggests, *ta'* is best identified as indicating a derivative assessment. That is, sentences in which *ta'* occurs (*noo ta' tavolvush* in (128b)) are always juxtaposed to another sentence (*xwaan up kopaqpomal* in (128b)). The sentence to which the *ta'* sentence is juxtaposed contains an aux and, thus, an assessment; the *ta'* sentence must involve the same assessment, but the particulars over which this assessment ranges are to be contrasted with those in the first sentence. The fact that these forms are mutually exclusive with one another and with an aux form devolves to the reason that aux forms do not cooccur: A sentence cannot have multiple assessments.

In light of such forms, the rule schema in (125) should be modified as in (130).

(130) Sentence-Defining Element: Proposition → Sentence

Sentence-Defining Element is meant to subsume all instances of aux and forms mutually exclusive with it, as *wuꞩkapi* and *ta'*. The most interesting case in this regard is illustrated in (131).

(131) heyi

dig:imp

Dig!

Unlike Sentences with the aux or those with elements like *wu$kapi*, there is nothing phonologically added to the Proposition in (131), a Proposition with the category in (132).

(132) ⟨heyi⟩

[imp (⟨ ⟩; [SUBJ]) PN]

⟨. . .⟩

Yet the Proposition is clearly different from the Sentence. The Subject of the Proposition in (132) is PN, but the Sentence in (131) can be directed only to a second person. If we say that the Proposition in (132) becomes a Sentence through the addition of this value and if we analyze this value as yet another instantiation of the Sentence-Defining Element, imperatives are easily incorporated.

(133) ⟨2⟩: [imp (⟨ ⟩; [SUBJ]) PN] → ⟨imp ( ) | 2⟩

The application of this Sentence-Defining Element also accounts for why no imperative in Luiseño has any other subject value.

The modification of the functor which acts on the Proposition does not alter the argument for its utility. *wu$kapi* and *ta'* could be analyzed along with the aux forms as having an A-part and an N-part.

(134) a. ⟨wu$kapi⟩

⟨lack of speaker knowledge, PN⟩

b. ⟨ta'⟩

⟨derivative assessment, PN⟩

⟨2⟩ alone among the instances of the Sentence-Defining Element could be said to lack an A-part. The three forms distribute in regard to the temporal value of the Proposition precisely as we might predict from Table 5-III. If ⟨2⟩ lacks an A-part, it should not coocurr with a temporal value at all — i.e. it should appear in 5-III-A. As (131) suggests, this prediction is right. ⟨2⟩ occurs only with an imperative Proposition. If *ta'* marks a derivative assessment, it should be possible with any temporal value — i.e. it should appear in 5-III-B. This prediction is also right. (128a) illustrates its compatibility with a ⟨+realized, +realizable⟩ Proposition. (135) illustrates the remaining possibilities.

(135) a. ta' and ⟨+realized, −realizable⟩

xwaan upil heelaquš noo ta' pellaquš
John aux was:singing I **ta'** *was:dancing*

John was singing; I, in contrast, was dancing.

b. ta' and ⟨−realized, +realizable⟩

xwaan po heelaan noo ta' pellaan
John aux will:sing I **ta'** *will:dance*

John will sing; I, in contrast, will dance.

c. ta' and ⟨−realized, −realizable⟩

xwaan xupo heelax noo ta' pellax
John aux sing I **ta'** *dance*

John should sing; I, in contrast, should dance.

And *wuškapi* should behave like other A-parts requiring a propositional type responsible to fact – i.e. in 5-III-B-ii. Like these, ⟨lack of speaker knowledge⟩ requires the absence of direct speaker observation, but the existence of reason or reasons to make the assessment indicated. The accompanying Proposition, therefore, could be neither representational nor counter-factual; similarly, it could not be dependent on a specific factual type. This prediction is also right.

(136) a. wuškapi and ⟨+realized, +realizable . . .⟩

wuškapi hengeemal tooyaq
wuškapi *boy is:laughing*

I wonder if the boy is laughing.

b. wuškapi and ⟨+realized, −realizable . . .⟩

wuškapi hengeemal tooyaquš
wuškapi *boy was:laughing*

I wonder if the boy was laughing.

c. wuškapi and ⟨−realized, +realizable⟩

wuškapi hengeemal tooyaan
wuškapi *boy will:laugh*

I wonder if the boy will laugh.

Their behavior in regard to the Subject and non-Subject chains in the Proposition also is without surprise, given the analysis of Section 3. *wuškapi* and *ta'* should not distinguish between Subject and non-Subject chains.[7] So, a Sentence like (137) is unsurprising.

(137) [+realized, +realizable near (⟨ ⟩)]
sg

wuškapi xillaq
wuškapi is:raining

I wonder if it is raining.

According to Section 3, ⟨2⟩ like other N-parts involving '1' and '2' values should require a Subject chain and a Subject which is '2' (either 'sg' or 'pl') or 'P' (and 'N', 'sg', or 'pl'). These are precisely the right predictions.

(138) a. [imp (⟨ ≠ ⟩; [⟨PERS⟩ SUBJ]) 2pl]

'ariyam 'omtaax
kick:imp:pl yourselves

Kick yourselves!

b. [imp (⟨ ≠ ⟩; [⟨PERS⟩ SUBJ]) 3pl]

*ariyam pomtaax
kick:imp:pl themselves

(139) [imp (⟨ ⟩)]
sg

*xillax
rain:imp

In sum, a Sentence contains not a Proposition and an aux, but rather a Proposition and a Sentence-Defining Element. While this generalization makes the analysis of a Sentence much more adequate, it does not alter the utility of the Proposition. The formal value of the Proposition as developed in Chapter Four makes available just those values to which the Sentence-Defining Element is sensitive and the Sentence-Defining Element exhausts the properties of the Proposition's formal value.

The analytical problems with which we began in Chapter One are resolved. But the resolution has involved rejection of the choices standardly offered in a phrase structure analysis and the development of a different compositional structure, a compositional structure that depends on the syntactic effects of agreement and anti-agreement.

NOTES

[1] Steele *et al.* (1981) presents some of the details discussed below in more expanded form; however differences between the analysis presented there and that offered here do exist. Where this is so, the analysis here is taken to be an improvement.

[2] The first two possibilities in (43) represent situations where the functor from Argument Structures to Argument Structures has applied. Compare (i) where it has to (ii) where it has not:

(i) noo p po-toonavi yawq
I aux 3sg-basket:object have
I have his basket.

(ii) noo p hengeemal po-toonavi yawq
I aux boy 3sg-basket:object have
I have the boy's basket.

[3] As indicated, the distinction between the last two turns on the character of the accompanying A-part. If the A-part marks a simple (i.e. non-quotative) assertion — the situation always accompanying the absence of particles in position one and position two in the aux — the presence of *m* is associated with the N-part ⟨. . . non-1pl⟩; if the A-part marks anything other than a simple assertion (e.g. a quotative assertion, or a question), the presence of *m* is associated with the N-part ⟨. . . pl⟩. The sentences in (i) illustrate the difference, through the English glosses.

(i) a. tooyaquꞩ mil
was:laughing aux:non:1:pl
You (pl)/they were laughing.

b. tooyaquꞩ ꞩum
was:laughing aux:pl
Were you (pl)/we/they laughing?

[4] The N-part ⟨. . . 1sg⟩ is intermediate between ⟨. . . 2pl⟩ or ⟨. . . 1pl⟩: With the A-part ⟨Assertion about near time . . .⟩, the '1sg' lexical Subject *noo* is standardly present; with all other A-parts, this N-part is insensitive to the presence or absence of a lexical Subject. The contrast between (57) and (i) is suggestive of this property.

(i) a. [+realized, +realizable near (⟨ ⟩; [ ]) 1sg]
noo n yot miyq
I aux:1sg big is
I am big.

b. [+realized, +realizable near (⟨ ⟩; [ ]) 1sg]
noo n notaax chaqalaqiq
I aux:1sg myself is:tickling
I am tickling myself.

In (57), the Proposition lacks *noo* and in each case the N-part occurs with the A-part ⟨Assertion about the past⟩; the matching Sentences in (ii), each of which contains *noo*, are fine.

(ii) a. [+realized, −realizable cont (⟨ ⟩; [ ]) 1sg]
noo nil tooyaquꞩ
I aux:1sg was:laughing
I was laughing.

(ii) b. [+realized, −realizable hab (⟨ ⟩; [ ]) 1sg]

noo nil yot miyxuk
I aux:1sg big used:to:be

I used to be big.

c. [+realized, −realizable cont (⟨ ⟩; [ ]) 1sg]

noo nil chaqalaqiqus̸ notaax
I aux:1sg was:tickling myself

I was tickling myself.

But in (i) the N-part is accompanied by the A-part ⟨Assertion about near time⟩ and *noo* is present. The Sentences in (iii) are unacceptable.

(iii) a. [+realized, +realizable near (⟨ # ⟩; [⟨ # ⟩ SUBJ]) 1sg]

*yot n miyq
big aux:1sg is

b. [+realized, +realizable near (⟨ # ⟩; [⟨PERS⟩ SUBJ]) 1sg]

*notaax n chaqalaqiq
myself aux:1sg is:tickling

The condition appears to have a phonological basis. First, the Sentence-Defining Element ⟨Assertion about near time, 1sg⟩ has the form *n*, while with any other A-part, ⟨. . . 1sg⟩ appears in a Sentence-Defining Element of at least one syllable — e.g. *nil*, as in (59) and (ii). I might note in this regard the existence of a few (apparently set) expressions where ⟨Assertion about near time, 1sg⟩ is possible in the absence of *noo*. For example, the standard answer to 'How are you?' is (iv).

(iv) looviq an
is:good ⟨Assertion about near time, 1sg⟩

I'm fine.

The presumably epenthetic vowel /a/ makes *n* syllabic. Second, it is not enough simply to have *noo* in the Proposition, the Sentence-Defining Element *n* must appear contiguous (and immediately following). Other Uto-Aztecan languages show the effects of a similar situation. In Southern Paiute, for example, the first person singular pronoun appears to be a combination of the (old) first person singular pronoun and a first person singular clitic.

[5] This alternation does not depend on '1' and '2' Subjects. Consider the sentences in (ii), both of which contain the Proposition in (i).

(i) [+realized, −realizable cont (⟨ ⟩; [⟨PERS⟩ SUBJ]) 3pl]
unch fut

(ii) a. pom-ngee-pi upil miy-qus̸
*3pl-leave-aspect aux:non:**1:sg** be-distant:non:future*

They had to leave.

b. pom-ngee-pi mil miy-qus̸
*3pl-leave-aspect aux:**pl** be-distant:non:future*

They had to leave.

[6] For a first attempt at a statement of Luiseño second position, see Steele (1977).

[7] *ta'* may have a more limited range because of the contrastive situation it requires. A sentence like (i) (for 'John$_i$ is tall, but he$_j$ (on the other hand) is short') is unacceptable.

(i) *xwaan up tavulvush kopaqpomal ta'
John aux tall short ta'

Its unacceptability does not appear to rest in the absence of a lexical form compatible with the Subject.

(ii) noo p notoonav qala potaana ta' qala
I aux my:basket is:setting his:blanket ta' is:setting
I have a basket, but he, in contrast, has a blanket.

But the basis of its unacceptability is not clear.

APPENDIX TO CHAPTER FIVE

(1) ⟨Assertion about near time⟩ and ⟨+realized, +realizable⟩

heyiq up
is:digging ***Ø-Ø-up-Ø***
He is digging.

(2) ⟨Assertion about future⟩ and ⟨−realized, +realizable⟩

i. heyin nupo
will:dig ***Ø-Ø****-n-****po***
I will dig.

ii. heyin nupkwa
will:dig ***Ø-Ø****-n-****pokwa***
I *will* dig.

(3) ⟨Assertion about past⟩ and ⟨+realized, −realizable⟩

heyiquś upil
was:digging ***Ø-Ø****-up-****il***
He was digging.

(4) a. ⟨Assertion about non-past⟩ and ⟨+realized, +realizable⟩

heyiq upkwa
is:digging ***Ø-Ø****-up-****kwa***
He is digging (I know).

b. ⟨Assertion about non-past⟩ and ⟨−realized, +realizable⟩

heyin nukwa
will:dig ***Ø-Ø****-n-****kwa***
I *will* dig.

(5) a. ⟨Non-quotative question⟩ and ⟨+realized, +realizable⟩

tooyaq s̸un
is:laughing ***s̸u-Ø-**n**-Ø***

Am I laughing?

b. ⟨Non-quotative question⟩ and ⟨+realized, −realizable⟩

tooyaqus̸ s̸un
was:laughing ***s̸u-Ø-**n**-Ø***

Was I laughing?

c. ⟨Non-quotative question⟩ and ⟨−realized, +realizable⟩

tooyaan s̸un
will:laugh ***s̸u-Ø-**n**-Ø***

Will I laugh?

d. ⟨Non-quotative question⟩ and ⟨−realized, −realizable⟩

heyi s̸um
dig ***s̸u-Ø-**m**-Ø***

Should they dig?

(6) ⟨Suggestion⟩ and ⟨−realized, −realizable⟩

heyi xum
dig ***xu-Ø-m-Ø***

They better dig.

(7) a. ⟨Assertion of an inference based on world knowledge⟩ and ⟨+realized, +realizable⟩

heyiqat s̸unpo
digs ***s̸u-Ø-**n**-po***

Maybe I was digging.

d. ⟨Assertion of an inference based on world knowledge⟩ and ⟨+realized, −realizable⟩

heelaqus̸ s̸umpo
was:singing ***s̸u-Ø-**m**-po***

Maybe they were singing.

c. ⟨Assertion of an inference based on world knowledge⟩ and ⟨−realized, +realizable⟩

heelaan s̸umpo
will:sing ***s̸u-Ø-**m**-po***

Maybe they will sing.

(8) a. ⟨Assertion of an inference based on contextual details⟩ and ⟨+realized, +realizable⟩

heyiwun ꞩumil
are:digging ***ꞩu-∅-****m****-il***

I see that they are digging.

b. ⟨Assertion of an inference based on contextual details⟩ and ⟨+realized, −realizable⟩

heyiquꞩ ꞩumil
was:digging ***ꞩu-∅-****m****-il***

I see that they were digging.

(9) a. ⟨Assertion of an inference based on a guess from contextual details⟩ and ⟨+realized, +realizable⟩

i. heyiwun ꞩumkwa
are:digging ***ꞩu-∅-****m****-kwa***

I guess they've been digging.

ii. heyiwun ꞩumpokwa
are:digging ***ꞩu-∅-****m****-pokwa***

I guess they've been digging.

b. ⟨Assertion of an inference based on a guess from contextual details⟩ and ⟨+realized, −realizable⟩

i. heyiquꞩ ꞩumkwa
was:digging ***ꞩu-∅-****m****-kwa***

I guess they were digging.

ii. heyiquꞩ ꞩumpokwa
was:digging ***ꞩu-∅-****m****-pokwa***

I guess they were digging.

(10) ⟨Obligation⟩ and ⟨−realized, −realizable⟩

heyi xumpo
dig ***xu-****∅****-m-po***

They should dig.

(11) ⟨Weak obligation⟩ and ⟨−realized, −realizable⟩

heyi xunkwa
dig ***xu-****∅-n****-kwa***

I wish I would dig.

(12) ⟨Past obligation⟩ and ⟨−realized, −realizable⟩

heyima xunpokwa
dig:habitual ***xu-Ø-n-pokwa***

I should have dug.

(13) a. ⟨Quotative assertion⟩ and ⟨+realized, +realizable⟩

heyiqat kunun
digs ***Ø-kun****-n-****Ø***

I was digging, I'm told.

b. ⟨Quotative assertion⟩ and ⟨+realized, −realizable⟩

heelaquꞩ kunum
was:singing ***Ø-kun****-m-****Ø***

They were singing, I'm told.

c. ⟨Quotative assertion⟩ and ⟨−realized, +realizable⟩

heelaan kunum
will:sing ***Ø-kun****-m-****Ø***

They will sing, I'm told.

(14) ⟨Quotative attenuated assertion⟩ and ⟨+realized, −realizable⟩

heyiquꞩ kuna'
was:digging ***Ø-kun****-Particle:3-****a'***

Once upon a time, he was digging.

(15) a. ⟨Quotative question⟩ and ⟨+realized, +realizable⟩

heyiqat ꞩukunun
digs ***ꞩu-kun****-n-****Ø***

I was digging, is that what you said?

b. ⟨Quotative question⟩ and ⟨+realized, −realizable⟩

heelaquꞩ ꞩukunum
was:singing ***ꞩu-kun****-m-****Ø***

They were singing, is that what you said?

c. ⟨Quotative question⟩ and ⟨−realized, +realizable⟩

heelaan ꞩukunum
will:sing ***ꞩu-kun****-m-****Ø***

They will sing, is that what you said?

(16) ⟨Very polite suggestion⟩ and ⟨−realized, −realizable⟩

noo xukunun 'oyk hish 'oovi
I ***xu**-kun-**un-Ø*** *to:you something:object give*

What can I give you.

(17) ⟨Quotative attenuated question⟩ and ⟨+realizable, −realizable⟩

heyiqus̸ s̸ukuna'
was:digging ***s̸u-kun**-Particle:3-**a'***

Was he digging, once upon a time?

CHAPTER SIX

THE UTILITY OF THE CLASSIFICATION

0. INTRODUCTION

Because the Constituent, the Argument Structure, and the Proposition each result from the application of functors of the same type (i.e. obligatory, listable, and non-localizable), by the classification developed in Chapter One they must be assigned the same category type (i.e. syntactically inaccessible, but phonologically accessible). We expect, then, the sort of parallel we have witnessed: All three categories — and none of a different type — are potential arguments in the rule schema in (1).

(1) ⟨ASP: — | RIGHTAN: Number⟩: [. . . Person . . .] →
[. . . ⟨ASP: — | RIGHTAN: Number⟩ . . .]

In this chapter we develop another, and more elaborate, parallel. Each of these three categories — and no other — defines a domain for embedding. Not only, then, is the range of similarities among these three extended, the utility of each in Luiseño syntax is more firmly established, and the theoretical framework within which the existence of the categories Constituent, Argument Structure, and Proposition have been developed receives significant support.

The analysis of clauses presented in this chapter also deserves attention in its own right. Any Clause type in Luiseño contains minimally a single Word; unlike a Luiseño (non-imperative) Sentence it may not contain an aux form and an independent Argument-Categorizing Element. Further, the obligatory Word is morphologically different — and, thus, on the account here, formally different — from the Argument-Categorizing Element in a Sentence. At issue, then, is whether a structural parallel between Clause and Sentence is anything more than a theoretician's desire for generalization. The analysis will argue that it is, that the single obligatory Word in a Clause contains both the Argument-Categorizing Element and the clausal equivalent of a Sentence-Defining Element, yielding the desired generalization. But the analysis has this result while respecting the morphology of this Word. The contrast between this analysis and other analyses of parallel phenomena in other languages that do violence on this score is noted at the relevant points below.

1. DATA

Luiseño has three different Clause types, types which can be given relatively familiar labels: relative clauses, complement clauses, and adjunct clauses. An analysis of each type and its identification as a Clause follows.

1.1 *Types*

Four different examples of relative clauses are shown bracketed in (2). In (2a) and (2b) the 'head' is the same as the 'subject'; in (2c) and (2d) the 'head' is different from the 'subject'. In (2a) and (2c) the 'head' is the word instantiating the function from Proposition to Proposition in the embedding Sentence according to the rule schema in (1); in (2b) and (2d), the 'head' is an element in the Argument Structure of the embedding Sentence.

(2) a.

po	hengeemal	[tooyaqalmokwish]	up	nokaamay
that	*boy*	*[laughed]*	*aux*	*my:son*

The boy that laughed is my son.

b.

noo	n	'o'naq	hengeemali	[tooyaqalmokwichi]
I	*aux*	*know*	*boy:object*	*[laughed:object]*

I know the boy that laughed.

c.

po	hengeemal	['ochaqalaqivo]	up	nokaamay
that	*boy*	*[2sg:tickled]*	*aux*	*my:son*

The boy that you tickled is my son.

d.

noo	n	'o'naq	hengeemali	['ochaqalaqivoy]
I	*aux*	*know*	*boy:object*	*[2sg:tickled:object]*

I know the boy that you tickled.

These are the simplest possible examples of relative clauses, each containing a single Word.

Second, there are complement clauses, four different examples of which are bracketed in (3) and (4). These are the simplest possible complement clauses, each containing a single Word.[1]

(3) a.

noo	n	'ayaliq	[poheelaxpiy]
I	*aux*	*know*	*[3sg:will:sing:object]*

I know that he will sing.

b.

noo	nil	tiiwax	hunwuti	[huluqaqal]
I	*aux*	*saw*	*bear:object*	*[falling]*

I saw the bear fall.

(4) a.

wunaal	up	[pongeepi]	miyq
he	*aux*	*[3sg:will:leave]*	*is*

He has to leave.

(4) b. wunaal upil [heyilut] miyquś
he *aux* *[is:gonna:dig]* *was*

He was gonna dig.

Finally, there are what will be called *adjunct clauses*, two simple examples of which are given in (5).

(5) a. [poheelaqala] noo nil pellaquś
[3sg:singing] *I* *aux* *was:dancing*

While he was singing, I was dancing.

b. [heelaat] noo nil pellaquś
[singing] *I* *aux* *was:dancing*

While singing, I was dancing.

1.2 *The Obligatory Word*

A Clause has an internal structure like a Sentence; that is, both contain a Proposition, formed through the application of the rule schemas in (6).

(6) a. Argument-Categorizing Element:

Argument Structure → Propositional Radical

b. Propositional Functor:

Propositional Radical → Proposition

We will discuss the character of these in a Clause briefly below; for now we simply assume them. A Clause and a Sentence, however, vary in the function on a Proposition. Rather than:

(7) Sentence-Defining Element: Proposition → Sentence

we have:

(8) Clause-Defining Element: Proposition → Clause

We will take up the character of the Clause-Defining Element below as well. The crucial point here is simple: Given what we know about the analysis of a Proposition and the analysis of a Sentence, if a Clause is like a Sentence, it must be the case that the single Word comprising the Clauses above contains both the Argument-Categorizing Element and the Clause-Defining Element. The formal value of the obligatory Word is, thus, of some interest.

The Word types available to each of the three Clause types are similar in some respects and distinct in others. (9) gives the formal values of the four Words in the relative clauses in (2).

(9) a. tooya-qalmokwi-sh

⟨ASP: ch pst; ADAFF: sh; NUM: — | RIGHTAN: sg no obj⟩

b. tooya-qalmokwi-ch-i

⟨ASP: ch pst; ADAFF: sh; NUM: — | RIGHTAN: sg obj⟩

c. 'o-chaqalaqi-vo

⟨ASP: unch pst; ADAFF: 2sg; NUM: — | RIGHTAN: sg no obj⟩

d. 'o-chaqalqi-vo-y

⟨ASP: unch pst; ADAFF: 2sg; NUM: — | RIGHTAN: sg obj⟩

The single Words in the complement clauses in (3) and (4) have the formal values in (10) and (11) respectively.

(10) a. po-heela-xpi-y

⟨ASP: unch fut; ADAFF: 3sg; NUM: — | RIGHTAN: obj⟩

b. huluqa-qala-l

⟨ASP: ch; ADAFF: ABS; NUM: — | RIGHTAN: obj⟩

(11) a. po-ngee-pi

⟨ASP: unch fut; ADAFF: PERS; NUM: — | RIGHTAN: 3sg⟩

b. heyi-lu-t

⟨ASP: unch fut; ADAFF: t; NUM: ≠ | RIGHTAN: sg⟩

And the single Words in the adjuncts in (5) have the formal values in (12).

(12) a. po-heela-qala

⟨ASP: ASP; ADAFF: 3sg; NUM: — | RIGHTAN: ch⟩

b. heela-an-t

⟨ASP: ch; ADAFF: t; NUM: ≠ | RIGHTAN: number⟩

None of these lists is exhaustive of the character of the obligatory Word in a clause type, but they are illustrative of both similarities and differences across the three types.

The differences reside most obviously in the values for the feature RIGHTAN. For this feature, the obligatory Word in a relative clause has the value type 'Number-Object' as in (9) or one of the possibilities subsumed under 'Postposition', an example of which is offered in (13).

(13)	noo	n	'aw'qat	taananga	[pohaalqalvo-nga]
	I	*aux*	*was:sitting*	*on:the:blanket*	*[3sg:was:hunting:for-on]*

I was sitting on the blanket he was hunting for.

