

On verbal number in Upriver Halkomelem*

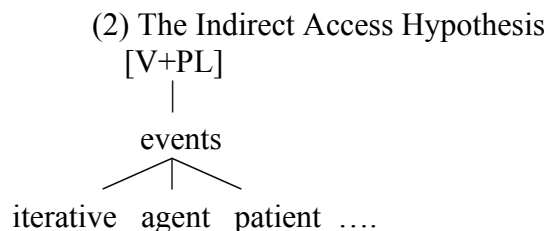
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1. Introduction

In this paper, my primary objective is to present a formal semantic analysis of pluractionality, or plurality in the verbal domain, in Upriver Halkomelem (Coast Salish, BC; UH henceforth). Unlike most of the better-studied Indo-European languages, UH exhibits a robust pattern of plural marking on verbs¹. Galloway (1993: 323) identifies a range of interpretations that are associated with plural morphology in the verbal domain, claiming that it can represent plural ‘actions’, ‘subjects’, or ‘objects’ in the case of a transitive verb. The example in (1) demonstrates this flexibility, with a single sentence that can be used to describe all of the situations in a-e.

- (1) **yáleq’-et-es** te theqát² (cf. *yáq’et*)
fall.pl-tr-3s det tree
a) ‘He felled all the trees’
b) ‘He felled all the trees (with one swing)’
c) ‘They felled the trees’
d) ‘He felled the same (magic) tree over and over’
e) ‘They felled the tree’

I will pursue what I refer to as the ‘Indirect Access Hypothesis’, represented informally in (2), which draws on the insights of Cusic (1981) and Lasersohn (1995) in proposing that the plural operator ranges strictly over events in the verbal domain.



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¹ I will use the terms ‘plural morphology’, ‘plural marking’, and ‘pluralization’ to refer to a morphological operation on lexical items (nouns, verbs, and adjectives), excluding plurality in the determiner and pronominal systems.

² Unless otherwise noted, all data come from my fieldwork with Dr. Herrling.

In this model, the plural verb [V+PL] directly results in plural events, and it is from this underlying situation that the surface readings (iterative, plural agent, plural patient, etc.) are derived. In section two, I lay out a formal implementation of the Indirect Access hypothesis. The analysis I develop draws heavily on the proposals of Lasersohn (1995), but is modified to incorporate insights from a lattice-theoretic view of number. I present the UH data in section three, dealing with the array of interpretations available in UH and how my analysis handles that data. Section four raises and addresses what I will refer to as the ‘single event problem’. This involves pluractional verbs that receive a collective interpretation – multiple participants of what appears to be a single event. I show that given other facts independent of the collective interpretations, the formal model proposed here actually predicts the existence of such sentences.

In section five I move on to the second goal of this paper, which addresses the presence of several realizations of plural morphology in UH. The three forms in question are presented in (3) below.

| | | | |
|-----|---------------|-------------------------------|------------------------------------|
| (3) | Plural Marker | [V] | [V+PL] |
| | CVC- | tl'ewels <i>bark</i> | tl'ewtl'ewels <i>bark.pl</i> |
| | -lə-/-əl- | stósem <i>get.squished</i> | stólesem <i>get.squished.pl</i> |
| | ablaut | élhtel <i>eat</i> | ílhtel <i>eat.pl</i> |

I present two arguments in this section that lead me to conclude that these three forms are in fact allomorphs, and that there is only need for a single semantic account of this plural operator.

Section six presents several directions this research can be taken, and I conclude with section seven.

2. A theory of plurality

In this section, I will present for a formal semantic implementation of the Indirect Access hypothesis. Before dealing with the formalization of the plural operator, it is necessary to establish some account of just what that operator affects. I will therefore begin this section with an exploration of

the bare, or unmarked forms before proceeding on to analyses of the plural operator, for which I adopt a modified version of the analysis of Lasersohn (1995).

2.1 Unmarked verbs [V]

I argue in this section that bare forms of lexical category items³ in UH have what is referred to as general number (Corbett 2000, Rullmann and You to appear), or number neutrality. This argument begins with the nominal domain, where it has been shown that unmarked nouns in UH (i.e. un-pluralized forms) are not obligatorily interpreted as singular. Rather, they are neutral with respect to singular and plural interpretations (Wiltschko 2004). Data like those presented below motivate this claim.