(14) po-haal-qalvo-nga

⟨ASP: ch pst; ADAFF: 3sg; NUM: — | RIGHTAN: on⟩

For this feature, the obligatory Word in a complement clause can have the value 'object' or one of the values included within 'Person' or 'Number' as above in (10a), (11a), and (11b) respectively, but there are also Words as in (15).

(15) ⟨RIGHTAN: 3sg/pl generic⟩

⟨RIGHTAN: Postposition⟩

The examples in (16) and (18) are illustrative, as the formal values in (17) and (19) indicate.[2]

(16) poloov up [poheelilo]
good aux [3sg:sing:generic]

It is nice to sing.

(17) po-heeli-lo

⟨ASP: ASP; ADAFF: PERS; NUM: — | RIGHTAN: 3sg generic⟩

(18) noo nil tiiwax 'awaali ['ariqalanga]
I aux saw dog:object [kicking:on]

I saw the dog being kicked.

(19) 'ari-qala-nga

⟨ASP: ch; ADAFF: —; NUM: — | RIGHTAN: on⟩

The obligatory Word in an adjunct clause can have one of the values for RIGHTAN in (12) or that in (20) as illustrated in (21).

(20) ⟨RIGHTAN: preceding⟩

(21) [hikwaqanik] wunaal up moyaxma
[after:running] he aux is:tired

After running, he's tired.

(22) hikwa-qa-nik

⟨ASP: ch; ADAFF: —; NUM: — | RIGHTAN: prec⟩

In short, while the sets of Word types are not absolutely disjoint, each clause type draws from a distinctive set. (See Table 6-I.)

The similarities among the obligatory Word in the three clause types are most clearly revealed in the values for the other three features. First, the features ADAFF and NUM have a variety of possibilities available to them in each of the clause types. The clause types cannot be distinguished by these properties of the obligatory Word and they are similar in drawing

TABLE 6-I

I. Relative Clauses

⟨RIGHTAN: Number-Object⟩
⟨RIGHTAN: Postposition⟩

II. Complement Clauses

⟨RIGHTAN: object⟩
⟨RIGHTAN: Number⟩
⟨RIGHTAN: 3sg/pl generic⟩
⟨RIGHTAN: Person⟩
⟨RIGHTAN: Postposition⟩

III. Adjunct Clauses

⟨RIGHTAN: Number⟩
⟨RIGHTAN: preceding⟩
⟨RIGHTAN: changing⟩

from the full range of values available. Second, the obligatory Word in all the above examples involves a temporal value. In all relative clauses, the value for ASP of the obligatory Word includes aspect. I repeat (9a) as an example.

(9) a. tooya-qalmokwi-sh
⟨ASP: ch pst; ADAFF: sh; NUM: — | RIGHTAN: sg no obj⟩

In complement clauses, an aspectual value appears for the feature ASP unless it has yielded its value to the feature RIGHTAN — and then the value 'ASP' is present. I repeat (10a) and (17).

(10) a. po-heela-xpi-y
⟨ASP: unch fut; ADAFF: 3sg; NUM: — | RIGHTAN: obj⟩

(17) po-heeli-lo
⟨ASP: ASP; ADAFF: PERS; NUM: —
| RIGHTAN: 3sg generic⟩

The examples of adjunct clauses in (12) and (22) display the same two possibilities, as shown below in their repetitions.

(12) a. po-heela-qala
⟨ASP: ASP; ADAFF: 3sg; NUM: — | RIGHTAN: ch⟩

(22) hikwa-qa-nik

⟨ASP: ch; ADAFF: —; NUM; — | RIGHTAN: prec⟩

There is one other possibility available to adjunct clauses.

(23) ⟨ASP: —; . . . | RIGHTAN: prec⟩

(24)

[hikwanik]	wunaal	up	moyaxma
[after:running]	*he*	*aux*	*is:tired*

After running, he's tired.

Here the value for ASP is not one of the aspects, but the value for RIGHTAN can be reasonably identified as involving a temporal value — i.e. 'preceding'. Thus, although the place of the temporal value in the formal value and its source vary, the obligatory Word in all clause types shares its presence. And this is the single critical similarity shared by all clause types.

Table 6-II displays the range of value sets available to each of the three clause types.

TABLE 6-II

I. Relative Clauses

⟨ASP: Aspect; ADAFF: Absolutive; NUM: —
| RIGHTAN: Number-Object⟩

⟨ASP: Aspect; ADAFF: Absolutive; NUM: #
| RIGHTAN: Number-Object⟩

⟨ASP: Aspect; ADAFF: Person; NUM: —
| RIGHTAN: Number-Object⟩

⟨ASP: Aspect; ADAFF: Person; NUM: — | RIGHTAN: Postposition⟩

⟨ASP: Aspect; ADAFF: —; NUM: — | RIGHTAN: Postposition⟩

⟨ASP: Aspect; ADAFF: —; NUM: Number | RIGHTAN: Postposition⟩

II. Complement Clauses

⟨ASP: Aspect; ADAFF: ABS; NUM: — | RIGHTAN: object⟩

⟨ASP: Aspect; ADAFF: ABS; NUM: Number | RIGHTAN: object⟩

⟨ASP: Aspect; ADAFF: Person; NUM: — | RIGHTAN: object⟩

⟨ASP: Aspect; ADAFF: Person; NUM: # | RIGHTAN: object⟩

⟨ASP: Aspect; ADAFF: Absolutive; NUM: — | RIGHTAN: Number⟩

⟨ASP: Aspect; ADAFF: Absolutive; NUM: # | RIGHTAN: Number⟩

⟨ASP: Aspect; ADAFF: Person; NUM: — | RIGHTAN: Number⟩
⟨ASP: Aspect; ADAFF: Person; NUM: # | RIGHTAN: Number⟩
⟨ASP: ASP; ADAFF: POSS; NUM: — | RIGHTAN: 3sg/pl generic⟩
⟨ASP: ASP; ADAFF: POSS; NUM: # | RIGHTAN: 3sg/pl generic⟩
⟨ASP: Aspect; ADAFF: POSS; NUM: — | RIGHTAN: Person⟩
⟨ASP: Aspect; ADAFF: POSS; NUM: # | RIGHTAN: Person⟩
⟨ASP: Aspect; ADAFF: —; NUM: — | RIGHTAN: Postposition⟩
⟨ASP: Aspect; ADAFF: —; NUM: Number | RIGHTAN: Postposition⟩

III. Adjunct Clauses

⟨ASP: Aspect; ADAFF: Absolutive; NUM: # | RIGHTAN: Number⟩
⟨ASP: Aspect; ADAFF: —; NUM: — | RIGHTAN: preceding⟩
⟨ASP: Aspect; ADAFF: —; NUM: Number | RIGHTAN: preceding⟩
⟨ASP: —; ADAFF: —; NUM: — | RIGHTAN: preceding⟩
⟨ASP: —; ADAFF: —; NUM: Number | RIGHTAN: preceding⟩
⟨ASP: ASP; ADAFF: Person; NUM: — | RIGHTAN: changing⟩
⟨ASP: ASP; ADAFF: Person; NUM: # | RIGHTAN: changing⟩

2. DEFINITIONS

The different values for RIGHTAN allow a very simple definition of each of the three clause types assumed above:

(25) a. A *relative clause* is a Clause immediately contained within a Constituent.

b. A *complement clause* is a Clause immediately contained within an Argument Structure

c. An *adjunct clause* is a Clause immediately contained within a Proposition.

In short, there is a one-to-one correspondence between the set of categories which result from the non-localizable conditions and the three distinct types of embedded clauses.

2.1 *Relative Clauses*

The analysis of Constituents in Chapter Three proposes that a set of

Words may be a Constituent if the formal values are compatible, where compatibility is defined as:

(26) Conditions on Agreement

a. value^i and value^j for RIGHTAN are compatible when:
   i. identical (value^i = value^j);
   ii. overlapping (value^j = 'Number-Object') and satisfying Object compatibility

b. If for every x_i, ASP(x_i) $\neq$ '—', then for every x_i and x_j, ASP(x_i) = ASP(x_j).

c. For every x_i and x_j, if ADAFF(x_i) and ADAFF(x_j) are person values and ASP = '—', ADAFF(x_i) = ADAFF(x_j).

d. If there is an x_i such that either NUM(x_i) or RIGHTAN(x_i) = 'sg' there is no x_j such that either NUM(x_j) or RIGHTAN(x_j) = 'pl'.

The value of the resulting Constituent is determined by the Containment and Most Fully Specified Principles, according to the following rule repeated from Chapter Three.

(27) Conditions on Agreement:

$\{\langle x_1, \ldots, x_k \rangle \mid x_1$ and $\ldots$ and x_k are compatible by the Conditions$\} \rightarrow$

$\langle$ASP: v^a; ADAFF: v^b; NUM: v_c | RIGHTAN: contained value$\rangle_{\text{Constituent}}$

most fully specified set   most specific number

(28) contains examples.

(28) a. $\langle$ASP: –; ADAFF: t; NUM: # | RIGHTAN: pl$\rangle$

hunwutum xaariqatum

bears that are growling

$\langle$ASP: –; ADAFF: t; NUM: # | RIGHTAN: pl$\rangle$

$\langle$ASP: ch; ADAFF: t; NUM: # | RIGHTAN: pl-no obj$\rangle$

hunwu-t-um	xaari-qa-t-um
bear-absolutive-pl	*growl-aspect-absolutive-pl:no:object*
bears	are growing

(28) b. ⟨ASP: —; ADAFF: —; NUM: number | RIGHTAN: with⟩

taanatal nolovi'ital
with the blanket that I made

⟨ASP: —; ADAFF: —; NUM: number | RIGHTAN: with⟩
⟨ASP: unch; ADAFF: 1sg; NUM: — | RIGHTAN: with⟩

taana-tal	no-lovi'i-Ø-tal
blanket-with	*1sg-make-aspect-with*
with a blanket	with (what) I made

Since every formal value available to a Word is available as an argument to the function from Words to Constituents, the issue is not to identify the formal values which may occur in Constituents. The formal value of the obligatory Word in a relative clause is, necessarily, a subset of the formal values available to Words. Rather the issue is to show that a relative clause is, in fact, immediately contained within a Constituent; that is, the Word which yields the formal value of the Constituent must not be the obligatory Word of the relative clause. This is precisely the result of the analysis of Constituents. Both (28a) and (28b) are Constituents one of whose Words is the obligatory Word of a relative clauses — *xaariqatum* 'was growling' and *nolovi'ital* 'with (what) I made' respectively. The formal value of these Constituents is not based on these Words, but rather on the other Word in each Constituent, by the principles repeated in (27). In either (28a) or (28b), but more interestingly for (28a), the 'contained' value for the feature RIGHTAN is the value of the other Word. In either case, the more fully specified set of values for the features ASP, ADAFF, and NUM is that of the other Word — by clause 3 of the Most Fully Specified Principle for (27a) and by clause 1 for (27b). In fact, the effect of the Most Fully Specified Principle insures that the value of the obligatory Word in a relative clause is necessarily Constituent-internal. The analysis tree in (29) sketches this result for relative clauses.

(29) $\langle \text{ASP: —; B; C} \mid \text{X}\rangle_{\text{Constituent}}$

$\langle \text{ASP: —; B; C} \mid \text{X}\rangle_{\text{Word}}$ $\langle \text{ASP: Aspect; R; S} \mid \text{X(—Y)}\rangle_{\text{Word}}$

2.2 *Complement Clauses*

As demonstrated in Chapter Three, a Constituent can function in an

Argument Structure if it has one of the following values for the feature RIGHTAN.

(30) ⟨RIGHTAN: object⟩
⟨RIGHTAN: Number⟩
⟨RIGHTAN: Person⟩
⟨RIGHTAN: 3sg/pl generic⟩
⟨RIGHTAN: Person reflexive⟩
⟨RIGHTAN: Postposition⟩

The list of Word types available to a complement clause is a subset of this. Compare the relevant part of Table 6-I to (30). Only ⟨RIGHTAN: Person reflexive⟩ is not included on both lists. If an aspectual value is essential to the obligatory Word in a complement clause, the reflexive Word type is excluded out of hand. In short, the obligatory Word in a complement clause displays exactly those formal properties which allow it to participate in the Argument Structure. The analysis tree in (31) sketches this result, ignoring for the moment the presence of aspect in the Argument Structure itself. (The value 'Aspect' is meant here to include both the aspectual values and 'ASP'.)

(31) $[\ldots\langle\text{RIGHTAN: X}\rangle\ldots]_{\text{Argument Structure}}$
$\langle\text{ASP: Aspect} \mid \text{RIGHTAN: X}\rangle_{\text{Constituent}}$
$\langle\text{ASP: Aspect} \mid \text{RIGHTAN: X}\rangle_{\text{Word}}$

The Constituent in (31) is intended to directly reflect the formal value of the obligatory Word of a complement clause. According to clause (2b) of the Most Fully Specified Principle (see Chapter 3), where two Words share a RIGHTAN value, a Word with an aspectual value is less well-specified than a Word without an aspectual value. Thus, by the principles determining the values of Constituents the relationship in (31) between the formal value of the Constituent and the relevant Word is possible only when the Constituent contains exactly one Word. That is, the Word which contains a complement clause necessarily yields the value of the Constituent — and is to be contrasted with the Word containing a relative clause on this score.

For a concrete example, consider the Argument Structure in (18) and the complement clause it contains.

(32) [⟨ASP: — | RIGHTAN: obj⟩ | ⟨ASP: ch | RIGHTAN: on⟩ PN]$_{\text{Argument Structure}}$

'awaali 'ariqalanga
dog:obj kicking:on

PN dog being kicked

⟨ASP: ch; ADAFF: —; NUM: — | RIGHTAN: on⟩$_{\text{Constituent}}$

'ariqalanga
kicking:on

being kicked

⟨ASP: ch; ADAFF: —; NUM: — | RIGHTAN: on⟩$_{\text{Word}}$

'ari-qala-nga
kick-aspect-on

being kicked

2.3 *Adjunct Clauses*

The definition of an adjunct clause as a Clause immediately contained within a Proposition assumes the analysis tree in (33).

(33) [. . . X . . .]$_{\text{Proposition}}$

⟨. . . ⟨RIGHTAN: X⟩ . . .⟩$_{\text{Propositional Radical}}$

⟨RIGHTAN: X⟩$_{\text{Constituent}}$

⟨RIGHTAN: X⟩$_{\text{Word}}$

Like a complement clause the obligatory Word of an adjunct directly yields the value of a Constituent; however, the relationship between this Constituent and the Proposition is slightly more complicated than that between the Constituent and the Argument Structure. In fact, while the place of relative clauses and complement clauses follows automatically from the analysis of Constituents and Argument Structures already proposed, (33) requires a modification of the analysis of both Propositional Radicals and Propositions. However, the revisions are a small price to pay for the simple incorporation of a clause type which has long been problematic both in syntactic theory and in the analysis of Luiseño.

The formal value of a Propositional Radical is analyzed in Chapter Four as a three-place array. The incorporation of an adjunct clause internal to the Proposition can be accomodated by the addition of a fourth place in this array.

(34) (ACE; Argument Structure; try etc.; Constituent$_{\text{adjunct}}$)

'Constituent' in (34) has one of the formal values ⟨RIGHTAN: changing⟩, ⟨RIGHTAN: Number⟩, or ⟨RIGHTAN: preceding⟩ — that is, it is a Constituent including one of the Word types discussed relative to adjunct clauses in Section 1 above. The addition of the third place in the Propositional Radical array requires a rule taking a Propositional Radical and yielding a Propositional Radical; the addition of the fourth place also requires such a rule. I leave open whether these might be collapsed into a single rule. Take the sentence in (35).

(35) [heelaantum] mil pellaquɬ
[singing] *aux* *was:dancing*

While singing, they were dancing.

The obligatory part of the Propositional Radical in this sentence is phonologically *pellaquɬ* and has the formal value in (36).

(36) (⟨NUM: — | RIGHTAN: dist non-fut cont⟩; [PN])

If we apply the Constituent *heelaantum* ⟨ASP: unchanging; ADAFF: t; NUM: # | RIGHTAN: pl⟩ to this Propositional Radical, the result is the phonological sequence *heelaantum pellaquɬ* (or *pellaquɬ heelaantum*) and the formal value in (37).

(37) (⟨NUM: — | RIGHTAN: dist non-fut cont⟩; [PN];
⟨ASP: unch; ADAFF: t; NUM: # | RIGHTAN: pl⟩)

As with the third place in the array, there is no requirement that a Propositional Radical contain an adjunct clause. However, when it does, the agreement and antiagreement conditions will necessarily be sensitive to its properties in a fashion leading to the modification of the Proposition at issue. The function from Propositional Radical to Proposition is sensitive, as we have seen, to the distribution of person and number values in the Propositional Radical. The application of the set of agreement and anti-agreement conditions to the Propositional Radical in (37), therefore, should require that the number value of the adjunct clause participate in the Subject chain of the agreement grid. That is, the Propositional Radical in (37) should yield the Proposition in (38).

(38) [+realized, −realizable cont (⟨ ⟩; [SUBJ];
⟨ASP: unch; ADAFF: t; NUM: # | RIGHTAN: #⟩) Ppl]

It is important to note, then, that the Subject of the Proposition in (39) resulting from the (unmodified) Propositional Radical in (36) is different from the Subject of the Proposition in (38).

(39) [+realized, −realizable cont (⟨ ⟩; [SUBJ]) PN]

The aux *mil*, an aux with the N-part 'pl', is fine with either Proposition. Compare (35) and (40).

(40) pellaqus̸ mil
was:dancing aux

They were dancing.

But the aux *nil*, an aux with the N-part '1sg', is acceptable only with the Proposition in (39).

(41) a. pellaqus̸ nil
was:dancing aux

I was dancing.

b. *[heelaantum] nil pellaqus̸
singing aux was:dancing

This difference is predictable if the number value of the Constituent including the adjunct clause participates in the agreement grid. (42) illustrates the incorporation of the adjunct clause *heelaantum*, according to (33).

(42) [. . . ⟨ASP: unch; ADAFF: t; NUM: #
| RIGHTAN: # ⟩ . . . $]_{\text{Proposition}}$
(. . . ⟨ASP: unch; ADAFF: t; NUM: #
| RIGHTAN: pl⟩ . . . $)_{\text{Propositional Radical}}$
⟨ASP: unch; ADAFF: t; NUM: # | RIGHTAN: pl$\rangle_{\text{Constituent}}$
⟨ASP: unch; ADAFF: t; NUM: # | RIGHTAN: pl$\rangle_{\text{Word}}$

The value of the adjunct clause is not yet properly represented. First, and consistent with decisions made in the representation of Constituents in the Argument Structure, certain of the feature/value pairs of the adjunct-Constituent need not be represented in the Propositional Radical — and, therefore, not in the Proposition. For an adjunct clause with the value 'Number' for RIGHTAN, only the particular aspectual value for ASP must be specified. A comparison of (35) with (43) shows the possibility of variation in aspect.

(43) noo n monaa pisaanga
I aux is:going:along outside

['awaali haal-lowu-t]
[dog:object look:for-aspect:unchanging:future-absolutive]

I am going outside to look for the dog.

However, all adjunct clauses with this RIGHTAN value have an absolutive value for ADAFF and the value ≠ for NUM.[3] (44a) modifies the Propositional Radical in (42) accordingly, and (44b) gives the formal value for the adjunct part of the Propositional Radical in (43).

(44) a. (. . .⟨ASP: unch | RIGHTAN: pl⟩)$_{\text{Proposition Radical}}$

b. (. . .⟨ASP: unch fut | RIGHTAN: sg⟩)$_{\text{Propositional Radical}}$

Similarly, for the other two adjunct clause types — i.e. ⟨RIGHTAN: preceding⟩ and ⟨RIGHTAN: changing⟩ — a simplification of the formal values is possible. An adjunct clause of the form ⟨RIGHTAN: preceding⟩ shares the necessity of an aspectual value and a number value since both vary. But the value for ADAFF is unvarying: It is always '—'. Compare the two adjunct clauses in (45).

(45) a. ⟨ASP: —; ADAFF: —; NUM: — | RIGHTAN: prec⟩

[heela-nik] mil pellaquṣ̸
[sing-preceding] aux was:dancing

After singing, they were dancing.

b. ⟨ASP: ch; ADAFF: —; NUM: pl | RIGHTAN: prec⟩

[qal-qa-nik wuna'] mil pellaquṣ̸
[sit-changing-preceding there] aux was:dancing

After sitting there, they were dancing.

Thus, we eliminate the feature/value pair 'ADAFF: —' from the representation of this adjunct clause type in the Propositional Radical. (46a) gives the formal value of the Propositional Radical in (45a); (46b), that in (45b).

(46) a. (⟨NUM: — | RIGHTAN: dist cont non-fut⟩; [PN];
⟨ASP: —; NUM; — | RIGHTAN: prec⟩)

b. (⟨NUM: — | RIGHTAN: dist cont non-fut⟩; [PN];
⟨ASP: ch; NUM: pl | RIGHTAN: prec⟩)

For an adjunct of the form ⟨RIGHTAN: changing⟩, the values of the other three features are entirely predictable. The value for the feature ASP is always 'ASP'; the feature ADAFF always bears a person value; and the value for the feature NUM is never an independent number value. The lack of variation between the two examples in (47) is illustrative.

(47) a. ⟨ASP: ASP; ADAFF: 3sg; NUM: — | RIGHTAN: ch⟩

[po-heela-qala] mil pellaquṣ̸
[3sg-sing-aspect] aux was:dancing

While he was singing, they were dancing.

(47) b. ⟨ASP: ASP; ADAFF: 1sg; NUM: – | RIGHTAN: ch⟩

[no-tooya-qala] mil wa'iquš
[1sg-laugh-aspect] aux was:barking

While I was laughing, they were barking.

Thus, this adjunct clause type is represented in the Propositional Radical by the feature RIGHTAN only.

(48) (⟨NUM: – | RIGHTAN: dist cont non-fut⟩; [PN];
⟨RIGHTAN: ch⟩)

The second modification pertains to the representation of the adjunct clause in the Proposition's formal value. In (42), the temporal value of the adjunct clause appears on the Subject chain of the agreement grid, but this is clearly not consistent with the representation of other temporal values not contributed by the Argument-Categorizing Element. (49) corrects this by representing the temporal value of the adjunct on the non-Subject chain of the agreement grid.

(49) $[\text{+realized, –realizable cont } (\langle - \rangle; \text{ [SUBJ]}; \langle \# \rangle) \text{ Ppl}]_{\text{Proposition}}$
unch

$(\ldots\langle \text{ASP: unch} \mid \text{RIGHTAN: pl}\rangle\ldots)_{\text{Propositional Radical}}$

$\langle \text{ASP: unch; ADAFF: t; NUM: \#} \mid \text{RIGHTAN: pl}\rangle_{\text{Constituent}}$

$\langle \text{ASP: unch; ADAFF: t; NUM: \#} \mid \text{RIGHTAN: pl}\rangle_{\text{Word}}$

The Propositions resulting from the Propositional Radicals in (46) have a number value in the Subject chain contributed by the adjunct clause, and a temporal value on the non-Subject chain.

(50) a. $[\text{+realized, –realizable cont } (\langle - \rangle; \text{ [SUBJ]}; \langle - \rangle) \text{ PN}]_{\text{Proposition}}$
– | prec

$(\ldots\langle \text{ASP: –; NUM: –} \mid \text{RIGHTAN: prec}\rangle\ldots)_{\text{Propositional Radical}}$

$\langle \text{ASP: –; ADAFF: –; NUM: –} \mid \text{RIGHTAN: prec}\rangle_{\text{Constituent}}$

$\langle \text{ASP: –; ADAFF: –; NUM: –} \mid \text{RIGHTAN: prec}\rangle_{\text{Word}}$

b. $[\text{+realized, –realizable cont } (\langle - \rangle; \text{ [SUBJ]}; \langle \# \rangle) \text{ Ppl}]_{\text{Proposition}}$
ch | prec

$(\ldots\langle \text{ASP: ch; NUM: pl} \mid \text{RIGHTAN: prec}\rangle\ldots)_{\text{Propositional Radical}}$

$\langle \text{ASP: ch: ADAFF: –; NUM: pl:} \mid \text{RIGHTAN: prec}\rangle_{\text{Constituent}}$

$\langle \text{ASP: ch: ADAFF: –; NUM: pl:} \mid \text{RIGHTAN: prec}\rangle_{\text{Word}}$

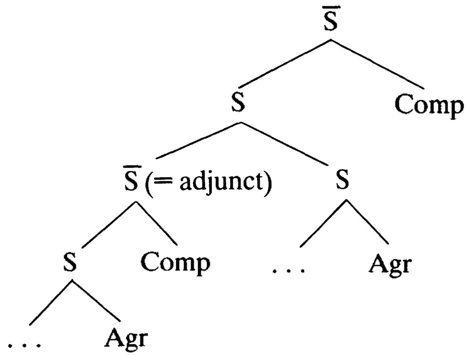
The Proposition resulting from the Propositional Radical in (48) does not contribute to the Subject chain, but its temporal value is on the non-Subject chain.

(51) [+realized, −realizable cont (⟨ ⟩; [SUBJ]; ⟨ ⟩) PN]$_{\text{Proposition}}$
ch

(. . . ⟨RIGHTAN: ch⟩ . . .)$_{\text{Propositional Radical}}$
⟨ASP: ASP: ADAFF: 3sg; NUM: — | ch⟩$_{\text{Constituent}}$
⟨ASP: ASP; ADAFF: 3sg; NUM: — | ch⟩$_{\text{Word}}$

Recent work by Finer (1985) on switch reference analyzes adjuncts as an S′ internal to S and sister to the main clause S.

(52)



As noted in the discussion of the Proposition, the properties included in its formal value are similar to the presumed head of S, given only as Agr in (52), in the framework employed by Finer. Thus, we might take S here to be equivalent to Proposition and the topmost S′ to be equivalent to our Sentence. Finer's structure allows any S′ to be an adjunct. Our analysis allows as adjuncts only those Clauses whose single obligatory Word may be a Constituent which can map a Propositional Radical to a Propositional Radical. Finer's analysis also does not obviously predict the existence of sentences where the adjunct is internal to (on his account) its sister.

(53) nawitmali nil [heelaqanik] chaqalaqiquś
girl:object aux [after:singing] was:tickling
After singing, I was tickling the girl.

But on our account such sentences are entirely non-problematic. The elements of the argument Propositional Radical are phonologically available in a rule schema like:

(54) X: Propositional Radical → Propositional Radical

Finally, the switch reference facts that Finer is attempting to capture by this structure are an automatic consequence of the analysis proposed here, as we will see in Section 4 below. Equally important, the principles invoked are not exclusive to adjuncts, but are applicable to all three clause types.

2.4 *Conclusion*

I have argued here that the formal value of the obligatory Word in a Clause allows the Clause to occur in a particular domain. The three Clause types are distinguished by the formal values of their obligatory Word, a property which is intimately related to the domain type in which they occur. Conversely, the distribution of the three Clause types among Argument Structure, Constituent, and Proposition offers an independent argument both for the existence of these categories and for their identification as the same type.

The argument is not yet complete, however. The formal values of these three categories provide a relatively simple solution to the problems of control. This is the topic of the next two sections. Section 3 provides an analysis of the Clause, so that the properties subject to control are clear. Section 4 combines this analysis with the domain properties just discussed, yielding the simple solution promised.

3. AN ABBREVIATED ANALYSIS OF A CLAUSE

No Clause contains an instance of the function to Sentence. That is, no Clause contains an aux form, or *wuškapi*, or *ta'*, or is obligatorily addressed to a second person, the elements analyzed in Chapter Five as instances of the function which takes Propositions to Sentences. However, according to the discussion just completed, every Clause does contain an obligatory Word whose value for RIGHTAN delimits its structural possibilities. Table 6-I above demonstrates this fact. On the widely — perhaps universally — held assumption that a Clause and a Sentence bear a necessary resemblance to one another, it is reasonable to propose that this obligatory property of a Clause (the value for RIGHTAN of the obligatory Word) is equivalent to the Sentence-Defining Element in a Sentence. (Actually this assumption about clauses and sentences can take the stronger form that a Clause and a Sentence are identical — cf. Finer's analysis above. But in the face of the differences noted between a Luiseño Sentence and Clause, this is patently false.) Let me identify the value for RIGHTAN in the obligatory Word's formal value, the part which determines the domain within which the Clause may occur, as the Clause-Defining Element. (55) adds this identification to the analyses of the three clause types offered in (29) (for a relative clause), (32) (for a complement clause), and (33) (for an adjunct clause) above.

(55) a. $\langle A; B; C \mid X \rangle_{\text{Constituent}}$

$\langle A; B; C \mid X \rangle_{\text{Word}} \ldots \langle \text{Aspect}; R; S \mid X(-Y) \rangle_{\text{Word}}$

Clause-Defining Element

b. $[\ldots\langle\ldots \mid X\rangle\ldots]_{\text{Argument Structure}}$

$\langle\ldots \mid X\rangle_{\text{Constituent}}$

$\langle\ldots \mid X\rangle_{\text{Word}}$

Clause-Defining Element

c. $[\ldots X \ldots]_{\text{Proposition}}$

$(\ldots\langle\ldots \mid X\rangle\ldots)_{\text{Propositional Radical}}$

$\langle\ldots \mid X\rangle_{\text{Constituent}}$

$\langle\ldots \mid X\rangle_{\text{Word}}$

Clause-Defining Element

We are concerned in this section with the remainder of the Clause.

3.1 *The Argument-Categorizing Element*

Even if we ignore the Clause-Defining Element (i.e. the value for RIGHTAN), we see yet other properties held in common by a Sentence and a Clause, but having different formal manifestations. Recall that the Argument-Categorizing Element in a Sentence occurs internal to a Word the formal properties of which participate in the formal value of the Proposition. The Argument-Categorizing Element in a Clause also occurs internal to a Word. Continuing to ignore the RIGHTAN value for this Word, it is clear that certain formal properties have yet to be integrated into the analysis of a Clause — specifically, the other three features of the obligatory Word's formal value. I propose that this is the Clause analogue to the Word properties for the Argument-Categorizing Element in a Sentence.

(56) a. $\langle A; B; C \mid X \rangle_{\text{Constituent}}$

$\langle A; B; C \mid X \rangle_{\text{Word}} \ldots \qquad \langle \underbrace{Q; R; S} \mid X(-Y) \rangle_{\text{Word}}$

formal value of ACE | Clause-Defining Element

(56) b. $[\ldots\langle\ldots\mid X\rangle\ldots]_{\text{Argument Structure}}$

$\langle\ldots\mid X\rangle_{\text{Constituent}}$

$\langle\underbrace{Q; R; S}\mid X\rangle_{\text{Word}}$

formal value of ACE | Clause-Defining Element

c. $[\ldots X\ldots]_{\text{Proposition}}$

$(\ldots\langle\ldots\mid X\rangle\ldots)_{\text{Propositional Radical}}$

$\langle\ldots\mid X\rangle_{\text{Constituent}}$

$\langle\underbrace{Q; R; S}\mid X\rangle_{\text{Word}}$

formal value of ACE | Clause-Defining Element

If so, the formal properties associated with an Argument-Categorizing Element in a Clause are distinct from those in a Sentence. Most obviously, no Argument-Categorizing Element in a Clause occurs internal to a Word with a Tense/Aspect Affix.

(57) offers a few more examples of Clauses, focusing on the formal values of their Argument-Categorizing Elements.

(57) a. ⟨ASP: ch; ADAFF: t; NUM: —⟩

noo n 'o'naq hengeemali [heela-qa-t-i]
I aux know boy:object [sing-aspect-absolutive-object]

I know the boy who is singing.

b. ⟨ASP: generic; ADAFF: PERS; NUM: #⟩

wunaalum mil [pom-'aam-ax] miyquš
they aux [3pl-hunt-aspect] was

They were good at hunting.

c. ⟨ASP: unch; ADAFF: t; NUM: #⟩

[heela-an-t] noo nil pellaquš
[sing-aspect-absolutive] I aux was:dancing

While singing, I was dancing.

3.2 *The Argument Structure*

The Argument-Categorizing Element in a Sentence operates on an Argument Structure. We have concerned ourselves only with the obligatory Word in a Clause, the Word containing the Argument-Categorizing Element. As expected, however, the Argument-Categorizing Element in a Clause is accompanied by an Argument Structure. (58) contains a few examples, indicating the Argument Structure for each.

(58) a. [⟨ASP: — | RIGHTAN: obj⟩ PN]
ADAFF: 1; NUM: pl

noo n 'ayaliq
I aux know

[po-chaqalaqi-pi-y [henge'ma-l-um-i]]
[3sg-tickle-aspect-object ***[boys:-absolutive-pl-object]]***

I know that he will tickle the boys.

b. [⟨ASP: —; ADAFF: PERS | RIGHTAN: sg⟩ 3sg]
NUM: ≠

noo n 'ayaliq
I aux know

[[po-qe'is] po-'aw'-qala-y]
[[3sg-older:sister] *3sg-has-aspect-object]*

I know that he has an older sister.

c. [⟨ASP: —; ADAFF: 1sg | RIGHTAN: obj⟩ PN]
NUM: number

noo n 'ayaliq
I aux know

[[no-taana-y] po-yaw-qala-y]
[[1sg-blanket(s)-object] *3sg-has-aspect-object]*

I know that he has my blanket.

The Argument Structures which may occur in a Clause are not entirely identical to those in a Sentence.[4] Most important for our purposes is a possibility available to Clauses not found in Sentences — an Argument Structure with a "gap" in the argument array. Consider, first, that according to (58a) the Argument-Categorizing Element in *pochaqalaqipiy* (i.e. *pochaqalaqipi*) is fine with the Argument Structure [⟨ASP: — | RIGHTAN: object⟩ PN]. The Clause in (59), then, is interesting, since it contains this Argument-Categorizing Element, but lacks a Constituent of the appropriate form.

(59) noo n 'o'naq hengeemali [po-chaqalaqi-pi-y]
I aux know boy:object [3sg-tickle-aspect-number:object]

I know the boy that he will tickle.

The Word which contains the Argument-Categorizing Element in (58a) and that which contains the Argument-Categorizing Element in (59) differ in the value for RIGHTAN only: ⟨ASP: unchanging future; ADAFF: 3sg; NUM: — | RIGHTAN: object⟩ versus ⟨ASP: unchanging future; ADAFF: 3sg; NUM: — | RIGHTAN: number-object⟩). The important point here is that we want to maintain for the Argument-Categorizing Element in (59) the property of having a ticklee, even in the absence of a Constituent internal to the Argument Structure specifying it. I propose, therefore, that there are Argument Structures which contain a variable. (60) is a schematic representation.

(60) [V (⟨Constituent⟩ . . .) Subject]

The variable is meant to be a place holder for a Constituent in the Argument Structure in the sense that the same number of arguments is indicated in either case but the form is specified in one and left unspecified in the other.[5] Compare the Argument Structure in (58a) with that in (59).

(61) a. [⟨ASP: — RIGHTAN: obj⟩ PN]
ADAFF: l; NUM: pl

b. [V PN]

3.3 *The Propositional Radical and the Proposition*

Although the formal values associated with the Argument-Categorizing Element in a Clause are different from those in a Sentence and although the formal value representing the Argument Structure can vary, both Argument-Categorizing Element and Argument Structure are present in either Clause or Sentence. Concentrating now entirely on this aspect of a Clause, that which is constant across all three Clause types in (56), the analysis proposed in Chapter Four applies.

(62) a. Argument-Categorizing Element: Argument Structure →

$(\langle \text{value} \rangle_{\text{ACE}}; \langle \text{value} \rangle_{\text{Argument Structure}})$

b. Agreement and Anti-Agreement:

$(\langle \text{value} \rangle_{\text{ACE}}; \langle \text{value} \rangle_{\text{Argument Structure}}) \rightarrow$

$[\text{Temp} \left\{ \begin{array}{l} \text{Subject chain} \\ \text{non-Subject chain} \end{array} \right\} \text{Subject}]$

The Clauses in (63) supply the data base with which to illustrate the application of these two rule schemata in a Clause.

(63) a. noo n tiiwiq hengeemali
I aux see boy:object

[chaqalaqi-qala-l [nawitmal-i]]
[tickle-aspect-absolutive:object [girl-object]]

I see the boy tickling the girl.

b. noo n 'ayaliq
I aux know

[[pomtaax] pom-chaqalaqi-pi-y]
[[themselves] 3pl-tickle-aspect-object]

I know that they will tickle themselves.

c. noo n 'ayaliq [[pom-śwaamay] po-'aw'-qala-y]
I aux know [[3pl-daughter] 3sg-has-aspect-object]

I know that they have a daughter.

d. noo n 'o'naq hengeemali [po-chaqalaqi-vo-y]
I aux know boy:object [3sg-tickle-aspect-number:object]

I know the boy that he will tickle.

e. [kwota-an-t] noo n tooyaq
[get:up-aspect-absolutive] I aux is:laughing

While getting up, I am laughing.

f. [tiiwi-nik [hunwut-i]] noo nupo ya'anin
[see-preceding [bear-object]] I aux will:run:away

If I see a bear I will run away.

g. [po-tiiwi-qala [hunwut-i]] noo nupo ya'anin
[3sg-see-aspect [bear-object]] I aux will:run:away

When he sees a bear, I'll run away.

h. noo n 'ayaliq [po-xilla-xpi-y]
I aux know [3sg-rain-aspect-object]

I know that it will rain.

3.3.1 *The Propositional Radical*

The major modification of the rule applying an Argument-Categorizing Element to an Argument Structure has to do with the presence of the variable V. (64) provides analyses of the seven Propositional Radicals in (63) respectively. V appears in (64d).

(64) a. chaqalaqi-qala-l nawitmal-i

⟨ASP: ch; ADAFF: l; NUM: — | . . .⟩:
    req: [⟨ASP: — | RIGHTAN: obj⟩ Subject]

[⟨ASP: — | RIGHTAN: obj⟩ PN] →
    ADAFF: l; NUM: sg

(⟨ASP: ch; ADAFF: l; NUM: — | . . .⟩; [PN])

b. pomtaax pom-chaqalaqi-pi-y

⟨ASP: unch fut: ADAFF: 3pl; NUM: — | . . .⟩:
    req: [⟨RIGHTAN: PERS reflexive⟩ Subject]

[⟨RIGHTAN: PERS reflexive⟩ 3pl] →

(⟨ASP: unch fut; ADAFF: 3pl; NUM: — | . . .⟩; [⟨PERS⟩ 3pl])

c. pom-ȿwaamay po-'aw'-qala-y

⟨ASP: ch; ADAFF: 3sg; NUM: # | . . .⟩:
    req: [⟨ASP: —; ADAFF: PERS | RIGHTAN: Number⟩ Subject]

[⟨ASP: —; ADAFF: PERS | RIGHTAN: sg⟩ 3pl] →
    NUM: #

(⟨ASP: ch; ADAFF: 3sg; NUM: # | . . .⟩; [⟨PERS | sg⟩ 3pl])

d. po-chaqalaqi-vo-y

⟨ASP: unch pst; ADAFF: 3sg; NUM: — | . . .⟩:
    req: [⟨ASP: — | RIGHTAN: obj⟩ Subject]

[⟨V⟩ PN] →

(⟨ASP: unch pst; ADAFF: 3sg; NUM: — | . . .⟩; [⟨V⟩ PN])

e. kwota-an-t

⟨ASP: unch; ADAFF: t; NUM: # | . . .⟩: [PN] →
    req: [Subject]

(⟨ASP: unch; ADAFF: t; NUM: # | . . .⟩; [PN])

(64) f. tiiwi-nik hunwut-i

⟨ASP: –; ADAFF: –; NUM: – | . . .⟩:

req: ⟨ASP: – | RIGHTAN: obj⟩ Subject]

[⟨ASP: – | RIGHTAN: obj⟩ PN] →
ADAFF: t; NUM: sg

(⟨ASP: –; ADAFF: –; NUM: – | . . .⟩; [PN])

g. po-tiiwi-qala hunwut-i

⟨ASP: ASP; ADAFF: 3sg; NUM: – | . . .⟩:

req: ⟨ASP: – | RIGHTAN: obj⟩ Subject]

[⟨ASP: – | RIGHTAN: object⟩ PN] →
ADAFF: t; NUM: sg

(⟨ASP: ASP; ADAFF: 3sg; NUM: – | . . .⟩; [PN])

h. po-xilla-xpi-y

⟨ASP: unch fut: ADAFF: 3sg; NUM: – | . . .⟩:

req: [PN]

[PN] →

(⟨ASP: unch fut; ADAFF: 3sg; NUM: – | . . .⟩)

The rule from Propositional Functor to Proposition in (602) requires a bit more discussion.

3.3.2 *Compatible Person and Number and the Agreement Grid*

The Condition on Person and Number Values applies to the agreement grid in a Sentence as part of the function from Propositional Radical to Proposition. The contrast between the Clauses in (63b) and (65) illustrates the necessity of such a condition in a Clause as well. (63b) involves two '3pl' values as shown in (64b); (65) involves a '3pl' and a '1sg' value. The former is fine; the latter is unacceptable.

(65) (⟨ASP: unch fut; ADAFF: 3pl; NUM: –⟩; [⟨PERS⟩ 1sg])

*noo	n	'ayaliq	[[notaax]	pom-chaqalaqi-pi-y]
I	*aux*	*know*	*[[myself]*	*3pl-tickle-aspect-object]*

As in a Sentence, the person and number values distributed throughout the Propositional Radical in a Clause must be compatible.

The character of the agreement grid is slightly different in a Clause, however. One difference is obvious: As an Argument Structure variable unconnected to the Subject, V will appear on the non-Subject chain in a Clause. Another difference has to do with person values. Consider (63c). Note that the Argument Structure here contains an unanalyzed number value, the situation which in the Proposition of a Sentence gives rise to an agreement grid like:

(66) (⟨ ⟩; [⟨PERS⟩ Subject])
Number Number

The Argument-Categorizing Element in the Clause is identified not with a number value, but with a person/number value and, maintaining the parallel with a Sentence, this person/number value is part of the non-Subject chain. The Clauses in (67) are parallel.

(67) a. (⟨ ⟩; [⟨PERS⟩ 3pl])
3pl pl

noo n 'ayaliq
I aux knows

[[pahchum pom-s̸waamay-um] pom-qal-qala-y]
[[three 3pl-daughter-pl 3pl-has-aspect-object]

I know that they have three daughters.

b. (⟨ ⟩; [⟨PERS⟩ 1sg])
3pl pl

noo n 'ayaliq
I aux know

[[pahchum no-s̸waamay-um] pom-qal-qala-y]
[[three 1sg-daughter-pl] 3pl-have-aspect-object]

I know that I have three daughters.

These non-Subject chains contain a person value in a place never found in the Proposition in a Sentence, i.e. associated with the Argument-Categorizing Element. We can extend this possibility to the agreement grid for (63h). This Propositional Radical lacks a Subject, but the person value in the Argument-Categorizing Element appears on the non-Subject chain.[6]

(68) (⟨ ⟩; [ ])
3sg

Given the existence of person/number compatibility and the modifications on the agreement grid required by these considerations, the Propositional Radicals contain the agreement grids in (67).[7]

(69) a. from
((⟨ASP: ch; ADAFF: l; NUM: –⟩; [PN])
to
((⟨–⟩; [PN])

b. from
((⟨ASP: unch fut; ADAFF: 3pl; NUM: –⟩; [(⟨PERS⟩ 3pl])
to
((⟨3pl⟩; [(⟨PERS⟩ 3pl])

c. from
((⟨ASP: ch; ADAFF: 3sg; NUM: # ⟩; [(⟨PERS | sg⟩ 3pl)
to
((⟨ ⟩; [(⟨PERS⟩ 3pl])
3sg sg

d. from
((⟨ASP: unch pst; ADAFF: 3sg; NUM: –⟩; [(⟨V⟩ PN])
to
((⟨3sg⟩; [PN])
V

e. from
((⟨ASP: unch; ADAFF: t; NUM: # ⟩; [PN])
to
((⟨ # ⟩; [PN])

f. from
((⟨ASP: –; ADAFF: –; NUM: –⟩; [PN])
to
((⟨–⟩; [PN])

g. from
((⟨ASP: ASP; ADAFF: 3sg; NUM: –⟩; [PN])
to
((⟨3sg⟩; [PN])

(69) h. from

((ASP: unch fut; ADAFF: 3sg; NUM: —))

to

(( ))

3sg

One thing should be noted about the representation of the obligatory Word in the agreement grid: The examples above include either the value for ADAFF or the value for NUM, but never both. The value for ADAFF appears in the agreement grid, if it is neither an absolutive value nor '—'; otherwise the value for NUM is present. The justification of this simplification turns on the fact that none of the obligatory Words in a Clause will bear a person value for ADAFF and a number value for NUM simultaneously. This kind of relationship between values for the features deserves further study.

3.3.3 *The Converse of the Agreement Grid*

Because the Conditions on Person and Number Values are defined across the agreement grid, the result for a Sentence is the identification of a temporal value. We have already noted the existence in a Clause of a temporal value, albeit not necessarily identical to that found in a Sentence. The values available are those associated with the aspectual affixes:

(70) unchanging (e.g. (64a))

changing (e.g. (64c))

generic

unchanging future (e.g. (64b))

changing future

unchanging past (e.g. (64d))

changing past

The agreement grids in (69) do not include this property of the Clause.

The four-way temporal distinction proposed for a Proposition in a Sentence has a natural application here. The temporal values available to the Propositional Radical in a Clause divide naturally into four groups — those which specify 'past' (64d); those which specify 'future' ((64b) and (64h)); those which specify aspect only ((64a), (64c), and (64e)); and those with no temporal specification at all (64f). This four-way division corresponds nicely to the division proposed for the Proposition in a Sentence. The temporal values +realized, −realizable and −realized, +realizable were applied in Chapter Four to 'past' and 'future' respectively; this requires no modification for Clauses. The two-way distinction (aspect versus non-aspect) that remains is straightforwardly distributed to +realized, +realizable and −realized, −realizable respectively.

(71) a. +realized, +realizable
changing
unchanging
generic

b. +realized, −realizable
changing/unchanging past

c. −realized, +realizable
changing/unchanging future

d. −realized, −realizable
no aspect

(64g) presents a situation not found in a Sentence. Here rather than a particular temporal value, we find ASP. This specification necessarily, therefore, falls outside the classification in (71), and such a Proposition will simply be assigned the value 'ASP'. (72) adds the temporal value to the agreement grids in (71).

(72) a. [+realized, +realizable (⟨—⟩; [PN])]
b. [−realized, +realizable (⟨3pl⟩; [⟨PERS⟩ 3pl])]
c. [+realized, +realizable (⟨ ⟩; [⟨PERS⟩ 3pl])]
3sg sg
d. [+realized, −realizable (⟨3sg⟩; [PN])]
V
e. [+realized, +realizable (⟨ # ⟩; [PN])]
f. [−realized, −realizable (⟨—⟩; [PN])]
g. [ASP (⟨3sg⟩; [PN])]
h. [−realized, +realizable (⟨ ⟩)]
3sg

3.3.4 *The Condition on a Single Linked-Person Value*

The Condition on a Single Linked-Person Value in a Sentence is restated in (73).

(73) *Person-marked form . . . Person-marked form
X X

Consider, then, the Clause in (63c), repeated here:

(63) c. noo n 'ayaliq [[pom-ʂwaamay] po-'aw'-qala-y]
I aux know [[3pl-daughter] 3sg-has-aspect-object]

I know that they have a daughter.

If (73) applies in a Clause, the agreement grid for this Clause (cf. (72c)) should be fine. However, (74) should be unacceptable because it has the agreement grid in (75).

(74) noo n 'ayaliq
I aux know

*[[pom-ʂwaamay] pomyaax po-'aw'-qala-y]
[[3pl-daughter] 3pl:try 3sg-has-aspect-object]

(75) (⟨ ⟩: [⟨PERS⟩ 3pl]: ⟨3pl⟩)
3sg sg try

And, (74) is not, in fact, an acceptable Sentence, a judgment which must devolve to the Clause which it contains and specifically to the violation of the Condition at issue.

Given the existence of the Condition on a Single-Linked Person value in a Clause, I will not argue again for its necessity to the addition of the Subject in a Proposition. I simply show, first, that for a Clause as for a Sentence the Subject value in a Proposition need not be identical to the Subject value in the Argument Structure. But, second, the Subject value is dependent on the properties of the agreement grid. And, the result, third, is the addition of this value and the modification of the agreement grid.

The first point is easily made. Consider the agreement grid for (63g) in (72g), repeated here:

(72) g. [ASP (⟨3sg⟩; [PN])]

The Subject in the Argument Structure is 'PN', but the Proposition is not equally open. As the gloss of (63g) suggests — 'When he sees a bear, I'll run away.' — the Subject is specifically '3sg', the value associated with the formal value of the Argument-Categorizing Element. Thus, the Subject of the Proposition does not have a value identical to the Subject in the Argument Structure.