(4) Plurality in the UH nominal domain

- | | |
|--|---|
| a. t'íl-ém te isále swíyeqe sing-itr det two man The two men are singing | b. t'íl-ém ye sí:wí:yeqe sing-itr det.pl man.pl The men are singing |
| b. t'íl-ém te sí:wí:yeqe sing-itr det man.pl The men are singing | d. t'íl-ém ye swíyeqe sing-itr det.pl man The men are singing |
| e. t'elt'íl-em te swíyeqe sing.pl-itr det man The men are singing ⁴ | |

Here we see that while there is a plural form of the noun, the unmarked form is also compatible with a plural interpretation. Compare this with the situation in English presented below.

(5) Plurality in the English nominal domain

- | | |
|--|---------------|
| a. *the two man | b. *these man |
| c. *The man is singing (if referring to more than one man) | |

In each case, the nominal 'man' must be morphologically plural – number agreement in English forces plural reference in the nominal expression in the first two examples (the a. example contains a numeral modifier that is greater than one, while the b. example contains a plural demonstrative), while the third

³ This will include nouns, verbs, and adjectives, though I am not sure how the analysis will extend to the adjectival domain.

⁴ This is only one of the interpretations that e. is compatible with. Examples a-d are taken from Wiltschko (2004), while example e comes from my field notes.

example is infelicitous if used to refer to multiple singers. These examples show that plural marking in English is required when a plural interpretation is forced (a,b) or intended (c).

I will assume in this paper a lattice-theoretic approach for modeling number (cf. Link 1983). Briefly, the domain of individuals is constructed of set of atoms and the pluralities that can be constructed from them using the join operation (I am setting mass nouns aside for the time being).

With this basic account of plurality in the nominal domain in hand, we can now turn to the verbal domain. As shown below, the plural morphology in the verbal domain is the same as that found in the nominal domain⁵.

(6) Plural morphology across domains

| <u>Form</u> | <u>Nominal Domain</u> | <u>Verbal Domain</u> |
|-------------|--|--|
| Reduplicant | <i>swáyel ~ swelwáyel</i> day ~ day.pl | <i>yéqwest ~ yeqwyéqwest</i> untie ~ untie.pl |
| -lə-/-əl- | <i>kw'óxwe ~ kw'ólexwe</i> box ~ box.pl | <i>tqát ~ telqát</i> open ~ open.pl |
| ablaut | <i>síyám ~ sí:yám</i> chief ~ chief.pl | <i>tl'éwels ~ tl'áwels</i> bark ~ bark.pl |

Also as in the nominal domain, plural morphology is optional, with alternative means available to produce pluractional readings. As shown below, adverbial elements (*yoth*, *qelát*) are capable of encoding iterative or habitual readings (7,8), while arguments can be marked (*mekw*) to indicate plural participants (9).

(7) lets'-ét-es te lepót **qelát (qelát)**
fill-tr-3S det cup **again (again)**
'He filled the cup over and over'

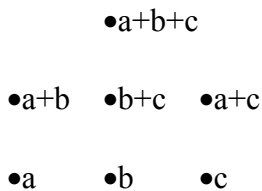
(8) **yoth** qesu éyaq-t-es te stas te máqel
always and.so change-tr-3S det 'style' det hair
'She's always changing her hairdo'

⁵ Galloway (1993:378) lists 'hí:-' as a plural affix in his discussion of plural nouns, and in previous stages of this research I extended this to the verbal domain as well. However, in subsequent research, I have only found this prefix marking continuative 'aspect'. While this is also a reading available with PLURAL allomorphs, they are not so restricted. Therefore I will treat them as separate.

- (9) eho-t-es te mekw stames
 wrap-tr-3S det all sthg
 he wrapped up a bunch of things

I am assuming, following Bach (1986) and Krifka (1992), that the domain of events is structured in the same way as that of entities⁶, i.e. as a join semi-lattice, and that verbs are one-place predicates over events (cf. Parsons 1990). The data above then, can be interpreted as evidence that verbs morphologically *unmarked* for number, like their nominal counterparts, are semantically *unspecified* for number (see Rullmann and You, to appear and Wiltschko 2004 for number neutrality in the nominal domain, and Corbett 2000 for ‘general number’). As indicated in (10), these means that unmarked forms have both atoms and pluralities in their denotations. This amounts to the claim that they are lexically equipped with a *-operator (cf. Link 1983).

(10) Denotation of [V] with general number



Having established the relevant generalizations about unmarked forms, it is now time to turn to semantic account of the plural operator.