The dependence of the Subject on the agreement grid, with three exceptions, is also exactly like the situation discussed for the Proposition in a Sentence: The most fully specified value in the Subject chain of an agreement grid with a Subject in the Argument Structure yields the

Subject of the Proposition; if the Argument Structure lacks a Subject, the Proposition has no Subject. The Subject of the Proposition in each agreement grids in (73) except (73e) is straightforwardly determined.

(76) a. [+realized, +realizable (⟨—⟩; [PN]) PN]

b. [−realized, +realizable (⟨PERS⟩; [⟨PERS⟩ 3pl]) 3pl]

c. [+realized, +realizable (⟨ ⟩: [⟨PERS⟩ 3pl]) 3pl]

3sg sg

d. [+realized, −realizable (⟨3sg⟩; [PN]) 3sg]

V

e. [+realized, +realizable (⟨ # ⟩; [PN]) PN]

f. [−realized, −realizable (⟨—⟩; [PN]) PN]

g. [ASP (⟨3sg⟩; [PN]) 3sg]

h. [−realized, +realizable (⟨ ⟩; [ ]]

3sg

One minor exception is illustrated in (76e) in the presence of a bound number value — i.e. # — on the Subject chain with a PN Subject. Although the particular number value is not available, any number value is more well specified than N. We modify (76e) accordingly.

(76′) e. [+realized, +realizable (⟨ # ⟩ [PN]) P #]

Another related exception is the possible presence of 'POSS' in the Subject chain of an agreement grid, with an effect on the Subject value. Consider the agreement grid in (78) for the example in (77).

(77) (⟨ASP: unch fut; ADAFF: POSS; NUM: —⟩; [PN])

[no-ngee-pi] up miyq
[1sg-leave-unchanging:future] aux is

I have to leave.

(78) (⟨POSS⟩; [PN])

Again, although the particular person value is not available, I take 'POSS' as more well specified than 'PN'. The Subject associated with the agreement grid in (78) is 'PERS' as shown in (79).

(79) [(⟨POSS⟩; [PN]) PERS]

The presence of the variable V in a specific agreement grid type is a different kind of exception to the parallel between the Subject in a Sentence and the Subject in a Clause. Consider (81) with the agreement grid in (80).

(80) (⟨—⟩; [PN])
V

(81) (⟨ASP: changing; ADAFF: —; NUM: —⟩; [⟨V⟩ PN])

noo nil tiiwyax kihaati [chaqalaqi-qala-nga]
I aux saw baby:object [tickle-aspect-on]

I saw the baby being tickled.

Such agreement grids yield a Subject outside the set of those considered in Chapter Four. Neither the tickler nor the ticklee is lexically specified in the Proposition, as (80) indicates. The gloss of (81) suggests further that the tickler is not only unspecified in the Clause, it may have no lexical instantiation whatsoever. That is, the agreement grid configuration in (80) is associated with an obligatorily unspecified Subject. This is not the same as the absence of a Subject in the Propositions of weather-expressions or 'tough' sentences. For (80) the situation is that of an unspecified agent. I use the label 'Someone' to identify such Subjects.

(82) [. . . (⟨—⟩ [PN]) Someone]
V

The presence of the Argument Structure configuration:

(83) [PN]
V

is necessary but not sufficient to the Subject 'Someone'; it must be accompanied, as in (80), by the absence of a person/number value in the agreement grid outside the Argument Structure. Consider the Clause in (63d), repeated here:

(63) d. noo n 'o'naq hengeemali [po-chaqalaqi-vo-y]
I aux know boy:object [3sg-tickle-aspect-number:object]

I know the boy that he will tickle.

Both (63d) and (81) involve the form *chaqalaqi* 'tickle' and the Argument Structures are identical as well. But, as the English gloss suggests, the Subject of the Proposition in (63d) is not 'Someone', but rather specifically '3sg'. The agreement grid for this Clause in (76d) makes the difference clear. In (76d), the Subject chain has a specific person value; in (82), it does not. That is, the possibility of the Subject 'Someone' depends on a configuration as in (82).

The modification of the agreement grid accompanying the addition of the Subject is identical to that employed in a Sentence. The values directly related to the Subject on the Subject chain are modified to reflect their relationship. (84) completes the formal value of the Propositions in (63).

(84) a. [+realized, +realizable (⟨—⟩: [SUBJ]) PN]
b. [−realized, +realizable (⟨PERS⟩; [⟨PERS⟩ SUBJ]) 3pl]
c. [+realized, +realizable (⟨ ⟩; [⟨PERS⟩ SUBJ]) 3pl]
3sg sg
d. [+realized, −realizable (⟨PERS⟩; [SUBJ]) 3sg]
V
e. [+realized, +realizable (⟨ # ⟩; [SUBJ]) P #]
f. [−realized, −realizable (⟨—⟩: [SUBJ]) PN]
g. [ASP (⟨PERS⟩; [SUBJ]) 3sg]
h. [−realized, +realizable (⟨ ⟩; [ ]]
3sg

And (86) gives the formal values for (77) and (81) respectively.

(86) a. [−realized, +realizable unch (⟨POSS⟩; [SUBJ]) PERS)
b. [+realized, +realizable (⟨—⟩ [SUBJ]) Someone]
V

3.4 *Conclusion to the Analysis*

We began this discussion with an identification of the clausal analogue to a Sentence-Defining Element. But we have concentrated here on the analysis of the Proposition in a Clause, focusing on the major similarities to the Proposition in a Sentence and highlighting those differences that exist.[8] The partial schema presented in (55) can be extended as in (87).

(87) a. Relative Clauses
$\langle A; B; C \mid X\rangle_{\text{Constituent}}$

$\langle A; B; C \mid X\rangle_{\text{Word}} \ldots \quad \langle \underbrace{Q; R; S}\mid X(-Y)\rangle_{\text{Word}}$

formal value of | Clause-Defining Element
ACE
Argument Structure } Propositional Radical → Proposition
('addition')

(87) b. Complement Clauses

[. . . ⟨. . . X⟩ . . .]$_{\text{Argument Structure}}$

⟨Q; R; S | RIGHTAN: X⟩$_{\text{Constituent}}$

⟨$\underbrace{\text{Q; R; S}}$ | RIGHTAN: X⟩$_{\text{Word}}$

formal value of | Clause-Defining Element

ACE

Argument Structure } Propositional Radical → Proposition

('addition')

c. Adjunct Clauses

[. . . X . . .]$_{\text{Proposition}}$

(. . . ⟨ . . . | X⟩ . . .)$_{\text{Propositional Radical}}$

⟨Q; R; S | RIGHTAN: X⟩$_{\text{Constituent}}$

⟨$\underbrace{\text{Q; R; S}}$ | RIGHTAN: X⟩$_{\text{Word}}$

formal value of | Clause-Defining Element

ACE

Argument Structure } Propositional Radical → Proposition

('addition')

Section 2 of this chapter developed one argument for the utility of the Constituent, Argument Structure, and Proposition, the argument that they define the domain for embedding. That discussion and the internal analysis of a Clause developed in this section provide the background to a second, and more complicated, argument: These three categories allow a relatively simple resolution of the problem of control in Luiseño.

4. CONTROL

The pair of complement clauses in (88) illustrates the problem.

(88) a. [+realized, −realizable (⟨PERS⟩; [SUBJ]) 3sg]

noo	n	'ayaliq	[po-tooya-xvo-y]
I	*aux*	*knows*	*[3sg-laugh-unchanging:past-object]*

I know that he laughed.

b. [+realized, +realizable (⟨—⟩; [SUBJ]) PN]

noo	n	tiiwiq	hengeemali	[tooya-qala-l]
I	*aux*	*see*	*boy:object*	*[laugh-changing-absolutive:object]*

I see the boy laughing.

The Subject of the complement clause in (88a) is free of any obligatory referential relationship to an element in the embedding Argument Structure; however, the Subject of the complement clause in (88b) is obligatorily coreferential with *hengeemali*, the instantiation of the other lexically present element in the Argument Structure. Similarly, the temporal value of the complement clause in (88a) bears no relationship to the temporal value in the Sentence; however, the temporal value of the complement clause in (88b) must be interpreted relative to the temporal reference of the embedding Sentence.

Recent analyses of switch-reference (in particular Finer (1985) and Tsujimura (1987)) have rekindled attention in such problems. Both Finer and Tsujimura provide analyses of contrasts like the following in Hopi.

(89) a. Pam warik-t pɨɨ? coʔomti
*he run:having-**suffix** and:then jump*

After running, he jumped. (from Langacker (1977))

b. Pam pitɨ-q pɨɨ? nɨ? pɨt nopnani
*he arrive-**suffix** then I him feed:future*

When he comes I will feed him. (from Jeanne (1978))

The suffix **-t** in (89a) requires that the subject of the clause containing *warik* 'having run' is identical to the subject of that containing *coʔomti* 'jump', while the suffix *-q* requires that the subject of the clause containing *pitɨ-* 'arrive' is different from the subject of that containing *nopnani* 'will feed'. Tsujimura's analysis, but not obviously Finer's, incorporates as well the fact that the temporal values of a clause participate in this relationship. For example, in the Hopi examples above, both *-t* and *-q* require that one event precede the other and are to be contrasted in this respect from the suffix *-k^{y}ang* in (90).

(90) nima-k^{y}ang mɨɨnat tɨwa
*go:home-**suffix** river see*

As he went home, he saw the river. (from Langacker (1977)

The analysis proposed here, like Tsujimura's, necessarily incorporates both Subject and temporal values. But it has two other properties as well. First, the binary distinction between same as/different from which is crucial to Finer's analysis (but not to Tsujimura's) is not adequate to the Luiseño facts. Rather I propose a three-way distinction, characterized most generally as in (91).[9]

(91) a value in the Proposition will be:

a. identical to a value in the embedding structure

(91) b. determined relative to a value in the embedding structure

or

c. independent of a value in the embedding structure

(91) applies equally to the Subject and temporal value in the Proposition of a Clause — and to the non-Subject chain of the agreement grid as well. Second, the principles by which any of these possibilities is determined apply equally to the three Clause types in Luiseño — the relative clause, the complement clause, and the adjunct clause — given the analysis of a Clause proposed above (and summarized in (87)) and given their defining domains. In sum, we not only solve the control problem in Luiseño, we solve it uniformly across Clause types.

4.1 *Temporal Value*

Applying (91) to the temporal value of a Clause, we have:

(92) a temporal value in the Proposition will be:

a. identical to a temporal value in the embedding structure

b. determined relative to a temporal value in the embedding structure

or

c. independent of a temporal value in the embedding structure

(88b) is an example of (92a). The temporal assignment of such clauses is identified with the temporal value of the embedding structure. So, in (88b), the time of seeing is 'near non-future' and so is the time of laughing. Compare (93) where the time of seeing is 'distant non-future' and so is the time of laughing.

(93) noo nil tiiw-ax hengeemali
I aux see-distant:non:future boy:object

[tooya-qala-l]
[laugh-changing-absolutive:object]

I saw the boy laughing.

(88a) is an example of (92c). As the additional complement clauses in (94) and (95) indicate, the reference point for its temporal value is independent of the time of the embedding structure.

(94) a. [+realized, −realizable unchanging . . .]

noo nil 'ayaliquś [po-tooya-xvo-y]
I aux knew [3sg-laugh-unchanging:past-object]

I knew that he laughed.

(94) b. [+realized, −realizable unchanging . . .]

noo nupo 'ayalin [po-tooya-xvo-y]
I aux will:know [3sg-laugh-unchanging:past-object]

I will know that he laughed.

(95) a. [+realized, +realizable unchanging . . .]

noo n 'ayaliq [po-tooya-x-i]
I aux knows [3sg-laugh-unchanging-object]

I know that he laughs.

b. [−realized, +realizable unchanging . . .]

noo n 'ayaliq [po-tooya-xpi-y]
I aux knows [3sg-laugh-unchanging:future-object]

I know that he will laugh.

Finally, (96) offers examples of (91b). The complement in (96a) is a 'past' relative to a 'present' and that in (96b) is a 'future' relative to a 'present'.

(96) a. [+realized, −realizable unchanging . . .]

noo p [no-ngee-vo] miyq
I aux [1sg-leave-unchanging:past] is

I have left.

b. [−realized, +realizable unchanging . . .]

noo p [no-ngee-pi] miyq
I aux [1sg-leave-unchanging:future] is

I have to leave.

Given the three-way distinction in (92), then, we are concerned with predicting each of the three available interpretations. The facts that we have to account for are these: (1) No complement clause has more than one of the three temporal possibilities in (92), but the set of complement clause types involves each of these; (2) All adjunct clauses involve only the relative (92b) interpretation; and (3) All relative clause types involve only the independent (92c) interpretation.

(97) a. identical

some complement clauses

b. relative

some complement clauses

all adjunct clauses

(97) c. independent
some complement clauses
all relative clauses

The problem is to account for not only this gross distribution, but also the place of any particular Clause type on it — with a single set of principles. The resolution to this problem is conceptually quite simple: The temporal value of the Proposition in a Clause (*any Clause*) turns on the relationship between the defining domain and the temporal properties of the Proposition, as mediated by the aspectual properties of the obligatory Word.

4.1.1 *Background*

The essential consideration in this relationship is whether the aspectual property of the obligatory Word — the property that identifies the temporal value of the embedded Proposition — is available in the containing domain.

It is essential to recall, first, the two situations in regard to the aspectual properties of the obligatory Word: it yields its value to the feature RIGHTAN or it doesn't.

(98) a. $\langle$ASP: ASP | RIGHTAN: aspect$\rangle_{\text{Word}}$

[ASP . . .]$_{\text{Proposition}}$

b. $\langle$ASP: aspect/— . . .$\rangle_{\text{Word}}$

[temporal value . . .]$_{\text{Proposition}}$

(99) is an example of the first.

(99) $\langle$ASP: ASP | RIGHTAN: generic$\rangle_{\text{Word}}$

[ASP . . .]$_{\text{Proposition}}$
poloov up [po-tooyi-lo]
good aux [3sg-laugh-generic]
It is nice to laugh.

Both sentences in (88) and those in (93) through (96) are examples of the second.

(100) a. $\langle$ASP: unchanging past . . .$\rangle_{\text{Word}}$

[+realized, −realizable unchanging . . .]$_{\text{Proposition}}$
((88a), (94a), (94b), and (96a))

(100) b. ⟨ASP: changing . . .⟩$_{\text{Word}}$

[+realized, +realizable changing . . .]$_{\text{Proposition}}$

((88b) and (93))

c. ⟨ASP: unchanging . . .⟩$_{\text{Word}}$

[+realized, +realizable changing . . .]$_{\text{Proposition}}$

(95a)

d. ⟨ASP: unchanging future . . .⟩$_{\text{Word}}$

[−realized, +realizable unchanging . . .]$_{\text{Proposition}}$

((95b) and (96b))

Either possibility gives access to the temporal value of the embedded Proposition; the two differ only in how direct that access is.

The temporal value of the embedded Proposition can be available in its domain or not, depending on whether the aspectual properties of the obligatory Word are 'called' in the domain or not. Now, where the temporal value appears as a value for the feature RIGHTAN it is always available in the containing domain; while the values for the three features ASP, ADAFF, and NUM are not always essential to the identification of a form for a particular syntactic function, the value for RIGHTAN is always necessary. The example in (99) is a reasonably straightforward example, and (101) provides the analysis tree.

(101) [⟨RIGHTAN: PERS sg generic⟩ X]$_{\text{Argument Structure}}$
ASP: ASP; ADAFF: POSS; NUM: –

⟨ASP: ASP; ADAFF: POSS; NUM: –
| RIGHTAN: 3sg generic⟩$_{\text{Constituent}}$

⟨ASP: ASP; ADAFF: POSS; NUM: –
| RIGHTAN: 3sg generic⟩$_{\text{Word}}$

[ASP . . .]$_{\text{Proposition}}$

Where the temporal value of the obligatory Word is reflected in the value for ASP, on the other hand, there is the option of it not being represented in the containing domain. The obligatory Word in a relative clause, recall from the review of Constituents in Section 2, is never represented in the containing Constituent; thus, the temporal value of the relative clause does not appear in the containing domain. (102) represents the general case. (103) gives the analysis tree for a particular case.

(102) ⟨ASP: −; B; C | A⟩$_{\text{Constituent}}$

⟨ASP: −; B; C | A⟩$_{\text{Word}}$ ⟨ASP: Aspect; R; S | Z⟩$_{\text{Word}}$

[temporal value . . .]$_{\text{Proposition}}$

(103) ⟨ASP: −; ADAFF: 1; NUM: sg | RIGHTAN: obj⟩$_{\text{Constituent}}$

⟨ASP: −; ADAFF: 1; NUM: sg | RIGHTAN: obj⟩$_{\text{Word}}$

⟨ASP: unch pst; ADAFF: 3sg; NUM: #

| RIGHTAN: number: obj⟩$_{\text{Word}}$

[+realized, −realizable unch . . .]$_{\text{Proposition}}$

noo n 'o'naq
I aux know

hengeemal-i po-chaqalaqi-vo-y
boy-object 3sg-tickle-unchanging:past-number:object

I know the boy that he tickled.

In contrast the temporal value for all complement clauses and all adjunct clauses is available in the containing domain. (101) provides one type of example for a complement clause; (94a) above is an example where the temporal value is independent of the Clause-Defining Element. (104) provides an analysis tree, illustrating the availability of the temporal value in the Argument Structure.

(94) a. noo nil 'ayaliquś [po-tooya-xvo-y]
I aux knew [3sg-laugh-unchanging:past-object]

I knew that he laughed.

(104) [⟨ASP: unch pst | RIGHTAN: obj⟩ PN]$_{\text{Argument Structure}}$

ADAFF: 3sg; NUM: −

⟨ASP: unch pst; ADAFF: 3sg; NUM: −

| RIGHTAN: obj⟩$_{\text{Constituent}}$

⟨ASP: unch pst; ADAFF: 3sg; NUM: −

| RIGHTAN: object⟩$_{\text{Word}}$

[+realized, −realizable unch . . .]$_{\text{Proposition}}$

The adjunct clauses in (105) and (106) illustrate the two possible expressions of the temporal value.

(105) ⟨ASP: ASP | RIGHTAN: ch⟩

[po-tiiwi-qala hunwuti] noo nupo ya'anin
[3sg-see-aspect bear:object] I aux will:run:away

When he sees the bear, I will run away.

(106) ⟨ASP: unch | RIGHTAN: number⟩

[kwota-an-t]	noo	n	tooyaq
[get:up-aspect-absolutive]	*I*	*aux*	*is:laughing*

While getting up, I am laughing.

In either case the temporal value is available in the containing Proposition, as illustrated in the analysis trees in (107) and (108) respectively.

(107) [−realized, +realizable (⟨ ⟩; [ ]; ⟨ ⟩) 1sg]$_{\text{Proposition}}$

ch

(. . . ⟨RIGHTAN: ch⟩)$_{\text{Propositional Radical}}$

⟨ASP: ASP; ADAFF: 3sg; NUM: −

| RIGHTAN: ch⟩$_{\text{Constituent}}$

⟨ASP: ASP; ADAFF: 3sg; NUM: − | RIGHTAN: ch⟩$_{\text{Word}}$

[ASP . . .]$_{\text{Proposition}}$

(108) [+realized, +realizable (⟨ ⟩; [ ]; ⟨ ⟩) 1sg]$_{\text{Proposition}}$

unch

(. . . ⟨ASP: unch | RIGHTAN: sg⟩)$_{\text{Propositional Radical}}$

⟨ASP: unch; ADAFF: t; NUM: #

| RIGHTAN: number⟩$_{\text{Constituent}}$

⟨ASP: unch; ADAFF: t; NUM: # | RIGHTAN: number⟩$_{\text{Word}}$

[+realized, +realizable unch . . .]$_{\text{Proposition}}$

(109) summarizes these facts.

(109) 1. Available to containing domain

a. through Clause-Defining Element

⟨. . . Aspect . . .⟩$_{\text{containing domain}}$

| Clause-Defining Element$_{\text{Aspect}}$

⟨ASP: ASP | RIGHTAN: aspect⟩$_{\text{Word}}$

[ASP . . .]$_{\text{Proposition}}$

i. some complement clauses (e.g. (105))

ii. some adjunct clauses (e.g. (99))

(109) b. not through Clause-Defining Element

$\langle \ldots \text{Aspect} \ldots \rangle_{\text{containing domain}}$

ASP: aspect | Clause-Defining Element

$\langle$ASP: aspect | . . .$\rangle_{\text{Word}}$

[temporal value . . .]$_{\text{Proposition}}$

i. some complement clauses (e.g. (106))

ii. some adjunct clauses (e.g. (94a))

2. Not available in containing domain

$\langle \ldots \rangle_{\text{containing domain}}$

ASP: aspect | Clause-Defining Element

$\langle$ASP: aspect | . . .$\rangle_{\text{Word}}$

[temporal value . . .]$_{\text{Proposition}}$

i. all relative clauses (e.g. (103))

4.1.2 *The Factors*

Against this background, the interpretation of the temporal value of any Clause and the distribution of the various clause types is quite easy to predict. Two factors are at issue: (1) whether the temporal value of the embedded Proposition is accessible to a temporal value in the immediately embedding Proposition; (2) if it is, is it 'called' by the temporal-value-bearing form in the immediately embedding Proposition.

Where the temporal value of the Proposition is not available to the containing domain (as with relative clauses), it must be independent of any relationship to the immediately embedding Proposition's temporal value. However, where the temporal value of the Proposition is available to the containing domain, it need not always be accessible to a temporal value. The important difference is found in complement clauses. Some Argument-Categorizing Elements require a complement clause; others are insensitive to its presence. The contrast between *'ayali* 'know', on the one hand and *miyx* 'be' and *tiiwi* 'see', on the other, is illustrative. The argument requirements of *'ayali* are neutral in regard to the presence of a complement clause — that is, the value for ASP is entirely unimportant. The argument requirements for *miyx* indicate the presence of a complement clause, by specifying 'aspect' for the feature ASP. And, *tiiwi* can require the presence of a complement clause and, moreover, indicates that the aspectual value at issue is specifically 'changing'. (110) gives the relevant requirements.

(110) a. 'ayali 'know'

[⟨RIGHTAN: object⟩ Subject]

b. miyx 'be'

[⟨ASP: Aspect; ADAFF: POSS | RIGHTAN: PERS⟩ Subject]

c. tiiwi 'see'

[⟨ASP: – | RIGHTAN: object⟩
⟨ASP: ch; ADAFF: ABS | RIGHTAN: obj⟩ Subject]
[⟨ASP: – | RIGHTAN: object⟩
⟨ASP: ch; ADAFF: – | RIGHTAN: on⟩ Subject]

Each of these forms will supply the temporal value in the Proposition where they function as the Argument-Categorizing Element. Because *'ayali* does not require a complement clause, the temporal value of the embedded Proposition is not accessible to the temporal value of the embedding Proposition. (94a) is an example.

(94) a. [+realized, −realizable unchanging . . .]

noo nil 'ayaliquś [po-tooya-xvo-y]
I aux knew [3sg-laugh-unchanging:past-object]

I knew that he laughed.

A temporal value that is accessible still has two possibilities: it can be 'called' by a temporal-value-bearing form or not. The crucial difference here is between *tiiwi* and *miyx*. *tiiwi* 'calls' the temporal value of the complement clause; it not only requires the presence of a complement clause, it also requires that the aspectual value at issue is specifically 'changing'. (111) provides an example of a temporal value that is 'called', a complement clause in an Argument Structure accompanying *tiiwi*; (112) provides examples of a temporal value that is not 'called' by giving a few of the complement clause possibilities in an Argument Structure accompanying *miyx*.

(111) noo n tiiwiq hengeemali [tooya-qala-l]
I aux see boy:object [laugh-changing-absolutive:object]

I see the boy laughing.

(112) a. noo p [no-ngee-vo] miyq
I aux [1sg-leave-unchanging:past] is

I have left.

(112) b. noo p [no-ngee-pi] miyq
I aux [1sg-leave-unchanging:future] is

I have to leave.

c. noo p [no-ngee] miyq
I aux [1sg-leave-unchanging] is

I have left (many times).

Because *miyx* requires a complement clause, but does not specify its aspectual properties, these are present in the agreement grid of the embedding Proposition, according to the analysis developed in Chapter Four. The formal value of the embedding Proposition for (112b) is in (113).

(113) [+realized, +realizable near (⟨ ⟩; [ ]) 1sg]
unch fut

Only the temporal values of complement clauses are 'called' in their domain. While any such temporal value that appears in the Clause-Defining Element will necessarily be 'called', the requirements of *tiiwi* in (110c) illustrate that these are not the only 'called' temporal values. The argument requirements of *poloov* 'good' in (114) offer an example of a temporal value that is 'called' through the Clause-Defining Element.

(114) poloov
[⟨RIGHTAN: PERS Number generic⟩ Subject]

And (99) above is an example.

(99) poloov up [po-tooyi-lo]
good aux [3sg-laugh-generic]

It is nice to laugh.

The sketch of adjunct clauses in Section 2 of this chapter represents the temporal value of all adjunct clauses in the embedding Proposition. Thus, while the temporal value of an adjunct clauses is never 'called', it is always accessible — whether it appears in the Clause-Defining Element or not. (115) and (116) provide the formal values for the embedding Propositions in (105) and (106) respectively.

(105) ⟨ASP: ASP | RIGHTAN: ch⟩

[po-tiiwi-qala hunwuti] noo nupo ya'anin
[3sg-see-aspect bear:object] I aux will:run:away

When he sees the bear, I will run away.

(106) ⟨ASP: unch | RIGHTAN: number⟩

[kwota-an-t]	noo	n	tooyaq
[get:up-aspect-absolutive]	*I*	*aux*	*is:laughing*

While getting up, I am laughing.

(115) [−realized, +realizable (⟨ ⟩; [ ]; ⟨ ⟩) 1sg]
ch

(116) [+realized, +realizable near (⟨ ⟩; [ ]; ⟨ ⟩) 1sg]
unch

(117) summarizes the distribution suggested in this section.

(117) 1. Accessible to the embedding temporal value

a. called

some complement clauses (e.g. (96) and (111))

b. not called

some complement clauses (e.g. (112))

all adjunct clauses (e.g. (105) and (106))

2. Not accessible to the embedding temporal value

some complement clauses (e.g. (94a))

all relative clauses (e.g. (100))

4.1.3 *Temporal Control*

Given this classification of the relationship between the temporal value of the obligatory Word and the containing domain, the determination of temporal control for any Clause is extremely simple: The distribution in (97) is easily superimposed on the classification in (117).

(118) 1. Accessible

a. called = identical

some complement clauses

b. not called = relative

all adjunct clauses

some complement clauses

2. Not accessible = independent

some complement clauses

all relative clauses

The Argument-Categorizing Element of the embedding Proposition contributes the temporal value of the Proposition. Therefore, if the temporal value of the embedded Proposition is inaccessible as in (118-2), logically, it must be independent of any other temporal value. That is, the temporal value of a Proposition in a relative clause is absolute and non-relative, as is the temporal value of the subset of complement clauses with which we began in (88), (94), and (95). (119) states the temporal interpretation of this clause type.

(119) Given an inaccessible temporal value:

i.e.

$[\langle \text{ASP: }-; \ldots \rangle]_{\text{Constituent}}$

$\quad \langle \text{ASP: Aspect}; \ldots \rangle_{\text{Word}}$

$\qquad [\text{Temporal value} \ldots]_{\text{Proposition}}$

or

Argument-Categorizing Element:

$\quad$ req $\langle$no specification for ASP$\rangle$

$[\ldots \langle \text{ASP: Aspect} \mid \ldots \rangle \ldots]_{\text{Argument Structure}}$

$\quad \langle \text{ASP: Aspect} \mid \ldots \rangle_{\text{Constituent}}$

$\qquad \langle \text{ASP: Aspect}; \ldots \rangle_{\text{Word}}$

$\qquad\quad [\text{Temporal value} \ldots]_{\text{Proposition}}$

then:

+realized, +realizable = present

+realized, −realizable = past

−realized, +realizable = future

The necessity of the difference between a relative temporal value and an identical one is equally clear. A relative temporal value is present in the formal value of the embedding Proposition. Thus, when the defining element of the embedding Proposition fixes its temporal value, these other temporal values can be simultaneously fixed. In contrast, an identical temporal value can have no temporal properties outside of those of the Argument-Categorizing Element which has 'called' it. (120) states the interpretation of the relative temporal value case in (118-1-b).[10]

(120) Given an accessible but not 'called' temporal value:

i.e.

$[\ldots]_{\text{Proposition}}$

Aspect

(120) from:

$(\ldots\langle \text{ASP: Aspect} \mid \text{RIGHTAN:}\ldots\rangle\ldots)_{\text{Proppositional Radical}}$

$\quad\langle \text{ASP: Aspect} \mid \text{RIGHTAN:}\ldots\rangle_{\text{Constituent}}$

$\quad\quad\langle \text{ASP: Aspect} \mid \text{RIGHTAN:}\ldots\rangle_{\text{Word}}$

$\quad\quad\quad[\text{Temporal value}\ldots]_{\text{Proposition}}$

or

$(\ldots\langle \text{RIGHTAN: Aspect}\rangle\ldots)_{\text{Propositional Radical}}$

$\quad\langle \text{ASP: ASP} \mid \text{RIGHTAN: Aspect}\rangle_{\text{Constituent}}$

$\quad\quad\langle \text{ASP: ASP} \mid \text{RIGHTAN: Aspect}\rangle_{\text{Word}}$

$\quad\quad\quad[\text{ASP}\ldots]_{\text{Proposition}}$

or

Argument-Categorizing Element:

req: $\langle \text{ASP: Aspect}\rangle$

$\quad[\ldots\langle \text{ASP: Aspect} \mid \ldots\rangle\ldots]_{\text{Argument Structure}}$

$\quad\quad\langle \text{ASP: Aspect;}\ldots \mid \ldots\rangle_{\text{Constituent}}$

$\quad\quad\quad\langle \text{ASP: Aspect;}\ldots \mid \ldots\rangle_{\text{Word}}$

$\quad\quad\quad\quad[\text{Temporal value}\ldots]_{\text{Proposition}}$

then:

+realized, +realizable = relative present

−realized, +realizable = relative future

+realized, −realizable = relative past

−realized, −realizable = relative

ASP = relative

(121) states the interpretation of the identical temporal value in (118-1-a).[11]

(121) Given a 'called' temporal value:

Argument-Categorizing Element:

req: $\langle \text{RIGHTAN: generic}\ldots\rangle$

$\quad[\ldots\langle \text{ASP: ASP;}\ldots \mid \text{RIGHTAN: generic}\ldots\rangle\ldots]_{\text{Argument Structure}}$

$\quad\quad\langle \text{ASP: ASP;}\ldots \mid \text{RIGHTAN: generic}\ldots\rangle_{\text{Constituent}}$

$\quad\quad\quad\langle \text{ASP: ASP;}\ldots \mid \text{RIGHTAN: generic}\rangle_{\text{Word}}$

$\quad\quad\quad\quad[\text{ASP}\ldots]_{\text{Proposition}}$

(121) or

Argument-Categorizing Element:

req: ⟨ASP: changing⟩

$[\ldots\langle \text{ASP: ch} \mid \ldots\rangle \ldots]_{\text{Argument Structure}}$

$\langle \text{ASP: ch}; \ldots \mid \ldots\rangle_{\text{Constituent}}$

$\langle \text{ASP: ch}; \ldots \mid \ldots\rangle_{\text{Word}}$

$[+\text{realized}, +\text{realizable} \ldots]_{\text{Proposition}}$

or

Argument-Categorizing Element:

req: ⟨ASP: unch⟩

$[\ldots\langle \text{ASP: unch} \mid \ldots\rangle \ldots]_{\text{Argument Structure}}$

$\langle \text{ASP: unch}; \ldots \mid \ldots\rangle_{\text{Constituent}}$

$\langle \text{ASP: unch}; \ldots \mid \ldots\rangle_{\text{Word}}$

$[+\text{realized}, +\text{realizable} \ldots]_{\text{Proposition}}$

then:

+realized, +realizable = cotemporaneous

ASP = cotemporaneous

Most of these various possibilities have been illustrated in the course of this discussion, but the Addenda to this chapter organizes the examples according to this set of conclusions.

4.1.4 *Summary of Temporal Control*

We began this discussion with the idea of a three-way distinction between identical, relative, and independent temporal values and with the claim that each of these three interpretations is available to complement clauses, that only the last is available to relative clauses, and only the second to adjunct clauses. We have seen that this distinction is required, not a simple binary contrast between relative and independent, and we have validated the distributional claim. Further, while only complements exhaust this distinction, the temporal interpretation of all three clause types can be accommodated by the same principles.

4.2 *Subject*

Applying the three-way distinction (among identical, relative, and independent) introduced at the beginning of this section to the Subject in a Clause, we have the three possibilities in (122).

(122) A Subject in the Proposition of a Clause can be:

a. identical to something in the embedding structure

b. determined relative to something in the embedding structure

c. independent of the embedding structure

(122b) and (122c) are illustrated in (123) and (124) respectively.

(123) [+realized, +realizable changing (⟨—⟩; [SUBJ]) PN]

noo n tiiwiq hengeemali [tooya-qala-l]
I aux see boy:object [laugh-changing-absolutive:object]

I see the boy laughing.

(124) [+realized, −realizable unchanging (⟨—⟩; [SUBJ]) 3sg]

noo n 'ayaliq [po-tooya-xvo-y]
I aux knows [3sg-laugh-unchanging:past-object]

I know that he laughed.

In (124) the Subject '3sg' is entirely independent of the embedding structure. Compare the Clauses in (125) where we vary the Subject.

(125) a. [. . . 1sg]

noo n 'ayaliq [no-tooya-xvo-y]
I aux knows [1sg-laugh-unchanging:past-object]

I know that I laughed.

b. [. . . 3pl]

noo n 'ayaliq [pom-tooya-xvo-y]
I aux knows [3pl-laugh-unchanging:past-object]

I know that they laughed.

In (123) the Subject 'PN' must be interpreted as coreferential with the other member of the argument array. Compare:

(126) noo n tiiwiq henge'malumi
I aux see boys:object

[tooya-qala-l]
[laugh-changing-absolutive:object]

I see the boys laughing.

The coreferential cases in (123) and (126) are examples of the relative relationship in (122b). The identical relationship in (122a), illustrated in (127) by a complement clause whose Subject is identical with the Subject of the embedding Argument Structure:

(127) noo p [no-ngee-pi] miyq
I aux [1sg-leave-unchanging:future] is
I have to leave.

is crucially different. As we will see, in the identity case, we don't have two independently referential arguments which can be identified as coreferential; rather we have two arguments which are not independently referential. The difference between the relative and identical relationships can be represented as in (128a) and (128b) respectively.

(128) a. $\lambda x \lambda y[\ldots x \ldots [\ldots y \ldots]]$ and $x = y$
b. $\lambda x[\ldots x \ldots [\ldots x \ldots]]$

Given this three-way distinction for the interpretation of the Subject of a Clause, the fact to be accounted for is quite simple: No clause type has more than one of the three possibilities in (122), but within each clause type there are instances of all three. The core of the analysis which yields this fact has essentially the same shape as that proposed in regard to the temporal value. The essential point remains that the choice of any of the three turns on the relationship between the defining domain and the Proposition of the Clause, as mediated by the obligatory Word.

4.2.1 *The Background*

The obligatory Word in a Clause includes a part which participates in the agreement grid of its Proposition, as we have seen, in one of the two ways represented in (129); that is, part of the Word's formal value may participate in the Subject chain or the non-Subject chain.

(129) a. Subject Chain
$\langle \ldots A \ldots \rangle_{\text{Word}}$
$[\ldots(\langle \ldots * \ldots \rangle; [\ldots \text{SUBJ}]) \text{ Subject}]_{\text{Proposition}}$

b. Non-Subject Chain
$\langle \ldots A \ldots \rangle_{\text{Word}}$
$[\ldots(\langle \ldots \rangle; [\ldots \text{SUBJ}]) \text{ Subject}]_{\text{Proposition}}$
A

The asterisk in (129a) is meant to indicate that the value *A* in the Word is not present as such in the Subject chain; the Subject in the chain is the one person/number value present and the value *A* is part of the unification of values that yields the Subject. (129a) subsumes:

(130) $\langle \ldots A \ldots \rangle_{\text{Word}}$

i. $[\ldots(\langle \text{PERS} \rangle; [\ldots \text{SUBJ}])\ \text{Subject}]_{\text{Proposition}}$

ii. $[\ldots(\langle \text{POSS} \rangle; [\ldots \text{SUBJ}])\ \text{Subject}]_{\text{Proposition}}$

iii. $[\ldots(\langle \# \rangle; [\ldots \text{SUBJ}])\ \text{Subject}]_{\text{Proposition}}$

iv. $[\ldots(\langle - \rangle; [\ldots \text{SUBJ}])\ \text{Subject}]_{\text{Proposition}}$

In short, just as the obligatory Word in a Clause gives access to the temporal value of its Proposition, so too does it allow access to the agreement grid — and, thus, to the Subject of the Proposition. In (129b) this access is more indirect, but the principles are the same.

As with the temporal value, we must consider first a two-way distinction: The value *A* in the Word can be available to the Clause-Defining Element or not. If *A* is not available to the Clause-Defining Element it may appear on either the Subject or the non-Subject chain; if *A* is available to the Clause-Defining Element it must appear on the Subject chain.[12]

(131) a. A unavailable to Clause-Defining Element

$\langle \ldots A \ldots \mid X \rangle_{\text{Word}}$

i. Subject Chain

$[\ldots(\langle \ldots * \ldots \rangle \ldots) \ldots]_{\text{Proposition}}$

or

ii. Non-Subject Chain

$[\ldots(\langle \ldots \rangle \ldots) \ldots]_{\text{Proposition}}$

A

b. A available to Clause-Defining Element

$\langle \ldots * \ldots \mid A \rangle_{\text{Word}}$

Subject Chain

$[\ldots(\langle \ldots * \ldots \rangle \ldots) \ldots]_{\text{Proposition}}$

The examples in (123) through (126) are all of the type in (131a-i), where *A* is unavailable to the Clause-Defining Element and appears on the Subject chain. (132) offers an analysis in these terms of (125a).

(132) $\langle \text{ASP: unch pst; } \boxed{\text{ADAFF: 1sg;}}\ \text{NUM: } - \mid \text{RIGHTAN: obj} \rangle_{\text{Word}}$

$[\ldots(\boxed{\langle \text{PERS} \rangle;}\ [\text{SUBJ}])\ \boxed{\text{1sg}}\,]_{\text{Proposition}}$

noo n 'ayaliq [no-tooya-xvo-y]
I aux knows [1sg-laugh-unchanging:past-object]

I know that I laughed.

(132) represents the fact that the person value of the Argument-Categorizing Element in the embedded Proposition is on the Subject chain in this Proposition's agreement grid. (127) is an example of (131b), where *A* is available to the Clause-Defining Element and appears on the Subject chain.[13]

(133) ⟨ASP: unch fut; $\boxed{\text{ADAFF: POSS;}}$ NUM: – | RIGHTAN: 1sg⟩$_{\text{Word}}$

[. . . ($\boxed{\langle\text{POSS}\rangle;}$ [SUBJ]) $\boxed{\text{PERS}}$]$_{\text{Proposition}}$

noo p [no-ngee-pi] miyq
I aux [1sg-leave-unchanging:future] is

I have to leave.

(133) represents the fact that the value 'POSS' of the Argument-Categorizing Element in the embedded Proposition is on the Subject chain in this Proposition's agreement grid. (134) is an example of (131a-ii), where *A* is not available to the Clause-Defining Element and appears on the non-Subject chain.

(134) noo n 'ayaliq [poꞡwaamay [po-'aw'-qala-y]
I aux know [his:daughter 3sg-have-aspect-object]

I know that he has a daughter.

(135) ⟨ASP: ch; $\boxed{\text{ADAFF: 3sg;}}$ NUM: # | RIGHTAN: obj⟩$_{\text{Word}}$

[. . .(⟨ ⟩; [⟨PERS⟩ SUBJ]) 3sg]$_{\text{Proposition}}$

$\boxed{\text{3sg}}$ sg

(135) represents the fact that the person value of the Argument-Categorizing Element in the embedded Proposition is on the non-Subject chain of this Proposition's agreement grid.

4.2.2 *The Factors in Subject Control*

The two factors in Subject control are parallel to the temporal control factors. One factor is whether the agreement chain is accessible to a potential controller; if it is accessible, the second factor is whether it is 'called' by this element.

Two possibilities in regard to accessibility obtain, as expected: Some agreement chains are accessible and some aren't. Accessibility has nothing to do with the domain, since each clause type occurs in a domain with a potential controller. For an adjunct clause or a relative clause, there is exactly one potential controller available — the Subject of the Proposition or the 'head' of the Constituent respectively.

(136) a. [temporal value (agreement chain) Subject]$_{\text{Proposition}}$

|

⟨Word⟩

|

[temporal value (agreement chain) Subject]

b. [. . . ⟨Word⟩]$_{\text{Constituent}}$

|

[temporal value (agreement chain) Subject]

For a complement clause, there is the Subject of the Argument Structure, as well as other arguments that might appear there. (137) represents a case with both possibilities.

(137) ⟨X⟩ ⟨Y⟩ Subject]$_{\text{Argument Structure}}$

|

⟨Word⟩

|

[temporal value (agreement chain) Subject]

For an agreement grid to be accessible to a potential controller in any of these cases, the properties of the obligatory Word which are represented in the agreement chain must play a role in the creation of the formal value of the domain. As an obvious example, consider the contrast between the two adjunct clauses in (138).

(138) a. [heela-an-t-um] mil pellaquś
[sing-unchanging-absolutive-pl] aux was:dancing

While singing, they were dancing.

b. [po-tooya-qala] noo nil ya'anax
[3sg-laugh-changing] I aux ran:away

While he was laughing, I ran away.

The formal values of the obligatory Word in these two adjunct clauses and their relationship to the embedded Proposition are represented in (139).

(139) a. ⟨ASP: unch; ADAFF: t; $\boxed{\text{NUM: \#}}$ | RIGHTAN: pl⟩$_{\text{Word}}$

[. . .($\boxed{\langle \# \rangle}$; [SUBJ]) $\boxed{\text{P\#}}$]$_{\text{Proposition}}$

(139) b. ⟨ASP: ASP; $\boxed{\text{ADAFF: 3sg;}}$ NUM: — | RIGHTAN: ch⟩$_{\text{Word}}$

[. . .($\boxed{\text{⟨PERS⟩;}}$ [SUBJ])$\boxed{\text{3sg}}$]$_{\text{Proposition}}$

Although each Word gives access to the embedded agreement grid according to these analysis trees, only the former allows access to a potential controller in the embedding domain. As suggested in the sketch of adjunct clauses at the beginning of this chapter, the adjunct clause in (139b) is represented as ⟨RIGHTAN: changing⟩ because the other values are entirely predictable. Thus, the value for ADAFF in the obligatory Word — the part that gives access to the embedded agreement grid — is not accessible in the embedding Proposition and, therefore, is not accessible to a potential controller, the Subject in the embedding Proposition. In contrast, the value for NUM in the obligatory Word in (139a) is identified with the Clause-Defining Element and, thus, is necessarily accessible to the Subject in the embedding Proposition: The number value participates in the agreement grid of the embedding Proposition.

(140) a. [. . .(⟨ ⟩; [SUBJ]; $\boxed{\text{⟨\#⟩}}$) Ppl]$_{\text{Proposition}}$
unch

(. . .⟨ASP: unch | $\boxed{\text{RIGHTAN: pl}}$⟩ . . .)$_{\text{Propositional Radical}}$

⟨ASP: unch; ADAFF: t; $\boxed{\text{NUM: \#}}$ | RIGHTAN: pl⟩$_{\text{Constituent}}$

⟨ASP: unch; ADAFF: t; $\boxed{\text{NUM: \#}}$ | RIGHTAN: pl⟩$_{\text{Word}}$

[. . .($\boxed{\text{⟨\#⟩}}$; [SUBJ]) $\boxed{\text{P\#}}$]$_{\text{Proposition}}$

b. [. . .(⟨ ⟩; [ ]; ⟨ ⟩) 1sg]$_{\text{Proposition}}$
ch

(. . .⟨RIGHTAN: ch⟩ . . .)$_{\text{Propositional Radical}}$

⟨ASP: ASP; $\boxed{\text{ADAFF: 3sg ;}}$NUM: —
| RIGHTAN: ch⟩$_{\text{Constituent}}$

⟨ASP: ASP; $\boxed{\text{ADAFF: 3sg ;}}$NUM: —
| RIGHTAN: ch⟩$_{\text{Word}}$

[. . .($\boxed{\text{⟨PERS⟩;}}$ [SUBJ]) $\boxed{\text{3sg}}$]$_{\text{Proposition}}$

The two examples in (141) illustrate the same distinction for relative clauses.

(141) a. noo n 'ayaliq nanatmalmi
I aux knows girls:object

[wuna' qal-qa-t-umi]
[there sit-changing-absolutive-pl:object]

I know the girls who are sitting there.

b. noo n 'ayaliq henge'malmi
I aux knows boys:object

['o-chaqalaqi-vo-umi]
[2sg-tickle-unchanging:past-pl:object]

I know the boys that you tickled.

The formal values of the obligatory Word in these two relative clauses and their relationship to the embedded Proposition is represented in (142).

(142) a. ⟨ASP: ch; ADAFF: t; $\boxed{\text{NUM: }\#}$ | RIGHTAN: pl: obj⟩$_{\text{Word}}$

[. . .($\boxed{\langle\#\rangle}$; [SUBJ]) $\boxed{\text{P}\#}$]$_{\text{Proposition}}$

b. ⟨ASP: unch pst; $\boxed{\text{ADAFF: 2sg}}$; NUM: — | RIGHTAN: pl: obj⟩$_{\text{Word}}$

[. . .($\boxed{\langle\text{PERS}\rangle}$; [SUBJ])$\boxed{\text{2sg}}$]$_{\text{Proposition}}$
V

The decision about what is accessible to another Word in a Constituent turns on the principles by which the value of the Constituent is determined, i.e. the Containment Principle and the Most Fully Specified Principle presented in Chapter Three. If the value of the obligatory Word in a relative clause is crucial to the determination of the value of the Constituent and if this value accesses the agreement grid in the Proposition of the relative clause, we will say that the embedded agreement grid is accessible to the other Word in the Constituent. The effect of this decision is that the agreement grid of any relative clause where the obligatory Word has a person value for ADAFF is not accessible to the other Word in the Constituent, while the agreement grid of a relative clause which is accessed by a number value will be accessible. The analysis trees for the relative clauses in (141) illustrates this contrast.

(143) a. ⟨ASP: –; ADAFF: l; NUM: pl | RIGHTAN: obj⟩$_{\text{Constituent}}$

⟨ASP: –; ADAFF: l; NUM: pl | RIGHTAN: obj⟩$_{\text{Word}}$

⟨ASP: ch; ADAFF: t; $\boxed{\text{NUM: \#}}$ | RIGHTAN: $\boxed{\text{pl:}}$ obj⟩$_{\text{Word}}$

[. . .($\boxed{\langle \# \rangle}$; [SUBJ]) $\boxed{\text{P\#}}$]$_{\text{Proposition}}$

b. ⟨ASP: –; ADAFF: l; NUM: pl | RIGHTAN: obj⟩$_{\text{Constituent}}$

⟨ASP: –; ADAFF: l; NUM: pl | RIGHTAN: obj⟩$_{\text{Word}}$

⟨ASP: unch pst; $\boxed{\text{ADAFF: 2sg}}$; NUM: –

| RIGHTAN: pl: obj⟩$_{\text{Word}}$

[. . .(⟨$\boxed{\text{PERS}}$⟩; [SUBJ]) $\boxed{\text{2sg}}$]$_{\text{Proposition}}$

V

Accessibility to a potential controller of the agreement grid in a complement clause is perhaps the most subtle. Recall the distinctions made in an Argument Structure between those feature/value pairs crucial to the identification of the Argument Structure and the non-crucial pairs. For example, the feature/value pairs for ADAFF and NUM are not crucial to the Argument Structure in (134) and are represented accordingly.

(134) noo n 'ayaliq [po$\not{s}$waamay po-'aw'-qala-y]
I aux knows [his:daughter 3sg-have-aspect-object]

I know that he has a daughter.

(144) [⟨ASP: pst unch | RIGHTAN: obj⟩ PN]$_{\text{Argument Structure}}$

ADAFF: 1sg: NUM: –

What this indicates is that these feature/value pairs are free of any relation to the Subject in the Argument Structure; they also occur in a Constituent which bears no necessary relation to the Subject. In terms of accessibility, if the values at issue access the agreement grid in an embedded Proposition, this agreement grid is necessarily not accessible to the Subject. (145) completes the analysis tree for the complement clause in (134), illustrating such inaccessibility.