2.2 Semantics for the plural operator [PL]

Lasnik (1995) offers the first extensive formal treatment of pluractional morphology⁷. His analysis is essentially an implementation of the Indirect Access Hypothesis, in that he proposes that plural operators can only range over events in the verbal domain. In developing a formal account of a pluractional operator based on event number, one must begin with the question ‘What does it mean to be a plural event?’. The most intuitive response is to be an iterated event, one that happens a number of

⁶ I am setting states aside for the moment, as there will be some differences in interpretation between plural states and events.

⁷ Blevins and Levin (1986) and Blevins et al. (1990) are mentioned as attempts at such an analysis, and Botha (1988) offers an in depth study of plural reduplication in Afrikaans with an attempt to formalize the results. Several studies of pluractional markers are based on Lasnik’s model, such as Bar-el’s (2002) analysis of Squamish (Coast Salish, BC), Yu (2003) on Chechen, and Haji-Abdolhosseini et al. (2002) on Niuean, for example.

times. Not surprisingly, this interpretation is indeed associated with pluractional morphology, but, as pointed out by Cusic (1981), pluractional operators account for quite a few other interpretations as well. This suggests that being a plural event is a more general situation. Recall the range of interpretations attributed to UH pluractional verbs – it seems that what is required is simply that there be a number of events, regardless of how they are individuated.

Documenting a considerable range of readings associated with pluractional morphology, Cusic (1981) nonetheless maintains that the full range of interpretations stem from plural events. Cusic's claim is that there is in fact some coherence to this set of interpretive effects, and that it can be derived by the interaction of four parameters. Of these four parameters, only two are required to generate the phenomena under consideration here – the distributive and the event ratio parameters⁸. While the distributive parameter will be addressed in this section, the event ratio will be explored in section 4.

Any definition of the UH pluractional marker will have to account for the fact that the verb it attaches to is obligatorily interpreted as plural, as shown below.

(11) letsléts-t-es te lepot te sq'e'op
 fill.pl-tr-3S det cup det juice
 He filled all the cups with juice
 *He filled the cup with juice

(12) telq-át-es te kw'óxwe
 close-tr-3S det box
 He closed the boxes
 *He closed the box

(13) yexwyéxw-et-es te sqeqós
 untie.pl-tr-3S det knot
 He untangled all the knots
 *He untangled the knot

The examples in (11-13) are not felicitous in contexts that involve non-repeated, non-extended events with singular participants. I take this to mean that a pluractional verb in UH has only pluralities in its denotation, or put differently, that a pluractional verb obligatorily denotes a plural event. Recall that bare forms in UH are lexically equipped with the *-operator, i.e. that they have both the atoms and the

⁸ The other two parameters – connectedness, which determines the relative importance of the boundaries between the units that the event is distributed over, and relative measure, which specifies the amount of efficacy or effort of the individual events – are not relevant at this stage. However, any exploration of the relation between number and aspect will have to address the former. The latter, which was left un-formalized in Lasersohn (1995) will undoubtedly play a role in research on the augmentative readings found in the adjectival domain, and may inform analyses of the diminutive reduplicant as well.

sets built from them in their denotations. I take the obligatory interpretation of plural morphology as evidence that the plural operator prohibits the inclusion of atoms in the denotation of the forms it modifies. Thus the denotation of pluralized forms would be as shown below.

(14) Denotation of [V+PL]

•a+b+c

•a+b •b+c •a+c

Left behind in the wake of the plural operator then are the plural events, which means that a pluralized verb can only pick out one of these. The formula below does this, specifying conditions for being a plural event that, among other things, preclude being an atom.

(15) Plural operator (preliminary) – adapted from Lasersohn (1995)⁹

$$V\text{-PL}(e) \leftrightarrow \underbrace{\exists e' (V(e'))}_{(a)} \wedge \underbrace{\exists X [\text{sup}(X) = e' \wedge \forall e_1, e_2 \in X (V(e_1) \wedge V(e_2))]}_{(b)} \wedge \underbrace{|X| \geq n}_{(c)}$$