(145) [⟨ASP: pst unch | RIGHTAN: obj⟩ PN]$_{\text{Argument Structure}}$

$\boxed{\text{ADAFF: 1sg:}}$ NUM: –

⟨ASP: pst unch; $\boxed{\text{ADAFF: 1sg;}}$ NUM: –

| RIGHTAN: obj⟩$_{\text{Constituent}}$

(145) ⟨ASP: pst unch; $\boxed{\text{ADAFF: 1sg;}}$ NUM: –

| RIGHTAN: obj⟩$_{\text{Word}}$

[. . .($\boxed{\text{⟨PERS⟩;}}$[SUBJ]) $\boxed{\text{1sg}}$]$_{\text{Proposition}}$

In clear contrast is the complement clause in (133).

(133) ⟨ASP: unch fut; $\boxed{\text{ADAFF: POSS}}$; NUM: –

| $\boxed{\text{RIGHTAN: 1sg}}$⟩$_{\text{Word}}$

[. . .($\boxed{\text{⟨POSS⟩}}$; [SUBJ])$\boxed{\text{PERS}}$]$_{\text{Proposition}}$

noo p [no-ngee-pi] miyq
I aux [1sg-leave-unchanging:future] is

I have to leave.

The value for ADAFF indicates that it has yielded its value to RIGHTAN. In the Argument Structure the value for RIGHTAN is essential to the Argument Structure — and, therefore, is accessible to the Subject. (146) completes the analysis tree for (133), illustrating accessibility of the agreement grid through the Clause-Defining Element.

(146) [⟨ASP: unch fut | $\boxed{\text{RIGHTAN: PERS⟩}}$ 1sg]$_{\text{Argument Structure}}$

$\boxed{\text{ADAFF: POSS;}}$ NUM: –

⟨ASP: unch fut; $\boxed{\text{ADAFF: POSS;}}$ NUM: –

| $\boxed{\text{RIGHTAN: 1sg}}$⟩$_{\text{Constituent}}$

⟨ASP: unch fut; $\boxed{\text{ADAFF: POSS;}}$ NUM: –

| $\boxed{\text{RIGHTAN: 1sg}}$⟩$_{\text{Word}}$

[. . .($\boxed{\text{⟨POSS⟩}}$; [SUBJ])$\boxed{\text{PERS}}$]$_{\text{Proposition}}$

The picture of accessibility to a potential controller in a complement clause is still incomplete, because in each of the two cases considered only the Subject in the Argument Structure is available as a potential controller. One other case is important. Consider the Argument Structure for the Sentence in (147), as represented in (148).

(147) noo n tiiwiq henge'malumi
I aux see boys:object

[qal-qala-l wuna']
[sit:pl-changing-absolutive:object there]

I see the boys sitting there.

(148) [⟨ASP: – | RIGHTAN: obj⟩
ADAFF: l; NUM: pl
⟨ASP: ch | RIGHTAN: obj⟩ PN]$_{\text{Argument Structure}}$
ADAFF: ABS; NUM: pl

Here the feature/value pairs for ADAFF and NUM in both members are free of any relation to the Subject in the Argument Structure, like (144). However, the relevant properties of the complement clause are not, as a result, inaccessible to a potential controller, because there is another element in this Argument Structure. The value for NUM accesses the agreement grid in this complement clause. Thus, we have here a case where the agreement grid is accessible to a potential controller, but where the potential controller is not the Subject. (149) provides the analysis tree.

(149) [⟨ASP: – | RIGHTAN: obj⟩
ADAFF: l; NUM: pl
⟨ASP: ch | RIGHTAN: obj⟩ PN]$_{\text{Argument Structure}}$
ADAFF: ABS; $\boxed{\text{NUM: pl}}$
⟨ASP: ch; ADAFF: ABS; $\boxed{\text{NUM: pl}}$ | RIGHTAN: obj⟩$_{\text{Constituent}}$
⟨ASP: ch; ADAFF: ABS; $\boxed{\text{NUM: pl}}$
| RIGHTAN: obj⟩$_{\text{Word}}$

[. . .($\boxed{\langle \# \rangle;}$ [SUBJ]) $\boxed{\text{Ppl}}$]$_{\text{Proposition}}$

I've shown, then, that all three clause types subsume cases where the agreement grid is accessible to a potential controller and cases where it is not. In each case accessibility turns on the representation of the properties of the obligatory Word in the embedding domain, so generalization across all three clause types is automatic.

If the agreement grid is accessible to a potential controller, there are two further options. The controller may obligatorily 'call' the value or not. The contrast I am attempting to draw is illustrated by complement clauses. Both the complement clauses in (133) and (147) offer an accessible potential controller; the crucial difference between them is that in the former but not the latter the controller 'calls' the value at issue. That is, the value accessing the agreement grid in the embedded Proposition necessarily yields its value to the Subject of the containing Argument Structure. Because of the way Propositions, Constituents, and Argument Structures are constructed, an accessible agreement grid represented in the Clause-Defining Element is necessarily 'called' by a potential controller; an accessible agreement grid not represented in the Clause-Defining Element is not.

The example of accessible agreement grids for both adjunct clauses and relative clauses above are also examples where the relevant value is 'called'. Both clause types, however, offer a case where a value accessible to a potential controller is not 'called' by this controller. Consider the adjunct clause in (150).

(150) heelaqus̸ nil [pella-qa-nik]
was:singing aux [dance-aspect-preceding]

While dancing, I was singing.

The obligatory Word in this adjunct clause and its relationship to the embedded agreement grid is given in (151).

(151) ⟨ASP: ch; ADAFF: —; $\boxed{\text{NUM: —}}$ | RIGHTAN: prec⟩$_{\text{Word}}$

[. . . ($\boxed{\langle - \rangle ;}$ [SUBJ]) PN]$_{\text{Proposition}}$

The value for NUM accesses the agreement grid. This value is also represented in the embedding Proposition, but it is not obligatorily 'called' by the Subject.

(152) [. . .(⟨ ⟩; [SUBJ]; $\boxed{\langle - \rangle}$) PN]$_{\text{Proposition}}$
ch | prec

(. . .⟨ASP: ch; $\boxed{\text{NUM: —}}$ | RIGHTAN: prec⟩ . . .)$_{\text{Propositional Radical}}$

⟨ASP: ch; ADAFF: —; $\boxed{\text{NUM: —}}$ | RIGHTAN: prec⟩$_{\text{Constituent}}$

⟨ASP: ch; ADAFF: —; $\boxed{\text{NUM: —}}$ | RIGHTAN: prec⟩$_{\text{Word}}$

[. . . ($\boxed{\langle - \rangle ;}$ [SUBJ]) PN]$_{\text{Proposition}}$

Similarly, in the relative clause in (153) the value for NUM of the obligatory Word is not called by the other Word in the Constituent.

(153) noo n 'ayaliq nanatmalumi
I aux knows girls:object

[tooya-qa-t-umi]
[laugh-aspect-absolutive-pl:object]

I know the girls who are laughing.

(154) ⟨ASP: –; ADAFF: l; NUM: pl | RIGHTAN: obj⟩$_{\text{Constituent}}$
⟨ASP: –; ADAFF: l; NUM: pl | RIGHTAN: obj⟩$_{\text{Word}}$
⟨ASP: unch; ADAFF: t; $\boxed{\text{NUM: –}}$ | RIGHTAN: pl: obj⟩$_{\text{Word}}$
[. . . ($\boxed{\langle - \rangle}$; [SUBJ]) $\boxed{\text{PN}}$]$_{\text{Proposition}}$

Of course, the number value of either the obligatory Word in either case can be called. In either case, we simply require a form with a specific number value, like (155) or (156).

(155) ⟨ASP: ch; ADAFF: –; $\boxed{\text{NUM: sg}}$ | RIGHTAN: prec⟩$_{\text{Word}}$

[. . .($\boxed{\langle \# \rangle}$; [SUBJ]) $\boxed{\text{Psg}}$]$_{\text{Proposition}}$

['aw'-qa-nik wuna'] noo nil heelaquš
[sit-changing-preceding there] I aux was:singing
While sitting there, I was singing.

(156) ⟨ASP: unch; ADAFF: –; $\boxed{\text{NUM: sg}}$ | RIGHTAN: on⟩$_{\text{Word}}$

[. . .($\boxed{\langle \# \rangle}$; [SUBJ]) $\boxed{\text{Psg}}$]$_{\text{Proposition}}$

wunaal up tawaq taananga [wuna' qala-nga]
he aux is:sitting blanket:on [there set:unchanging-on]
He is sitting on the blanket lying over there.

In the adjunct clause in (155) the number value participates in the agreement grid of the embedding Proposition; in the relative clause in (156) the number value contributes the number value of the Constituent.

(157) [. . .(⟨ ⟩; [SUBJ]; $\boxed{\langle \# \rangle}$) $\boxed{\text{Psg}}$]$_{\text{Proposition}}$
unch | prec
(. . .⟨ASP: ch; $\boxed{\text{NUM: sg}}$ | RIGHTAN: prec⟩ . . .)$_{\text{Propositional Radical}}$
⟨ASP: ch; ADAFF: –; $\boxed{\text{NUM: sg}}$ | RIGHTAN: prec⟩$_{\text{Constituent}}$
⟨ASP: ch; ADAFF: –; $\boxed{\text{NUM: sg}}$ | RIGHTAN: prec⟩$_{\text{Word}}$
[. . .($\boxed{\langle \# \rangle}$; [SUBJ]) $\boxed{\text{Psg}}$]$_{\text{Proposition}}$

(156) ⟨ASP: –; ADAFF: –; $\boxed{\text{NUM: sg}}$ | RIGHTAN: on⟩$_{\text{Constituent}}$
⟨ASP: –; ADAFF: –; NUM: number | RIGHTAN: on⟩$_{\text{Word}}$
⟨ASP: unch; ADAFF: –; $\boxed{\text{NUM: sg}}$ | RIGHTAN: on⟩$_{\text{Word}}$
[. . .($\boxed{\langle \# \rangle}$; [SUBJ]) $\boxed{\text{Psg}}$]$_{\text{Proposition}}$

The point is, though, that in neither case is the value with access *obligatorily* called by the controller, because the relevant value does not appear in the Clause-Defining Element of the obligatory Word.

The intersection of accessibility to a potential controller and being called by a controller yields, then, three distinct cases for each of the three Clause types. These are schematically presented in (158) through (160).

(158) Complement Clauses

a. accessible to a potential controller and obligatorily called

$$[\ldots\langle\ldots|\,*\rangle\ldots A]_{\text{Argument Structure}}$$
$$\langle\ldots*\ldots|\,A\rangle_{\text{Constituent}}$$
$$\langle\ldots*\ldots|\,A\rangle_{\text{Word}}$$
$$[\ldots(\langle\ldots*\ldots\rangle;\ [\text{SUBJ}]\ *]_{\text{Proposition}}$$

b. accessible to a potential controller but not obligatorily called

$$[\langle\ldots\rangle\langle\ldots A\ldots|\ldots\rangle\ldots]_{\text{Argument Structure}}$$
$$\langle\ldots A\ldots|\ldots\rangle_{\text{Constituent}}$$
$$\langle\ldots A\ldots|\ldots\rangle_{\text{Word}}$$
$$[\ldots(\langle\ldots*\ldots\rangle;\ [\text{SUBJ}])\ A]_{\text{Proposition}}$$

c. not accessible

$$[\ldots\langle\ldots|\,X\rangle\ldots\text{Subject}]_{\text{Argument Structure}}$$
$$\langle\ldots A\ldots|\,X\rangle_{\text{Constituent}}$$
$$\langle\ldots A\ldots|\,X\rangle_{\text{Word}}$$
$$[\ldots(\langle\ldots*\ldots\rangle;\ [\text{SUBJ}])\ A]_{\text{Proposition}}$$

(159) Adjunct Clauses

a. accessible to a potential controller and obligatorily called

$$[\ldots(\ldots\langle\ \rangle)\ A]_{\text{Proposition}}$$
$$(\ldots\langle\ldots|\,A\rangle)_{\text{Propositional Radical}}$$
$$\langle\ldots*\,|\,A\rangle_{\text{Constituent}}$$
$$\langle\ldots*\,|\,A\rangle_{\text{Word}}$$
$$\langle\ldots(\langle\ldots*\ldots\rangle;\ [\text{SUBJ}])\ *]_{\text{Proposition}}$$

(159) b. accessible to a potential controller but not obligatorily called

$[\ldots(\ldots\langle * \rangle)\ldots \text{Subject}]_{\text{Proposition}}$

$(\ldots\langle\ldots A \ldots | \ldots\rangle)_{\text{Propositional Radical}}$

$\langle\ldots A \ldots | \ldots\rangle_{\text{Constituent}}$

$\langle\ldots A \ldots | \ldots\rangle_{\text{Word}}$

$[\ldots(\langle\ldots * \ldots\rangle; [\text{SUBJ}])\ A]_{\text{Proposition}}$

c. not accessible

$[\ldots X \ldots \text{Subject}]_{\text{Proposition}}$

$(\ldots\langle\ldots | X)\ldots\rangle_{\text{Propositional Radical}}$

$\langle\ldots A \ldots | X\rangle_{\text{Constituent}}$

$\langle\ldots A \ldots | X\rangle_{\text{Word}}$

$[\ldots * \ldots\rangle; [\text{SUBJ}])\ A]_{\text{Proposition}}$

(160) Relative Clauses

a. accessible to a potential controller and obligatorily called[14]

$\langle\ldots A \ldots (X)\ldots\rangle_{\text{Constituent}}$

$\langle\ldots A \ldots (X)\ldots\rangle_{\text{Word}}\ \langle\ldots * \ldots | \text{A-X}\rangle_{\text{Word}}$

$[\ldots(\langle\ldots * \ldots\rangle; [\text{SUBJ}])\ *]_{\text{Proposition}}$

b. accessible to a potential controller but not obligatorily called

$\langle\ldots A \ldots (X)\ldots\rangle_{\text{Constituent}}$

$\langle\ldots A \ldots (X)\ldots\rangle_{\text{Word}}\ \langle\ldots A \ldots | X\rangle_{\text{Word}}$

$[\ldots(\langle\ldots * \ldots\rangle; [\text{SUBJ}])\ A]_{\text{Proposition}}$

c. not accessible

$\langle\ldots X \ldots\rangle_{\text{Constituent}}$

$\langle\ldots X \ldots\rangle_{\text{Word}}\ \langle\ldots A \ldots | X\rangle_{\text{Word}}$

$[\ldots(\langle\ldots * \ldots\rangle; [\text{SUBJ}])\ A]_{\text{Proposition}}$

V

4.2.3 *Control*

The three-way distinction proposed at the beginning of this section between identical, relative, and independent Subjects follows automatically from the properties just discussed — and is entirely general across clause types. The Subject of a complement clause can be identical to the Subject in the Argument Structure (158a), referentially related to a member of the Argument Structure (158b), or independent (158c).[15] The Subject of an adjunct clause can be identical to the Subject of the embedding Proposition (159a), referentially related to this Subject (159b), or independent of it (159c). The Subject of a relative clause can be identical to the 'head' in the Constituent (160a), referentially related to it (160b), or independent of it (160c).

For neither a relative clause nor an adjunct clause does the distinction between 'identity' and 'relative' seem particularly interesting. For a relative clause, the situation represented by (160a) and that by (160b) both involve a relationship with the 'head' of the Constituent. For an adjunct clause, whether the situation is as in (159a) or as in (159b), the relationship is to the Subject of the Proposition. The difference between an identical Subject and a relative Subject in a complement clause appears to be more interesting: In the identical case the Subject of the embedded Proposition and the Subject in the Argument Structure are identical; in the relative case the Subject of the embedded Proposition must be interpreted relative to an element in the Argument Structure — but not obligatorily the Subject.[16]

In fact, the difference between embedded identical and relative Subjects in adjunct and relative clauses has equally interesting consequences. The analysis of a Proposition in Chapter Four includes a rule which 'adds' a lexical form to the Subject.

(161) ⟨ASP: — | RIGHTAN: Number⟩:
Proposition → Proposition

The necessity of such a rule for the Proposition of a Clause is clear from examples like those in (162).

(162) a. noo n 'ayaliq
I aux knows

[henge'malum pom-heela-xpi-y]
[boys 3pl-sing-unchanging:future-object]

I know that the boys will sing.

b. [henge'malum pom-heela-qala]
[boys 3pl-sing-changing]

nanatmalum mil pellaquš
girls aux was:dancing

While the boys were singing, the girls were dancing.

(162) c. noo n 'ayaliq nanatmalmi
I aux knows girls:object

[henge'malum pom-chaqalaqi-qat-umi]
boys 3pl-tickle-changing-pl:object]

I know the girls that the boys are tickling.

The Propositions in (163):

(163) a. [pomheelaxpiy]

b. [pomheelaqala]

c. [pomchaqalaqiqatmi]

have, according to the analysis above, the formal values in (164) respectively.

(164) a. [−realized, +realizable unch (⟨PERS⟩ [SUBJ]) 3pl]

b. [+realized, +realizable ch (⟨PERS⟩ [SUBJ]) 3pl]

c. [+realized, +realizable ch (⟨PERS⟩; [SUBJ]) 3pl]
V

Their instantiations in (162) contain, in addition, the Constituent *henge'malum* 'boys'. This Constituent has the shape expected for the functor in (161) — given the analysis of Constituents and Argument Structures in Chapter Three and Propositions in Chapter Four — to wit:

(165) ⟨ASP: –; ADAFF: l; NUM: # | RIGHTAN: pl⟩

Furthermore, it has the required compatibility with the Subjects in (164). The Sentence in (166), for example, is unacceptable, in contrast to (162a).

(166) *noo n 'ayaliq
I aux knows

[hengeemal pom-heela-xpi-y]
[boy 3pl-sing-unchanging:future-object]

The only difference between the two is the presence of *hengeemal* in the latter, a Constituent which has the formal value in (167).

(167) ⟨ASP: –; ADAFF: l; NUM: # | RIGHTAN: sg⟩

In sum, the Propositions in (162) contain an 'addition', an addition compatible with the Subjects as required in (161); these Propositions are, thus, as in (168) rather than the simple one-Word Propositions in (163).

(168) a. [henge'malum pomheelaxpiy]

b. [henge'malum pomheelaqala]

c. [henge'malum pomchaqalaqiqatmi]

I assume, then, the rule in (161) for embedded Propositions as well as unembedded ones. Because I assume, also, the modification of the formal value this rule involves, the Propositions in (168) have the formal values in (169) respectively.

(169) a. [−realized, +realizable unch
(⟨ ⟩ [ ]) ⟨ASP: −; ADAFF: l; NUM: # | RIGHTAN: pl⟩]

b. [+realized, +realizable ch
(⟨ ⟩; [ ]) ⟨ASP: −; ADAFF: l; NUM: # | RIGHTAN: pl⟩]

c. [+realized, +realizable ch
(⟨ ⟩; [ ]) ⟨ASP: −; ADAFF: l; NUM: # | RIGHTAN: pl⟩]
V

According to Chapter Four, the rule from Proposition to Proposition applies to any Proposition with a person-Subject. The examples in (162) offer such. It follows that it may not apply to Clauses whose Subjects are identical to an element in the embedding domain since none of these Subjects offer a person value. This prediction is borne out, as the contrast between the good and the unacceptable Clauses in (170) through (172) argues.

(170) $[\ldots(\ldots\langle\ \rangle)\ \text{3sg}]_{\text{Proposition}}$
$[\ldots(\ldots\langle\#\rangle)\ \text{PNumber}\rangle]_{\text{Proposition}}$
$(\ldots\langle\ldots \text{NUM: }\#\mid\text{RIGHTAN: number}\rangle)_{\text{Propositional Radical}}$
$\langle\ldots \text{NUM: }\#\mid\text{RIGHTAN: number}\rangle_{\text{Constituent}}$
$\langle\ldots \text{NUM: }\#\mid\text{RIGHTAN: number}\rangle_{\text{Word}}$
$[\ldots(\langle\#\rangle\ldots)\ \text{P}\#]_{\text{Proposition}}$

a. [heyi-wun-t] wunaal up heelaq
[dig-unchanging:number-absolutive] he aux is:singing
While digging, he is singing.

b. *[hengeemal heyi-wun-t]
[boy dig-unchanging:number-absolutive]
wunaal up heelaq
he aux is:singing

(171) $\langle\ldots \text{NUM: pl}\mid\text{RIGHTAN: obj}\rangle_{\text{Constituent}}$
$\langle\ldots \text{NUM: pl}\mid\text{RIGHTAN: obj}\rangle_{\text{Word}}$
$\langle\ldots \text{NUM: }\#\mid\text{RIGHTAN: pl obj}\rangle_{\text{Word}}$
$[\ldots(\langle\#\rangle\ldots)\ \text{P}\#]_{\text{Proposition}}$

(171) a. noo n 'ayaliq henge'malmi
I aux knows boys:object

[tooya-xku-t-umi]
[laugh-unchanging:future-absolutive-pl:object]

I know the boys who will laugh.

b. *noo n 'ayaliq henge'malmi
I aux knows boys:object

[wunaalum tooya-xku-t-umi]
[they laugh-unchanging:future-absolutive-pl:object]

(172) $[\langle \ldots \mid \text{RIGHTAN: PERS}\rangle\ \text{1sg}]_{\text{Argument Structure}}$
$\langle \ldots \text{ADAFF: POSS} \ldots \mid \text{RIGHTAN: 1sg}\rangle_{\text{Constituent}}$
$\langle \ldots \text{ADAFF: POSS} \ldots \mid \text{RIGHTAN: 1sg}\rangle_{\text{Word}}$
$[\ldots (\langle \text{POSS}\rangle \ldots)\ \text{PERS}]_{\text{Proposition}}$

a. noo p [no-ngee-pi] miyq
I aux [1sg-leave-unchanging:future] is

I have to leave.

b. *noo p [noo no-ngee-pi] miyq
I aux [I 1sg-leave-unchanging:future] is

The Clauses in (169) involve free Subjects. It is the behavior of relative Subjects that is of crucial interest. These are person-Subjects like the free Subjects. Interestingly, then, such adjunct clauses and relative clauses are subject to the rule mapping Propositions to Propositions. Both the adjunct clauses in (173) are fine, where (173b) is simply (173a) plus the form *noo* as indicated in (174).

(173) a. $[\ldots(\ldots\langle\ \rangle)\ldots]_{\text{Proposition}}$
$(\ldots\langle \text{NUM: } - \mid \ldots\rangle)_{\text{Propositional Radical}}$
$\langle \text{NUM: } - \mid \ldots\rangle_{\text{Constituent}}$
$\langle \text{NUM: } - \mid \ldots\rangle_{\text{Word}}$
$[\ldots(\langle - \rangle \ldots)\ \text{PN}]_{\text{Proposition}}$

[hunwuti tiiwi-nik] noo nil ya'anax
[bear:object see-preceding I aux ran:away

When I saw the bear I ran away.

(173) b. $[\ldots(\ldots\langle\,\rangle)\ldots]_{\text{Proposition}}$

$(\ldots\langle \text{NUM: } - \mid \ldots\rangle)_{\text{Propositional Radical}}$

$\langle \text{NUM: } - \mid \ldots\rangle_{\text{Constituent}}$

$\langle \text{NUM: } - \mid \ldots\rangle_{\text{Word}}$

$[\ldots(\langle\,\rangle\ldots)\ 1\text{sg}]_{\text{Proposition}}$

[noo hunwuti tiiwi-nik] noo nil ya'anax
[I bear:object see-preceding] I aux ran:away

When I saw the bear I ran away.

(174) noo: [. . . PN] → [. . . 1sg]

This pair is in striking contrast to (170) above. Relative clauses are even more interesting. Consider (175).

(175) noo n 'ayaliq henge'malmi
I aux knows boys:object

[pomna' tooya-xmokwi-ch-umi]
[their:father laugh-unchanging:past-absolutive-pl:object]

I know the boys whose father laughed.

pomna' 'their father' is an 'addition' to the Proposition in (176a), yielding the Proposition in (176b).

(176) a. $\langle\ldots \text{NUM: pl} \mid \text{RIGHTAN: obj}\rangle_{\text{Constituent}}$

$\langle\ldots \text{NUM: pl} \mid \text{RIGHTAN: obj}\rangle_{\text{Word}}$

$\langle\ldots \text{NUM: } - \mid \text{RIGHTAN: pl obj}\rangle_{\text{Word}}$

$[\ldots(\langle - \rangle; [\text{SUBJ}])\ \text{PN}]_{\text{Proposition}}$

b. $[\ldots(\langle\,\rangle; [\,])\,\langle \text{ASP: } -; \text{ADAFF: 3pl}; \text{NUM: } \#$
$\mid \text{RIGHTAN: sg}\rangle]_{\text{Proposition}}$

henge'malmi 'boys', the 'head' of the relative clause in (175) is not, therefore, identical with the Subject of the Proposition and we can distinguish between a relative Subject and an identical one, on grounds other than the representations we have developed.[17] Since it initially appeared that the difference between relative and identical Subjects in adjunct clauses and relative clauses was of little consequence, these differences are striking confirmation of the distinction we have drawn between relative and identical Subjects.