This formula states that a plural verb V+PL holds of some event e just in case (a) there is some V-type event e' , (b) e' is the supremum of some set of events X , the members of which are also V-type events, and (c) the cardinality of X is greater than some contextually salient number n . To relate this back to the denotation shown in (14), a plural verb V+PL can denote the plural event a+b+c if it is a V-type event and if the events that sum up to form it (a, b, and c) are also V-type events. As it stands, the formula does not require atomicity in the domain of events. Given that the plural operator is capable of modifying states and activities, which are not atomic, this is a welcome result¹⁰. This does ensure that the pluractional verb holds of a plural event, but it doesn't convey all the information needed. Nothing is mentioned in this formula about how the events are to be distinguished from each other, i.e. how to ensure the distinction between e_1 and e_2 . As Lasersohn (1995; 242) points out, given that there is a relatively stable (if large) set of interpretations associated with pluractional morphology, and that languages vary with respect to which of these interpretations they make use of, it would be beneficial to parameterize the sense in which those events are distinguished from each other. This will be the work of the distributive parameter.

⁹ See Bar-el (2002) for an account of plural verbs in Squamish (Coast Salish, BC), and Yu (2003) for Chechen, that also draws from Lasersohn (1995).

¹⁰ This property may also be relevant for an analysis of pluralized mass nouns, e.g. *siyólh* ~ wood; *silyólh* ~ lots of wood.

The distributive parameter captures the fundamental claim of the Indirect Access hypothesis, namely that events can be distinguished, and hence seen as a plurality, along a number of lines. Cusic presents it as follows.

The basic idea of distribution is separation in time, space, or some other way, of actor from actor, action from action, object from object, property from property, and so on. In relation to our idea of plurality as internal complexity and external multiplicity, distributivity can be thought of as a function which takes the internally or externally complex entity, redivides it into its separate bounded units, and assigns these units to temporal loci, spatial loci, or matches them one-to-one with other bounded units.

(Cusic 1981;102)

Lasersohn (1995) implements this in his formal definition of pluractional operators by means of a non-overlap condition, which does the work of distributing the events to their respective ‘bounded units’. This allocation is achieved by using a function f to take events and map them on to their unique *spaces, times, space-times, and/or participants*. The first three will produce what is typically referred to as plural event readings, while the last will derive the plural participant readings.¹¹ Incorporating the non-overlap condition into the first version of the formula, we get the version shown below¹².

(16) Plural operator (intermediate version)

$$V\text{-PL}(e) \leftrightarrow \exists e' (V(e')) \wedge \exists X [\text{sup}(X) = e' \wedge \forall e_1, e_2 \in X (V(e_1) \wedge V(e_2) \wedge \neg (f(e_1) \circ f(e_2))) \wedge |X| \geq n]$$

The addition in this formula, $\neg (f(e_1) \circ f(e_2))$, is the non-overlap condition, which states that the individual events e_1, e_2 that are members of X are distinct in virtue of the value of f . This creates a space in the formula for talking about language and morpheme-specific restrictions on how events are individuated.

With the formal account in place, I will now turn to the UH data. In the next section I will apply the formula presented above and show how it can be used to generate the range of interpretations available in UH.

¹¹ See Matthewson (2000) for use of a Lasersohnian non-overlap condition in an account of a distributive operator in Lillooet (Interior Salish, BC).

¹² Lasersohn (1995)’s original formula, in which the plural verb holds of a set of events X , is given in i.

i. $V\text{-PA}(X) \leftrightarrow \forall e, e' \in X [V(e) \wedge \neg (f(e) \circ f(e'))] \wedge |X| \geq n$

The formula I am advocating here differs in that it refers to a *plural event* rather than a *set of events*, in line with a lattice-theoretic analysis of plurals.

3. Generating the interpretations

My findings are largely consistent with Galloway's (1993) claim that pluralized verbs can be interpreted as multiple instances of the action indicated by the verb, or the agent or patient of that action. In this section, I give examples of this flexibility, and demonstrate the ability of my analysis to generate these readings. The general strategy is shown informally in (14) – X is the set of events that sum up to form the plural event, U is the set of 'bounded units' (cf. Cusic *ibid.*) to which the individual events in X are distributed, and *f* is what mediates that distribution.

(14) Mapping events to 'bounded units'

$$\begin{array}{l} X = e_1 \ e_2 \ \dots \ e_n \\ f = \begin{array}{c} | \quad | \quad \dots \quad | \\ | \quad | \quad \dots \quad | \end{array} \\ U = u_1 \ u_2 \ \dots \ u_n \end{array}$$

The rest of the section will be devoted to showing how this informal model is implemented.