I should note that the relative Subject in a complement appears not to behave like the relative Subject in an adjunct clause or a relative clause. The relative Subject in (147) does not allow an 'addition'.

(177) *noo n tiiwiq henge'malmii
I aux sees boys:object

[wunaalum qal-qala-l wuna']
[they sit-changing-absolutive:object there]

I have no account for this fact. However, although it would be preferable if complement clauses behaved like adjunct and relative clauses, we don't require sentences as in (177) to make the distinction between relative and identical Subjects in complement clauses.

4.2.4 *Conclusion to Subject Control*

The examples adduced in this discussion of Subject control have concentrated on a single one of the access possibilities noted at the beginning of this section — where the Subject chain in the agreement grid is represented in the embedding domain. We have ignored almost entirely the second situation — where the non-Subject chain is represented in the embedding domain. I repeat (131) below; almost all the examples above are of the type in (131a-i) or (131b).

(131) a. A unavailable to Clause-Defining Element

$\langle \ldots A \ldots | X \rangle_{\text{Word}}$

i. Subject Chain

$[\ldots(\langle \ldots * \ldots \rangle \ldots) \ldots]_{\text{Proposition}}$

ii. Non-Subject Chain

$[\ldots(\langle \ldots \rangle; \ldots) \ldots]_{\text{Proposition}}$
A

b. A available to Clause-Defining Element

$\langle \ldots * \ldots | A \rangle_{\text{Word}}$

Subject Chain

$[\ldots(\langle \ldots * \ldots \rangle \ldots) \ldots]_{\text{Proposition}}$

Clauses as in (131a-ii) require that we elaborate our analysis schema, but introduce no essential change. (178) provides illustrative examples for independent Subjects in complements and adjuncts. For reasons orthogonal to this discussion, configurations as in (131a-ii) do not occur in relative clauses or with relative Subjects.

(178) a. [. . .⟨. . . | X⟩ . . . Subject]$_{\text{Argument Structure}}$

⟨. . . A . . . | X⟩$_{\text{Constituent}}$

⟨. . . A . . . | X⟩$_{\text{Word}}$

[. . .(⟨. . .⟩; [SUBJ]) Subject]$_{\text{Proposition}}$

A

e.g.

noo n 'ayaliq
I aux knows

[pahchum po$waamayum pom-qal-qala-y]
[three 3sg:daughters 3pl-have-changing-object]

I know that he has three daughters.

b. [. . . X . . . Subject]$_{\text{Proposition}}$

(. . .⟨. . . | X⟩ . . .)$_{\text{Propositional Radical}}$

⟨. . . A . . . | X⟩$_{\text{Constituent}}$

⟨. . . A . . . | X⟩$_{\text{Word}}$

[. . .(⟨. . .⟩; [SUBJ]) Subject]$_{\text{Proposition}}$

A

e.g.

[pahchum po$waamayum pom-qal-qala]
[three 3sg:daughters 3pl-have-changing]

noo n pahchum nokaamayum qalwun
I aux three 1sg:sons have

While he has three daughters, I have three sons.

This modification aside, the thrust of this section should be clear. I've attempted to deal with Subject control in all Clause types simultaneously, according to the three-way distinction originally proposed in (122):

(122) a Subject in an embedded Proposition will be:

a. identical to something in the embedding structure

b. determined relative to something in the embedding structure

or

c. independent of the embedding structure

That is, the principles that govern the interpretation of the Subject in one clause type are claimed here to be no different than those which govern the interpretation of the Subject is any other clause type. The effect varies, because of the character of the embedding domain, obscuring the similarities.

(179) a Subject in an embedded Proposition will be:
a. identical to the Subject in the embedding Argument Structure
b. determined relative to the embedding Argument Structure
c. independent of the embedding Argument Structure

(180) a Subject in an embedded Proposition will be:
a. identical to the 'head' in the embedding Constituent
b. determined relative to the 'head' in the embedding Constituent
c. independent of the embedding Constituent

(181) a Subject in an embedded Proposition will be:
a. identical to the Subject in the embedding Proposition
b. determined relative to the Subject in the embedding Proposition
c. independent of the embedding Proposition

The regularity to Subject control is worthy of note — as is its parallel to temporal control. Further, the two-way distinction between 'same as' (or anaphor) or 'different than' (or pronoun) proposed by Finer is clearly not the correct one for Luiseño and is, thus, inadequate as the basis of a theory of Subject control; an adequate theory must accommodate the three-way distinction necessary here. Finally, the analysis of embedded Clauses requires nothing not already required. On the one hand, the analysis of the Proposition in the Clause follows the rule types argued for the Proposition in a Sentence. Thus, whatever is required to analyze the Subject of the Proposition in a Clause is independently a necessary part of the analysis. On the other hand, the place of the Clause in the embedding domain follows automatically from the analysis of Words and the units which incorporate them.

4.3 *Final Comments on Control*

I have shown in this section that, given a Clause-internal Proposition (as presented in Section 3) and the three embedding domains — Argument Structure, Constituent, and Proposition — the various aspects of Luiseño control are part of a single unified phenomenon. The consequences of these results for theories of embedding have been touched on at various points in the discussion. The consequences for my analysis of the three categories are also clear. Of critical importance for our purposes is the consequence for the proposal that the three embedding domains (Constituent, Argument Structure, and Proposition) are categories of the same type. In the Section 2, we saw that these three categories, and only these, define Luiseño embedding. Here we have developed a more elaborate parallel. It is unnecessary to invoke principles or devices exclusive to relative clauses, or to complement clauses, or to adjunct clauses to resolve the control of values in the embedded Proposition. The system we have observed operating across Clause types is an extended illustration of a parallel that we should expect — if Argument Structure, Proposition, and Constituent are categories of the same type.

5. CONCLUSION

In Chapters Three and Four I presented one test for the parallel between a Constituent, an Argument Structure, and a Proposition: Each of these can be the argument in a rule which adds a compatible Constituent to its person value. This chapter has developed a much more elaborate test for the same parallel. First, each of the three defines a domain for embedding, a point argued in Section 2. A relative clause is defined by a Constituent; a complement clause is defined by an Argument Structure; and an adjunct clause is defined by a Proposition. The first definition is probably not newsworthy, in part because the existence of constituents is commonly presumed. The second and the third deserve special emphasis, since these are the syntactic units that this work has been at pains to demonstrate. The second part of Chapter Three and the whole of Chapter Four are devoted to this point. The second part of the test involves the resolution of what might appear to be relatively intricate control properties for both temporal and subject values. The point is simple: the character of the embedding domain determines the control properties of the embedded Proposition; hence, to properly characterize the temporal and subject value interpretations of an embedding, we require reference to Constituents, Argument Structures, and Propositions. The result is an analysis of Luiseño control that generalizes across Clause types — i.e. across relative clauses, complement clauses, and adjunct clauses — and across controlled values. The possibility of such a generalization is the final argument in support of the syntactic units I have labelled Constituent, Argument Structure, and Proposition and the parallels among them.

NOTES

[1] The clauses in (4) have previously been analyzed as subject complements (cf. Langacker (1977) or Steele (1977)); Jacobs (1975) identifies them as part of a "compound verb construction". The analysis of Argument Structures in Chapter Three is the basis upon which they are identified as "object" complements. In fact, the analysis of Luiseño argued for here precludes subject complements entirely.

[2] I should note in regard to the second case in (15) that the Postposition available to a complement clause is relatively limited. (18) illustrates *nga*; at least one other Postposition, *tal*, can be the formal value of a Word which contains a complement clause. (i) is an example.

(i) noo n huupiq mariyi ['av'a-an-tal]
I aux is:painting Mary:object [red-aspect-with]
I am painting Mary red.

(ii) ⟨ASP: ch; ADAFF: –; NUM: number | RIGHTAN: with⟩

[3] In fact, all adjunct clauses of this type involve the t-form of the Absolutive. But a Word like *heela-qa-t-um* ⟨ASP: changing; ADAFF: t; NUM: — | RIGHTAN: pl⟩ shows that not all Words with an aspectual value for ASP and a t-absolutive are potential adjunct clauses: This Word is not possible as the obligatory Word in an adjunct clause.

[4] Both of the Argument Structure types in (i) are excluded from a Clause.

(i) a. [⟨RIGHTAN: Number⟩ PN]
b. [⟨RIGHTAN: PERS Number⟩ X]

The apparent idiosyncratic character of these is actually not unexpected: The Argument-Categorizing Elements associated with each are not available in a Clause. A brief reconsideration of the analysis offered in Chapter Four of a Proposition is enough to illustrate this point. An unanalyzed number value in the Argument Structure — i.e. a number value which is independent of the Subject and is not required by the Argument-Categorizing Element — is almost always accompanied by a number value in the Constituent containing the Argument-Categorizing Element. Given the character of the formal value of a Clause's Argument-Categorizing Element, no such form is available to the Argument Structures in (i).

[5] One obvious question is what Argument Structures have a form of the sort introduced in Chapter Three matched by one with a variable as in (60). The contrast between (58a) and (59) suggests that an object-marked Constituent — more specifically, an object-marked Constituent of the non-complement variety — is essential. The possibilities are slightly more varied, as the examples in (i) and (ii) suggest.

(i) noo nil lovi'yax taanat ['o-tawa-qat-i]
I aux made blanket:object [2sg-sit:sg-aspect-number:object]
I made the blanket that you are sitting on.

(ii) noo nil sasamsa tapashmalmi [pomkunnga pom-qal-qat-umi]
I aux bought mice:object [their:sack:in 3pl-have:pl-aspect-pl:object]
I bought the mice that they have in the sack.

The fully specified Argument Structure accompanying *tawa* in (i) contains a Constituent as in (iii).

(iii) ⟨ASP: – | RIGHTAN: on⟩

And, that accompanying *qal* in (ii) contains a Constituent as in (iv), in addition to *pomkunnga*: ⟨ASP: –; ADAFF: 3pl | RIGHTAN: on⟩.
NUM: number

(iv) ⟨ASP: – | RIGHTAN: Number⟩

The properties which tie these three possibilities together are obvious: (1) None bears an obligatory referential relationship to the Subject, and (2) None contains an aspectual value.

[6] Another possibility with weather expressions as in (63h) would be for the person value to appear in the Subject chain.

(i) (⟨3sg⟩;[ ])

Because there is no Subject contributed by the Argument Structure this value will not yield a Subject for the Proposition.

[7] The agreement grid in (69e), a combination of # and PN, is not encountered in Sentences. Always, in the Proposition in a Sentence, the presence of # is accompanied by a Subject reflecting the value it yields. Here the combination reflects the fact that the number value of the obligatory Word has yielded its value to RIGHTAN (the Clause-Defining Element); thus, the specific number value is not available in the Proposition. We will return to this and like combinations below.

[8] We will not deal in this discussion with compatibility between the Clause-Defining Element and Proposition. Because the Clause-Defining Element is part of the obligatory Word, it is necessarily compatible with whatever values this Word contributes to the Proposition, but this needn't yield compatibility with the formal value of the Proposition. For example, in (i), the Clause-Defining Element ⟨RIGHTAN: sg-object⟩ in the word *'ariluti* ⟨ASP: unchanging future; ADAFF: t; NUM: # | RIGHTAN: sg-object] is fine with the Proposition in (ii).

(i) noo n hengeemali
I aux boy:object
[nawitmali 'ari-lu-t-i]
[girl:object kick-future:unchanging-absolutive-sg-object]
I know the boy who will tickle the girl.

(ii) [−realized, +realizable unch (⟨#⟩ [SUBJ]) P #]

A situation as in (iii) is more complicated, however. Because the Argument Structure contributes the Subject value, Word internal compatibility is not sufficient to insure compatibility between the Clause-Defining Element and the Proposition.

(iii) noo n hengeemali
I aux boy:object
[potaax 'ari-lu-t-i]
[himself kick-future:unchanging-absolutive-sg-object⟩]
I know the boy who will tickle himself.

(iv) [−realized, +realizable unch (⟨#⟩ [⟨PERS⟩ SUBJ]) 3sg]

But it is necessary here for the number value of the Clause-Defining Element to be compatible with the Subject of the Proposition, as (v) indicates.

(v) *noo n hengeemali
I aux boy:object
[pomtaax 'ari-lu-t-i]
[themselves kick-future:unchanging-absolutive-sg-object⟩]

(vi) [−realized, +realizable unch (⟨#⟩ [⟨PERS⟩ SUBJ] 3pl]

The Proposition in (vi) is fine and the Word *'ariluti* is also fine. The Clause is unacceptable, however, because the number value of the Clause-Defining Element and the Subject value are incompatible.

[9] As applied to the Subject in a Clause, (91) argues the inadequacy of the two-way distinction between anaphor and pronominal allowed by the Binding Conditions of Government

Binding Theory. It is also important to note that the three-way distinction in (91) does not refer to three formally different kind of elements. The identification of an element as one or the other turns on its relationship to the embedding structure.

[10] Both −realized, −realizable and ASP are interpreted simply as 'relative', lacking a specific time value. Both of these appear in adjunct clauses which correspond to English conditionals, for example:

(i) po-heela-qala noo nupo heelaan
[3sg-sing-aspect] I aux will:sing
If he sings, I will sing.

Thus, this temporal identification seems particularly apt.

[11] The range of temporal values available in the identical cases is relatively limited. However, it seems reasonable that we would not find either of the three other possibilities (i.e. +realized, −realizable; −realized, +realizable; or −realized, −realizable). None of these readily yields itself to an identical interpretation.

[12] The asymmetry between the possibilities available to A, depending on whether it is available to the Clause-Defining Element, is simply a fact. I don't have an account for this fact.

[13] Recall that a Subject specified as PERS is found in a Proposition where the contribution of the Argument-Categorizing Element is POSS.

[14] In both (160a) and (160b) the optional value labeled X in the Word accompanying the relative clause identifies the value for RIGHTAN when RIGHTAN is not A.

[15] As might be expected, there are complications to this statement. I touch on two different aspects of a single complication briefly. First, a complement clause within an Argument Structure with a non-referential Subject, e.g. the example in (i) as analyzed in (ii), cannot bear any relationship to the non-referential Subject. That is, identity between an embedded Subject and an element in the embedding domain requires that the element in the embedding domain be referential.

(i) poloov up [po-heeli-lo]
good aux [3sg-sing-generic]
It is fun to sing.

(ii) [⟨ADAFF: POSS | RIGHTAN: PERS sg generic⟩ X]$_{\text{Argument Structure}}$
ASP: ASP; NUM: –
⟨ASP: ASP; ADAFF: POSS; NUM: – | RIGHTAN: 3sg generic⟩$_{\text{Constituent}}$
⟨ASP: ASP; ADAFF: POSS; NUM: – | RIGHTAN: 3sg generic⟩$_{\text{Word}}$
[ASP (⟨POSS⟩; [SUBJ]) PERS]$_{\text{Proposition}}$

Proof of this is offered by the complement clause in (iii).

(iii) poloov up [notaax po-chaqalaqi-lo]
good aux [myself 3sg-tickle-generic]
It is nice to tickle myself.

The Subject of the embedded Proposition has to be '1sg' which can't be identical with 'X'.

(iv) [⟨ADAFF: POSS | RIGHTAN: PERSsg generic⟩ X]$_{\text{Argument Structure}}$
ASP: ASP; NUM: –
⟨ASP: ASP; ADAFF: POSS; NUM: – | RIGHTAN: 3sg generic⟩$_{\text{Constituent}}$
⟨ASP: ASP; ADAFF: POSS; NUM: – | RIGHTAN: 3sg generic⟩$_{\text{Word}}$
[ASP (⟨POSS⟩; [⟨PERS⟩ SUBJ]) 1sg]$_{\text{Proposition}}$

Second, when the Subject in the embedded Proposition is itself specifically non-referential, it cannot participate in control. Both complement clauses in (vi) have the agreement grid in (v)

(v) [. . . (⟨—⟩; [SUBJ]) Someone]
V

(vi) a. noo n ma'maq kihaati [chaqalaqish]
I aux wants baby:object [tickle:unchanging:object]
I want the baby tickled.

b. noo n tiiwiq kihaati [chaqalaqiqalanga]
I aux sees baby:object [tickle:changing:on]
I see the baby being tickled.

The agreement grid is accessible in either Argument Structure, but the Subject can be neither relative to an element there nor identical to the Subject — a fact I attribute to the non-referentiality of the embedded Subject.

(vii) a. [⟨ASP: — | RIGHTAN: obj⟩
⟨ASP: unch | RIGHTAN: obj⟩ PN$]_{\text{Argument Structure}}$
⟨ASP: unch; ADAFF: ABS; NUM: — | RIGHTAN: obj$\rangle_{\text{Constituent}}$
⟨ASP: unch; ADAFF: ABS; NUM: — | RIGHTAN: obj$\rangle_{\text{Word}}$
⟨. . .(⟨—⟩; [SUBJ]) Someone$\rangle_{\text{Proposition}}$
V

b. [⟨ASP: — | RIGHTAN: obj⟩
⟨ASP: unch | RIGHTAN: on⟩ PN$]_{\text{Argument Structure}}$
⟨ASP: unch; ADAFF: —; NUM: — | RIGHTAN: on$\rangle_{\text{Constituent}}$
⟨ASP: unch; ADAFF: —; NUM: — | RIGHTAN: on$\rangle_{\text{Word}}$
[. . . (⟨—⟩; [SUBJ]) Someone$]_{\text{Proposition}}$
V

[16] I have not yet illustrated a case where the Subject in the Proposition of a complement can be interpreted relative to the Subject of the Argument Structure. Consider, then, (i).

(i) henge'malum pum [tooya-qa-t-um] 'aaxwun
boys aux [laugh-changing-absolutive-pl] seem
The boys seem to be laughing.

The Argument Structure in (i) is:

(ii) [⟨ASP: ch | RIGHTAN: ≠⟩ Ppl]
ADAFF: t; NUM: —

The obligatory Word of the complement clause is, thus, accessible to the Subject in the Argument Structure, but the Subject does not 'call' the value which accesses the Proposition of the embedded Proposition.

(iii) $[\langle \text{ASP: ch} \mid \text{RIGHTAN: } \# \rangle \text{ Ppl}]_{\text{Argument Structure}}$

$\text{ADAFF: t; NUM: } -$

$\langle \text{ASP: ch; ADAFF: t; NUM: } - \mid \text{RIGHTAN: pl} \rangle_{\text{Constituent}}$

$\langle \text{ASP: ch; ADAFF: t; NUM: } - \mid \text{RIGHTAN: pl} \rangle_{\text{Word}}$

$[\ldots (\langle - \rangle; [\text{SUBJ}])\ \text{PN}]_{\text{Proposition}}$

The point is simply that a relative Subject in a complement clause can be relative to either the Subject or to another argument in the Argument Structure. Since an identical Subject is always identical to the Subject, the two cases overlap.

[17] The relationship is allowed by the presence of the Possessive in the 'addition' *pomna'*. How the 'addition' to the Subject in these relative clauses is to necessarily include a Possessive is left an open question.

ADDENDA

1. Inaccessible temporal value

a. Relative Clauses

[⟨ASP: —; . . .⟩]$_{\text{Constituent}}$

⟨ASP: Aspect; . . .⟩$_{\text{Word}}$

⟨Temporal value . . .⟩$_{\text{Proposition}}$

+realized, +realizable = present

noo n 'o'naq hengeemali
I aux know boy:object

[po-chaqalaqi-qat-i]
[3sg-tickle-changing-number:object]

I know the boy that he is tickling.

+realized, −realizable = past

noo n 'o'naq hengeemali
I aux know boy:object

[po-chaqalaqi-vo-y]
[3sg-tickle-unchanging:past-number:object]

I know the boy that he tickled.

−realized, +realizable = future

noo n 'o'naq hengeemali
I aux know boy:object

[po-chaqalaqi-pi-y]
[3sg-tickle-unchanging:future-number:object]

I know the boy that he will tickle.

b. Complement Clauses

Argument-Categorizing Element:

req ⟨no specification for ASP⟩

[. . .⟨ASP: Aspect | . . .⟩ . . .]$_{\text{Argument Structure}}$

[⟨ASP: Aspect | . . .⟩]$_{\text{Constituent}}$

⟨ASP: Aspect; . . .⟩$_{\text{Word}}$

⟨Temporal value . . .⟩$_{\text{Proposition}}$

+realized, +realizable = present

noo n 'ayaliq [po-tooya-x-i]
I aux knows [3sg-laugh-unchanging-object]

I know that he laughs.

+realized, −realizable = past

noo n 'ayaliq [po-tooya-xvo-y]
I aux know [3sg-laugh-unchanging:past-object]

I know that he laughed.

−realized, +realizable = future

noo n 'ayaliq [po-tooya-xpi-y]
I aux knows [3sg-laugh-unchanging:future-object]

I know that he will laugh.

2. Accessible but not 'called' temporal value

a. Adjunct Clauses

$\langle \ldots \rangle_{\text{Proposition}}$

Aspect

$\langle \ldots \langle \text{ASP: Aspect} \mid \text{RIGHTAN:} \ldots \rangle \ldots \rangle_{\text{Propositional Radical}}$

$\langle \text{ASP: Aspect} \mid \text{RIGHTAN:} \ldots \rangle_{\text{Constituent}}$

$\langle \text{ASP: Aspect} \mid \text{RIGHTAN:} \ldots \rangle_{\text{Word}}$

$\langle \text{Temporal value} \ldots \rangle_{\text{Proposition}}$

+realized, +realizable = relative present

[kwota-an-t] noo n tooyaq
[get:up-unchanging-absolutive] I aux is:laughing

While getting up, I am laughing.

−realized, +realizable = relative future

noo n wukalaq wuna'
I aux is:walking there

[poyoyi maamayu-lu-t]
[his:mother:object help-unchanging:future-absolutive]

I am walking over there to help his mother.

−realized, −realizable = relative

[heela-nik]	noo	nil	pell'ya
[sing-preceding]	*I*	*aux*	*danced*

After I sang, I danced.

or

⟨. . .⟩

Aspect

⟨. . .⟨RIGHTAN: Aspect⟩. . .⟩$_{\text{Propositional Radical}}$

⟨ASP: ASP | RIGHTAN: Aspect⟩$_{\text{Constituent}}$

⟨ASP: ASP | RIGHTAN: Aspect⟩$_{\text{Word}}$

⟨ASP . . .⟩$_{\text{Proposition}}$

ASP = relative

[po-tiiwi-qala	hunwuti]	noo	nupo	ya'anin
[3sg-see-changing	*bear:object]*	*I*	*aux*	*will:run:away*

When he sees the bear, I will run away.

b. Complement Clauses

Argument-Categorizing Element:

req: ⟨ASP: Aspect⟩

[. . .⟨ASP: Aspect | . . .⟩. . .]$_{\text{Argument Structure}}$

[⟨ASP: Aspect; . . . | . . .⟩]$_{\text{Constituent}}$

⟨ASP: Aspect; . . . | . . .⟩$_{\text{Word}}$

⟨Temporal value . . .⟩$_{\text{Proposition}}$

+realized, +realizable = relative present

noo	p	[no-tooya-x]	miyq
I	*aux*	*[1sg-laugh-unchanging]*	*is*

I have left (many times).

−realized, +realizable = relative future

noo	p	[no-ngee-pi]	miyq
I	*aux*	*[1sg-leave-unchanging:future]*	*is*

I have to leave.

+realized, −realizable = relative past

noo p [no-ngee-vo] miyq
I aux [1sg-leave-unchanging:past] is

I have left.