3.1 Time

In the examples below, the events denoted by the verb are separated from each other temporally – it is the unique time intervals that each event occupies that are relevant to identifying each

(15) chel yeqw'yeqw'es-t te ey lhatstel
 1sgS sharpen.pl-tr det good knife
 I sharpened the good knife a bunch of times

What is needed for these examples is a temporal trace function, call it τ , which would map events on to non-overlapping time intervals. This would produce a situation in which the predicated set of events is alike in all respects except time intervals. For concreteness, let us apply the formula in (x) to (x).

(16) $S(\text{harpen})\text{-PL}(e) \leftrightarrow \exists e' (S(e')) \wedge \exists X [\text{sup}(X) = e' \wedge \forall e_1, e_2 \in X (S(e_1) \wedge S(e_2) \wedge \neg (\tau(e_1) \circ \tau(e_2))) \wedge |X| \geq n]$

This says that some event *e* of S(harpening) is a plural event just in case there is a sharpening event *e'* that is the sum of a set X of sharpening events that are distinct because they occupy separate time intervals.

While this type of reading will most naturally occur with events that do not involve the consumption, creation, or destruction of patient participants, the analysis I am proposing (along with the Lasersohnian analysis it is modeled on) predicts that these should at least in principle be possible. In fact these readings are available. In addition to the example given in (x) above, the following example illustrates a much more natural situation in which such a reading might arise, in which a perpetually re-patched ball continues to burst.

- (17) meqw'méqw' te pal
 burst.pl det ball
 The ball busted over and over again

3.2 Space-times

Events can be allocated to space-times as well as time intervals. Again, certain types of predicates will more easily accommodate this kind of reading. The example below illustrates one of these – it was offered to describe a cross-country camping trip taken by friends.

- (18) q'elq'él-em ye sí:wíyeqe
 camp.pl-itr det.pl man.pl
 The men were camping over and over

The participants of the separate camping events are the same, but the space-times are different – the various places across the country, and the time intervals at which those spaces were the location of on of the camping events. I will follow Lasersohn (1995) in calling the function that maps events to unique space-times K . This will generate the formula below.

- (19) $C(\text{amp})\text{-PL}(e) \leftrightarrow \exists e' (C(e')) \wedge \exists X [\text{sup}(X) = e' \wedge \forall e_1, e_2 \in X (C(e_1) \wedge C(e_2) \wedge \neg (K(e_1) \circ K(e_2))) \wedge |X| \geq n]$

This will find an event e to be a plural camping event if there is another event e' that is the sum of a set X of camping events that occupy separate space-times.

3.3 Participants

In claiming that it is *participants* that are used to distinguish events in the following examples, I am departing from Galloway (1993:323), where it is claimed that it is *subjects* and *objects* that can be interpreted as plural. This departure is twofold: firstly, the plural operator in my analysis is not sensitive

to grammatical relations such as subject or object, but rather is sensitive to participants at the level of event structure; secondly, in referring to participants, I am opening the door for more than just those represented by subjects and objects to be used as the distinguishing features of the individuated events. This prediction is borne out by the data presented below.

(20) yexyéxw-et-es te sq'éq'es
 untie.pl-tr-3s det knot
 He untangled all the knots

(21) xwelxwál-x-es te scháletstel
 lift.pl-tr-3S det chair
 They lifted the chair (taking turns)

(22) áxw-et-es te sth'óqwi
 give.pl-tr-3S det fish
 He keeps giving the fish away (people keep giving it back)

Examples (20-21) are compatible with what has already been said by Galloway (1993) regarding the ability of a plural verb to be interpreted as involving plural subjects or objects, but example (22) requires more to be said. Here the situation that is being described involves multiple events of someone giving the same fish away. As suggested by the parenthetical material, what is relevant in distinguishing those events is the fact that there are a number of intended recipients. Consider the model I am pursuing here – the plural operator is only capable of pluralizing events in the verbal domain, which means that the range of interpretations should be constrained by the ways in which events can be distinguished from each other. Example (22) is relevant in this regard for two reasons: firstly, it shows that we do in fact need to be able to reference *participants of an event*, rather than the specific grammatical roles proposed by Galloway (1993); secondly, it shows that the plural operator is not constrained by syntactically represented arguments – the recipients of the fish are not present syntactically, and yet are available for purposes of distinguishing events from each other. Thus it must be that participants have some status independent of arguments. Though it is too large a topic to systematically explore here, I take this to mean that the relation between a *predicate* and its *arguments* is ultimately a separate matter from the relation between an *event* and its *participants*.

These considerations lead me to propose the following version of the non-overlap condition. It differs from that proposed by Lasersohn (1995), in that he uses theta-roles to index grammatical

relations. I am using them instead to index participants of the event in question. Thus the subscript for θ identifies the event type (here *lifting*) and the relevant participant (here the *agent*).

$$(23) \quad L(\text{ift})\text{-PL}(e) \leftrightarrow \exists e' (L(e')) \wedge \exists X [\text{sup}(X) = e' \wedge \forall e_1, e_2 \in X (L(e_1) \wedge L(e_2) \wedge \neg(\theta_{L,\text{ag}}(e) \circ \theta_{L,\text{ag}}(e')))) \wedge |X| \geq n] \quad (\text{cf. ex.20})$$

This formula will produce an interpretation in which the set of lifting events are distinguished from each other in virtue of their agents.

Having shown how the formula I am proposing is capable of addressing most of the interpretations available for [V+PL] constructions in UH, I will turn in the next section to a set of interpretations that are potentially problematic on the Indirect Access Hypothesis.

4. The ‘single event’ problem

On the account developed here, pluractional morphology is licensed strictly by plural events. We will see however, that plural verbs are in fact felicitous in some contexts that *do not seem to* involve plural events, but which do involve plural participants. This section examines these ‘single event’ cases in detail and shows how the formal apparatus already developed can be extended to bring them into line with an event-based account. I follow Lasersohn (1995) in appealing to Cusic (1981)’s *event-ratio* parameter to accomplish this extension.

4.1 A potential counter-example

There are a few different scenarios in which a single event can be interpreted collectively, involving multiple participants, whether agents or patients. The appearance of plural morphology in these contexts is superficially unexpected on the account offered here, where plurality in the verbal domain is argued to range only over events. Some examples of this phenomenon are given below.

(24) q'epq'ép te swíweles li te lálem
gather.pl det boy aux det place
The people are gathered in the house

(25) tsel lháleq'-et te spul
1sgS put.down.pl-tr det spoon
I put down all the spoons (at once)

- (26) lháleq'-et-es (ye slháli) te theq'át
 put.down.pl-tran-3S (det.pl woman) det tree
 The women put down the tree (together)

In each case, the pluralized verb gets a collective interpretation – there is one gathering event in (24) that is predicated of a number of people as such; the spoons in (25) are the collective patient of a putting.down event; the women are collectively the agent of a putting.down event in (26). It is an apparent mystery on the Indirect Access approach that these readings are available – one might expect only to find interpretations that involve separate events for each of the participants, translations involving several gatherings, one-at-a-time putting down of the spoons, and one tree per woman, e.g.¹³. As it stands, the formula presented in section 2.2 requires that any plural-marked verb picks out a plural event that consists of events of the same type. The sentences in (37-39) above then directly contradict this expectation, forcing either a retreat from an event-based analysis or a rethinking of what constitutes a plural event. It may be here that the intuitive sense of what it means to be a plural event, namely that of a set of events of the same type, is misleading. Maintaining the basic insight of the Indirect Access Hypothesis, which is that plural operators only have access to events in the verbal domain, may require relaxing the notion of what events ‘count’ as far as the operator is concerned. I will argue over the next two sections that in fact there are separate events for each participant in these examples, namely *sub-events* of the event denoted by the verb.

4.2 Phase notation, sub-events, and sub-participants

In order to reconcile these seemingly clear-cut cases of directly pluralized participants with the Indirect Access approach proposed here, I will appeal to what I refer to as Lasersohn’s *phase notation* in allowing the system to access sub-events. This device was developed to account for the second of Cusic’s parameters to be discussed in this paper, namely the *event-ratio parameter*. In positing this parameter, Cusic (1981) was intending to capture the fact that in the situations described below, for example, plurality can hold at different levels (the piece responsible for introducing plurality is in italics).

(27) Event levels

- a. ‘the mouse *nibbled* the cheese’ (plural phases/sub-events)
- b. ‘the mouse nibbled the cheese *again and again*’ (plural events)
- c. ‘the mouse nibbled the cheese *every Thursday*’ (plural occasions)

¹³ These readings are all available as well.

Based on the ‘nibbling’ example offered in Lasersohn (1995:243,244) and the surrounding discussion, I would like to equate the notion of phases with that of *sub-events*. The next question to ask is whether there is evidence the UH plural morphology is in fact sensitive to the distinction between events and sub-events. I offer the following examples as evidence that it is.