3. 'Called' temporal value

a. Complement Clauses

Argument-Categorizing Element:

req: ⟨RIGHTAN: generic . . .⟩

[. . . ⟨ASP: ASP; . . . | RIGHTAN: generic . . .⟩ . . .]$_{\text{Argument Structure}}$

[⟨ASP: ASP; . . . | RIGHTAN: generic . . .⟩]$_{\text{Constituent}}$

⟨ASP: ASP; . . . | RIGHTAN: generic⟩$_{\text{Word}}$

⟨ASP . . .⟩$_{\text{Proposition}}$

ASP = cotemporaneous

poloov up [po-tooyi-lo]
good aux [3sg-laugh-generic]

It is nice to laugh.

or

Argument-Categorizing Element:

req: ⟨ASP: ch⟩

[. . . ⟨ASP: ch | . . .⟩ . . .]$_{\text{Argument Structure}}$

[⟨ASP: ch; . . . | . . .⟩]$_{\text{Constituent}}$

⟨ASP: ch; . . . | . . .⟩$_{\text{Word}}$

⟨+realized, +realizable . . .⟩$_{\text{Proposition}}$

+realized, +realizable = cotemporaneous

noo nil tiiwax hengeemali
I aux saw boy:object

[tooya-qala-l]
[laugh-changing-absolutive:object]

I saw the boy laughing.

or

Argument-Categorizing Element:

req: ⟨ASP: unch⟩

$[\ldots\langle \text{ASP: unch} \mid \ldots\rangle \ldots]_{\text{Argument Structure}}$

$[\langle \text{ASP: unch}; \ldots \mid \ldots\rangle]_{\text{Constituent}}$

$\langle \text{ASP: unch}; \ldots \mid \ldots\rangle_{\text{Word}}$

$\langle +\text{realized}, +\text{realizable} \ldots\rangle_{\text{Proposition}}$

+realized, +realizable = cotemporaneous

noo n ma'maq 'awaali
I aux want dog:object

[pati-sh]
[shoot-unchanging-absolutive:object]

I want the dog shot.

CHAPTER SEVEN

AGREEMENT, ANTI-AGREEMENT, AND ORDER

0. SUMMARY

Chapter Three argued that agreement and anti-agreement are functors with distinct consequences — agreement requires that the members of its argument share properties and yields a result with a single value for these properties; anti-agreement requires that the members of its argument have different properties and yields a result with an added value, drawn collectively from the members of the argument. The effect of agreement was demonstrated on the Constituent and the effect of anti-agreement on the Argument Structure. Chapter Four applied both to the analysis of the Luiseño Proposition. Given a display of the person and number values in the Propositional Radical (what I have called the agreement grid), agreement yields a temporal value for the Proposition; anti-agreement yields a person/number value, the Subject. Chapter Five showed how the result of agreement and anti-agreement for the Proposition solve the aux compatibility problem introduced in Chapter One. The Luiseño aux is sensitive to just those properties represented in the Proposition's formal value — its temporal value, its Subject person/number value, and the presence and properties of the non-Subject chain.

Because agreement and anti-agreement are obligatory and listable, but non-localizable, functors, the result of their application is syntactically inaccessible but phonologically accessible. Chapters Three and Four presented a single test for a syntactically accessible category in Luiseño; any such category (in Luiseño, Constituent, Argument Structure, and Proposition) can be an argument in a rule which adds a Constituent compatible with its person/number value. For the Constituent, this is the rule which yields (1b) from (1a):

(1) a. pokaamay 'his son'

b. ya'ash pokaamay 'the man's son'

for the Argument Structure this is the rule which yields (2b) from (2a):

(2) a. noo p potaanay yawq
I aux his:blanket has

I have his blanket.

b. noo p ya'ash potaanay yawq
I aux man his:blanket has

I have the man's blanket.

and for the Proposition this is the rule which yields (3b) from (3a).

(3) a. potaax upil 'ariquś
himself aux was:kicking

He was kicking himself.

b. ya'ash upil potaax 'ariquś
man aux himself was:kicking

The man was kicking himself.

Through an analysis of Luiseño embedding, Chapter Six provided a much more elaborate test. Any category of this type in Luiseño defines a domain for embedding — Constituent defines the domain for a relative clause; Argument Structure, the domain for a complement clause; and Proposition, the domain for an adjunct clause. Further, the character of the defining domain, in conjunction with the accessibility of the embedded Proposition in the domain, provides a uniform treatment of temporal and Subject control. In short, Constituent, Argument Structure, and Proposition are necessary to an analysis of embedding and present precisely the correct properties. The similarity across the three categories is a natural consequence of the similarity in their functor type, given the idea that the functor type predicts the category type of the result.

Although the discussion has been concerned with certain of the details of Luiseño, it is critical to remember that two sets of theoretical proposals are on the table and that these are in no sense language particular. One set has to do with the idea that functors can be conditions across their arguments and that different kinds of conditions have different effects on their result. The second set involves a conception of grammatical architecture where functors and categories can be classified into types and where the properties of functors (their type) determine, in a general way, the character of the results of their action (the category type) on appropriate arguments.

In this, the concluding, chapter, I consider the application of these ideas (albeit briefly) in a broader domain. I engage also in speculations as to which aspects of the Luiseño analysis embedded within these hypotheses might generalize.

1. ARCHITECTURAL CONCLUSIONS

I have demonstrated these two sets of theoretical ideas by considering agreement and anti-agreement. Within this theory agreement and anti-agreement have a natural place; they are functors of a particular type which yield categories of a particular type. I note, however, that agreement and anti-agreement need not exhaust the functors characterized as obligatory, listable and non-localizable. And, if they don't, I expect the other functors sharing these properties to share the consequence of yielding a syntactically inaccessible (but phonologically accessible) category type.

The theories of structure found in Vennemann (1976), Flynn (1983), Steedman (1985), Gazdar, Klein, Pullum, and Sag (1985), and Pollard and Sag (1988) all distinguish between dominance and order. That is, in one form or another all specify what element in a structure determines the properties of the others and, independently, specify the relative order of the determining element and the determined element(s). All argue eloquently for the benefit of this division, but the issue raised by the Luiseño analysis for this perspective is clear: In Luiseño the dominance relationship appears in the rule applying an Argument-Categorizing Element to an Argument Structure, but since the order of these relative to one another is free, including the possibility that the former will interrupt the latter, order plays essentially no role. One response to the existence of languages like Luiseño (entertained by Pullum (1982)) is that such languages share the dominance relation but lack the order relations. The force of the division between these two relations, in conjunction with the idea that the two relations are universally applicable is considerably weakened by such a tack. Within the theoretical framework developed in Chapter One — and demonstrated at length in the Luiseño analysis — the problem presented by languages like Luiseño is easily resolved. Ordering the elements in a domain is not an obligatory property of a language, but where order is not present it has a functional equivalent. I maintain the division between dominance and another kind of relation, but this second relation is not only more abstractly characterized, it also has specific structural consequences.

I propose that the existence of syntactically inaccessible categories is an obligatory property of a grammar. This category type results, in the framework developed in Chapter One, from the application of a functor which is listable, obligatory, but not localizable. Conditions on order, like conditions on the distribution of number and person values, are equivalent in yielding this category type. Both are obligatory to the domain in which they occur. If we say, for example, that an English verb like *kick* requires an (accusative) noun phrase, we must also specify that the verb precedes the noun phrase. Similarly, conditions on order, like conditions on number and person, are listable. One major claim of Generalized Phrase Structure Grammar is based on this very point. The idea is that if order statements are given independently, they should be general across category types and reducible to a very few. Finally, conditions on order, like conditions on number and person, are non-localizable: Both are conditions, not expressions.

Rather than investigating the parallels between agreement/anti-agreement and order in the abstract, I sketch an analysis of English sentences, incorporating order conditions, which parallels in interesting respects the analysis proposed for Luiseño. Aside from the treatment of order, the essential properties of the analysis are adapted from Schmerling (1983) and from Oehrle's proposals in Chapter Four of Steele et al. (1981). The point here is not only that these theoretical ideas informing the Luiseño analysis have broad application, but also that they're lurking in some analyses of English.

Schmerling proposes that the English subject is a function from an intransitive verb (i.e. a verb and all its arguments but the subject) to a clause.[1] The sentence *John walked*, for example, has the (abbreviated) analysis in (4), where *FC* refers to a finite clause and *IV* to an intransitive verb.

(4) John walked FC

John FC/IV   walked IV

Tense is simply "a morphological consequence of the combining of expressions of the FC/IV category with expressions of the IV category in the formation of FC expressions." (p. 10) For example:

(5) F_{PAST}(walk) = walked

Modals, and other auxiliary elements, are modifiers of subjects. The sentence *John should walk*, for example, has the (abbreviated) analysis in (6).[2]

(6) John should walk FC

John should FC/IV   walk IV

John FC/IV   should (FC/IV)/(FC/IV)

Schmerling also makes a distinction between *FC* and *IFC* (i.e. between finite clauses and inverted finite clauses). *Should* is not only a subject modifier yielding FC/IV; it is also a subject modifier yielding IFC/IV.

(7) Should John walk IFC

should John IFC/IV   walk IV

John FC/IV   should (IFC/IV)/(FC/IV)

(Not all auxiliary elements have both possibilities. *Better* is only (FC/IV)/(FC/IV), and according to Schmerling *does* is only (IFC/IV)/(FC/IV).)

I adopt Schmerling's analysis of the English subject, with an extension to sentences like those in (8).

(8) a. Don't walk!

b. Do walk!

c. Walk!

That is, her instances of FC/IV include an NP and, possibly, a modal or other auxiliary element. I extend the instances of this category to the auxiliaries *don't* and *do* alone, as in (8a) and (8b) respectively. I also want to allow the possibility that an IV may yield an FC directly, as in (8c). We will return to this last case.

Schmerling's rules of functional application involve specification as to the order of functor and argument, e.g. for the combination of an FC/IV and an IV as in (6), her rule reads:

(9) if $\alpha \in$ FC/IV and $\beta \in$ IV, then $F_{RC}(\alpha, \beta) \in$ FC

where *RC* refers to right concatenation. This is where I diverge from her. I divide a rule like her (9) into two, one combining FC/IV and IV, and the other fixing their relative order. Roughly, and in a notation closer to that adopted in the body of this work:

(10) a.	⟨John should⟩		⟨walk⟩		⟨John should walk or
	⟨FC/IV⟩	:	⟨IV⟩	→	walk John should⟩
	⟨. . .⟩		⟨. . .⟩		⟨FC/IV, IV⟩
					⟨. . .⟩

b.	$\text{order}_{\text{functor first}}$:	⟨John should walk or	
		walk John should⟩	→
		⟨FC/IV, IV⟩	
		⟨. . .⟩	

⟨John should walk⟩
⟨FC⟩
⟨. . .⟩

(10a) simply combines *John should* and *walk*. The phonological value includes both possible orders; the formal value also includes the formal values of both functor and argument. (10b) fixes the order as functor first and the formal value no longer represents properties of both functor and argument. (10a) corresponds to the rule yielding a Propositional Radical in Luiseño; (10b), to the rule yielding a Proposition. Like the Argument-Categorizing Element in Luiseño, the instances of FC/IV are obligatory to an FC but are non-listable; like agreement and anti-agreement, order is obligatory, listable, and non-localizable.

The difference between this and Schmerling's analysis is not yet clear, in part because the formal values of the categories are not entirely satisfactory. Obviously, not every subject can combine with every IV. A modified subject requires an untensed IV, for example, but a non-modified subject can combine with a tensed IV — either past as in (4) or present — or an untensed IV.

(11) a. You walk!

b. I require that John walk.

In the analysis of Luiseño, I proposed that the properties of an argument exhausted by the functor are not represented in the result. If we treat the categorial labels employed by Schmerling as abbreviations for sets of feature values, just as we did labels like Propositional Radical or Proposition employed in Luiseño, we can further modify (10a). Let's say that Schmerling's FC/IV identifies a set of categories sharing the presence of a binary feature INV(erted), a multi-valued person/number feature and a multi-valued modal feature. So, *John should* has the formal value in (12).

(12) ⟨INV: –; PERS/NUM: 3sg; MODAL: SHOULD⟩

The modal value is represented with maximum simplicity. Where there is no modal as in (4), the modal feature indicates its absence.[3]

(13) ⟨INV: –; PERS/NUM: 3sg; MODAL: –⟩

Let's say, further, that IV identifies a set of categories sharing the presence of a multi-valued feature something like Pollard and Sag's VFORM, with the feature possibilities including base (e.g. uninflected forms), present, past, past participle, etc.[4] So, the IV in (10a) has the formal value in (14):

(14) ⟨VFORM: base⟩

and that in (4), the formal value in (15):

(15) ⟨VFORM: past⟩

Now, a FC/IV as in (12) requires an IV as in (14), so we modify (10a) as in (16).

(16) ⟨John should⟩ ⟨walk⟩
⟨INV: –; PERS/NUM: 3sg; MODAL: SHOULD⟩: ⟨VFORM: base⟩
⟨. . .⟩ ⟨. . .⟩

→

⟨John should walk or
walk John should⟩
⟨⟨INV: –; PERS/NUM: 3sg; MODAL: SHOULD⟩; ⟨ ⟩⟩
⟨. . .⟩

The formal value of (16), but not that of (10a), indicates that the functor has indeed applied to the argument to yield a result which is not simply the set comprising its parts. However, the various members of the rule are in fact present in the formal value of the result. The sentence in (4) offers a more dramatic illustration. We apply a category with the formal value in (13) to one with the formal value in (15).

(17) ⟨John⟩ ⟨walked⟩
⟨INV: –; PERS/NUM: 3sg; MODAL: –⟩: ⟨VFORM: past⟩
⟨. . .⟩ ⟨. . .⟩

→

⟨John walked or
walked John⟩
⟨⟨INV: –; PERS/NUM: 3sg; MODAL: –⟩; ⟨VFORM: past⟩⟩
⟨. . .⟩

As noted, an unmodified subject does not limit the formal value of its argument; thus, the tense value of the argument is reflected in the result.[5]

Order applies to the results in (16) and (17), eliminating the collection indicated in the phonological value and simultaneously organizing the formal value. There are two possibilities in regard to the former. If we do not concern ourselves with VP-fronted sentences such as (18):

(18) Walk, John should.

then the condition on order need only require that the functor in (16) and (17) precede the argument.

(19) a. $\text{Order}_{\text{functor first}}$: ⟨John should walk or
walk John should⟩
⟨. . .⟩ →
⟨. . .⟩

⟨John should walk⟩
⟨. . .⟩
⟨. . .⟩

b. $\text{Order}_{\text{functor first}}$: ⟨John walked or
walked John⟩ →
⟨. . .⟩
⟨. . .⟩

⟨John walked⟩
⟨. . .⟩
⟨. . .⟩

If we wish to incorporate VP-fronting in this analysis, the condition on order must be complicated. An initial tensed IV must be disallowed, but not every non-tensed IV can be initial. I will not resolve this problem here and, although the incorporation of VP-fronting is an intriguing possibility, I assume the simple alternative indicated in (19).

The effect of the application of order on the formal value of its argument is like the effect of agreement: We unify the two value sets in the argument into a single value set. This is simple for (19a) where the value set originally associated with the IV is absent, in any case.

(20) $\text{Order}_{\text{Functor First}}$:

⟨John should walk or
walk John should⟩
⟨⟨INV: –; PERS/NUM: 3sg; MODAL: SHOULD⟩; ⟨ ⟩⟩ →
⟨. . .⟩

⟨John should walk⟩
⟨INV: –; PERS/NUM: 3sg; MODAL: SHOULD⟩
⟨. . .⟩

Where the value set originally associated with the IV is present, we incorporate these in the first value set. We've considered one possibility for IV — tense. Since the presence of tense is mutually exclusive with a value for the feature MODAL, we unify tense with this feature. So, the effect of order on (19b) is as in (21).[6]

(21) $\text{Order}_{\text{Functor First}}$:

⟨John walked or
walked John⟩ →
⟨⟨INV: –; PERS/NUM: 3sg; MODAL: –⟩; ⟨VFORM: past⟩⟩
⟨. . .⟩

⟨John walked⟩
⟨INV: –; PERS/NUM: 3sg; VFORM: past⟩
⟨. . .⟩

Although we have adopted Schmerling's term *Clause* for categories resulting from the application of order as in (20) and (21), this term is not to be taken as equivalent to *Sentence*. Continuing the parallel between agreement and order, the application of order in English — like the application of agreement and anti-agreement in Luiseño — does not yield a sentence. As Oehrle points out, an uninverted finite clause — e.g. *John walked* — can, depending on its intonation contour, be an assertion or a question. Simplifying somewhat, the application of a falling intonation contour yields the former; the application of a rising intonation contour, the latter. Similarly, an inverted finite clause — e.g. *Should John walk* — can be a question with a rising contour or an exclamation with a falling contour.

These observations can be considerably refined, no doubt — and must be in regard to WH-questions. The point is simply that an English sentence crucially involves an intonation contour and the distinction between inverted and non-inverted subject is not isomorphic with the contour choice.[7] We incorporate the intonation possibilities into our analysis, in essentially the manner proposed by Oehrle: The application of an intonation contour maps the result of the application of order to a sentence.

(22) a. $\text{Intonation}_{\text{falling}}$:

⟨John should walk⟩
⟨INV: –; PERS/NUM: 3sg; MODAL: SHOULD⟩ →
⟨. . .⟩

⟨John should walk⟩
⟨assertion⟩
⟨. . .⟩

b. $\text{Intonation}_{\text{rising}}$:

⟨John walked⟩
⟨INV: –; PERS/NUM: 3sg; MODAL: SHOULD⟩ →
⟨. . .⟩

⟨John walked⟩
⟨question⟩
⟨. . .⟩

One interesting aspect of this analysis is the extension of the parallel between Luiseño and English. What we termed the Luiseño Sentence-Defining Element takes a Proposition and yields a Sentence. Just as order is the proposed functional equivalent of the condition we have termed agreement, so intonation is the functional equivalent of the Sentence-Defining Element. Both are obligatory to their domain and involve a listable number of instantiations. Further, neither is a condition and, more strongly, instantiations of both occur in a fixed position, one at the beginning of the sentence and the other at the end.

In illustrating the benefits of the grammatical architecture proposed in Chapter One, I have done little here beyond combining two previously existing proposals, modifying them somewhat to bring them in line with the proposals there. The benefits of the English analysis, then, are those ascribed to them by Schmerling and Oehrle. Schmerling's analysis of

English structure provides the correct constituent structure for VP-ellipsis and VP-fronting, as well as a straightforward characterization of English tags. Oehrle's proposals incorporate intonation, a property generally ignored but essential to an adequate description of English sentences.

Most important for our purposes, however, is the possibility that the classification of functors and category types proposed in Chapter One allows us to capture similarities between English and Luiseño that otherwise might be difficult to appreciate. As noted, the fact that the order of elements in an English sentence must obey relatively rigid requirements and that other languages have less rigid requirements has invoked a fair amount of attention. Pullum (1982) argues that such languages are easily accommodated within a theory that distinguishes between dominance and order, as Generalized Phrase Structure Grammar, by eliminating (or dramatically reducing) the order statements. Reasonably, then, we might expect a language English′ which differs from English only in the absence of linear precedence statements.[8] In contrast, the theory of structure developed here predicts that no such language will exist. Order is only one instance of a particular functor type. In the absence of this functor type, the category type it produces is also absent. Under the assumption that this category type is essential, conditions on order may be absent only in the presence of like conditions, as e.g. agreement.

The possibility that the classification introduced in Chapter One has universal applicability — although it requires more abstract equivalences than are generally entertained — is the central hypothesis toward which this work is aimed.

2. ANALYTICAL CONCLUSIONS

This is not to say, of course, that other properties of the analysis do not extend.

Consider, first, a device upon which the analysis turns. Because the formal values employed in this analysis are non-monadic, the problem of feature-passing and of calculating the features of a complex category certainly cannot be ignored. The major contribution in this regard is what I have called the 'principle of extended functional application'. By this principle certain of the features of either functor or argument (in a rule where both functor and argument are feature-bearing, i.e. are not conditions) will be available in the result, while others will not. This calculation does not depend on tagging certain features at the outset (e.g. like 'foot features' or 'head features'); in fact, this is clearly impossible since the same feature/value pair may in some combinations appear in the result and in others will not. While this principle is critical to the Luiseño analysis, it clearly is not bound by it. Indeed, it should have universal application.

In addition, this work has offered an analytical twist to certain theoretical constructs in common use. Here there is no claim that these constructs should, in every language, have the form proposed for Luiseño; it is important only that application of these theoretical constructs be extended to include the Luiseño instantiation. That is, a theory of language which claims universality must accommodate the interpretation of these constructs defended here.

One has to do with the treatment of the Subject. In most theories of syntactic structure, the Subject is associated with the NP position — even if the language in question doesn't require that this position be filled with phonetic material. Recent proposals by Manandise (1984) and Jelinek (1984) that some languages have pronominal arguments maintain the localizability of the Subject to a particular place in the string, but modify its character in two respects — the Subject is not associated with an NP position and the Subject is minimally taken to be a person/number value. NP's compatible with the subject are possible, but not obligatory, although how these compatible NP's are introduced into the structure is not made clear. The analysis presented here agrees with Tsujimura (1986) in taking the next step in this development: In Luiseño, the subject is not localizable to a particular position, but rather is a person/number value, a unification of an array of such values distributed throughout the members of the Proposition. Further, the mechanism for the introduction of a compatible lexical form is specified, in the rule which takes a Proposition to a Proposition.

A second has to do with the formal value of the Proposition. An obvious notional resemblance is apparent between the formal value of a simple Proposition and the postulation of INFL in recent work by Chomsky (1981, for example) and his associates and students. So, ". . . let us assume that INFL may in principle be the collection of features [[±Tense], (AGR)]." (Chomsky (1981) 52) The effect of the functor on the Propositional Radical is the identification of these two values within the argument. Given this resemblance, the differences between the analysis advocated here and the INFL analysis are worthy of note. First, the elements which give rise to the temporal and person/number values are distributed across the Proposition; the functor is not realized by a constituent to which they are localized, but rather is a condition which allows these properties to be 'extracted'. Compare:

I have been assuming the expansion (10) for S in English:

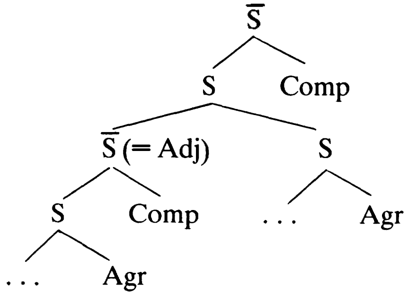
(10) S → NP INFL VP

. . . In surface structure, INFL may appear phonetically as part of a verbal affix system, but I will assume here that in S-Structure the representation is as in (10).

(Chomsky (1981) 52)

Second, and more critically, the functor which gives rise to the values at issue is *not* what makes a string a sentence, nor does the formal value which resembles INFL perform that function. As indicated in Chapter Five, this function is reserved to the Sentence-Defining Element.

The third analytical twist has to do with the treatment of adjunct clauses. In his recent work on switch reference, Finer (1985) proposes the following structure for adjunct clauses:



and argues, based on this structure, that facts about obligatory coreference or non-coreference can be captured. Phrase structure trees are not part of the Luiseño analysis, yet we can account for obligatory coreference and non-coreference within an adjunct clause by referring to the properties of the embedding Proposition — in fact, we *must* elaborate on this simple two-way distinction. Further, the same principles by which this is accomplished in adjunct clauses apply to relative clauses and complement clauses. Finer's analysis has no such natural extension.

3. CONCLUSION

In much of mainstream linguistics agreement has long been relegated to 'house-keeping' rules. A trend appears to be developing more recently to treat it more seriously. This book is squarely within this trend. Agreement (and anti-agreement) are crucial components of the compositional structure of Luiseño.

NOTES

1 I adopt here the non-standard line adopted in the analysis of Luiseño: the Verb applies to its (non-Subject) arguments simultaneously. I am not entirely alone; see Pollard and Sag (1988).

2 I ignore Schmerling's use of multiple slashes. For example, she gives the unmodified subject the category FC/IV and the subject modified by a modal the category FC//IV.

3 INV has the values +, −, and unspec(ified). ⟨INV: unspec⟩ might most logically apply to single-element FC/IV; I reserve it for such categories which lack a subject.

4 Obviously, IV must also include specification for person and number. The value 'pres'

must be accompanied by '3sg' or 'non-3 non-sg'. The presence of a reflexive in the IV also must be represented in its feature set, by its person and number value.

[5] We can see now one way to handle (8c). The functor lacks phonological form, but supplies the values '2' and 'IMP'.

⟨ ⟩
⟨INV: unspec; PERS/NUM: 2; MODAL: IMP⟩
⟨. . .⟩

[6] Unification involves person/number compatibility, if the value set for IV also includes person and number. See note 4.

[7] Intonation is sensitive to more than the value of INV. IMP is impossible with rising intonation, for example. I will not attempt a full and explicit statement.

[8] This is surprisingly like the idea now current in government binding circles that some languages lack INFL and its projections. Such bifurcations are much less satisfactory than the idea of abstract equivalences adopted here.

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