- (28) teltíl-thet-es te témexw¹⁴
 clear.land.pl-refl-3s det land
 He’s clearing the land
- (29) tsel lekwlékw-et te léts’e theqát
 1sgS break.pl-tr det one tree
 I broke up one tree (for kindling)
- (30) tháy-t-es te chóxwil-s¹⁵
 make-tr-3S det shoe.covering-poss
 He made his own shoe covers

In the first of these examples, ‘he’ is doing a number of actions that collectively amount to ‘clearing the land’, while in the second, all the little breaks result in a broken up tree and a pile of kindling. In the ‘continuative’ reading¹⁶ in the first example, the singing event takes place over an extended period of time, made possible on this account by lots of sub-events of singing. In all these cases, there is clearly not a plurality of participants, and not really of events either. Rather, it is a plurality of ‘clearing’, ‘breaking’, and ‘making’ sub-events that licenses the plural morphology.

Having shown that UH plural morphology is sensitive to sub-events, the next step is to formally represent that sensitivity. This is done via what I refer to as Lasersohn’s *phase notation*, introduced in (31) below.

(31) Plural Operator (final version)

$$\mathbf{V-PL}(e) \leftrightarrow \exists e' (\mathbf{P}(e')) \wedge \exists X [\text{sup}(X) = e' \wedge \forall e_1, e_2 \in X (\mathbf{P}(e_1) \wedge \mathbf{P}(e_2) \wedge$$

¹⁴ These examples are also compatible with iterative and plural participant situations. Those translations have been omitted here because they are not relevant to this argument.

¹⁵ This example is meant to demonstrate that the heterogeneous sub-events of accomplishment predicates can license plural morphology. This conclusion has been called into question as both premature and perhaps undesirable (Gillon, Davis, p.c.). Further elicitation will address this issue.

¹⁶ ‘Continuative’ should not be confused with the progressive, though that is the closest translation into English. The difference is that continuative does not relate event time to reference time (part of the progressive’s function), but rather extends the duration of the event time.

$$\neg (f(e_1) \circ f(e_2)) \wedge [X \geq n]^{17}$$

The variable V on the left-hand side ranges over verb meanings, which are taken to be predicates over events, and which, in conjunction with the pluractional morphology PA, can hold of some plural event e . On the right-hand side, the variable P ranges over what gets predicated of e' , the sum of the individual events e_1, e_2 .

4.3 Sub-events and sub-participants

So how does the ability of plural sub-events to license plural morphology bear on the collective predicates? Recall that the centerpiece of the Indirect Access hypothesis is that events can be distributed along a number of lines, including participants. Given that I have independently motivated the ability of plural morphology to reference sub-events, the analysis predicts that these too ought to be able to distribute over participants. I believe this is exactly how to analyze the collective predicates – plural sub-events distributed over participants.

But how would this mapping be achieved? In other words, how would one force the participants to do their parts? What is needed is a way to ensure that the sub-events that are distributed over the participants are all and only the ones that collectively add up to the whole event. In accounting for the different effects of *all* on several classes of verbs, Dowty (1986) sketches out an account that is well suited to this need. Specifically, it is his notion of *sub-entailments* that will drive this part of my analysis. To get at this, let us first look at fully distributive predicates like *be asleep*, or *be pregnant*. If I say of a group of women that they are pregnant, it entails that each member of the group is pregnant. Similarly, if I say that the children are sleeping, this can only be interpreted as a statement about what individual children are up to. But what about verbs like *gather*? If I say that the sharks are gathering, it certainly does not mean that each shark performed a gathering event – there is no way for *gather* to apply to anything other than a group. However, as Dowty (1986:4) notes for a similar example, this does not mean that nothing is entailed of the individual sharks. Rather, for a gathering event to take place, there must be events in which the participants proceed to a specific location in something like a coordinated fashion. Similarly, each of the spoons in (25) had to have started off in my hand and ended up on the table as a result of having been in my hand when I released the bunch, and each woman in (26)

¹⁷ It may be that only an entailment relation holds between the left and right hand sides of this formula. The issue hinges on whether or not the existence of the collection of sub-events entails the existence of the large event. I do not know how to test for this, and nothing seems to hinge on the choice here, so I will continue to assume a bi-directional entailment relation.

must have engaged in an event of holding the tree and doing her part in getting it to the ground. In each case, something is entailed of each participant in virtue of its being a participant, namely that he/she/it is the sole participant of a sub-event of the larger event. Thus, the analysis for (24) would look like this.

$$(32) \quad \text{gather+PL}(e) \leftrightarrow \exists e' (M(e')) \wedge \exists X [\text{sup}(X) = e' \wedge \forall e_1, e_2 \in X (M(e_1) \wedge M(e_2) \wedge \neg(\theta_{\langle \text{Ag} \rangle}(e_1) \circ \theta_{\langle \text{Ag} \rangle}(e_2)) \wedge |X| \geq n)]$$

This says that the [plural]-marked ‘gather’ holds of some plural event e just in case for all events e_1, e_2 , elements of X , they are events of M (oving to a specified location...) that are distinguished from each other in virtue of their agents, and that there are more than some contextually salient number n of these events. Thus, as there is a collective agent of the gathering event – the group of sharks, there is a sense in which the individual sharks are *sub-agents* of that event. The same reasoning would have the handful of spoons the patient of the putting.down event in (25) and the individual spoons the *sub-patients*.

4.4 The limiting case, and limiting the cases

At this point, I have proposed a very powerful system that ought to be able to license rampant plural morphology. The fact of the matter though, is that plural morphology is *not* heavily exploited. It is then worth asking what, if any, restrictions are imposed on the plural operator in UH. In this respect, there are two questions to ask: 1) when would the plural operator be absolutely banned; and 2) why does it not appear as often as it is licensed.

For the first question, recall the denotation of plural verbs, reproduced here for convenience.

(14) Denotation of [V+PL]

$$\bullet a+b+c$$

$$\bullet a+b \quad \bullet b+c \quad \bullet a+c$$

A defining property of the [V+PL] construction is that it does not admit of atomic events. Thus, single participant events that cannot have sub-events (i.e. achievements) ought to be completely incompatible with plural morphology. This prediction appears to be bourn out, as shown in the examples below.

- (33) chelchélq te swíweles
 fall.pl det boy
 (a) The boy fell down a bunch of times
 (b) The boys fell down
 (c) *The boy fell down

- (34) pelpélekw te tl'eqtéle
 appear.pl det deer
 (a) The appeared a bunch of times
 (b) A bunch of deer appeared
 (c) *The deer appeared

These examples show that use of a plural verb makes unavailable precisely those readings that involve single-participant achievements, which means that if those are the intended readings, plural morphology *cannot* be used.

And those cases where plural morphology is licensed but does not appear? There are two reasons to expect that plural morphology will not appear every time it is licensed. On the one hand, recall from (10) that unmarked forms have both atoms *and pluralities* in their denotations. In other words, plural marking is not necessary to make plural interpretations available. One could invoke Gricean reasoning here to claim that use of plural morphology will be restricted then to cases where the specific semantic information it contributes is in some sense important to the utterance. Recall as well that there are a number of ways to generate the interpretations associated with plural verbs, such as adverbial modifiers. Given that there are other options, it should not be a surprise that this one is not used as extensively as it is strictly speaking permitted.

5. Arguments for allomorphy

In this section, I lay out the forms that are used to indicate plurality in UH. I argue (contra Galloway 1993) that they are allomorphs. I offer two arguments for allomorphy, showing on the one hand that each form can represent each meaning, and on the other that the forms are not contrastive when available for the same root. It should be noted at this point that plural marking seems to be quite productive in UH, with 93 of the 107 forms I have elicited having a plural counterpart.

5.1 The Forms

Plural morphology surfaces in three ways – a CVC reduplicant, a -lə-/-əl- infix, and a small set of changes to vowels that are collectively referred to as ablaut (Galloway 1993:64-118). This assessment differs from that in Galloway (1993), in that he reports two distinct CVC reduplicants, and does not find ablaut functioning in isolation as the sole marker of plurality. Galloway (1993) notes a great deal of inter-speaker variability in the use of plural morphology, which makes it difficult to determine if the

difference in our accounts is a case of language change or something that would fall within the range of variation alluded to by Galloway. Below are presented forms that motivate my claim.

As noted in Kinkade (1995:357), ‘C₁VC₂- reduplication is one the usual means of indicating plurality’ in Salish languages. UH is no exception in this, and uses the CVC reduplicant in 77 of the 93 plural forms I have elicited, and for 74 of these it is the only form recognized by my consultant. Below are given several bare and pluralized pairs.

- (35) **CVC**
- | | |
|-------------------|---|
| lémet | lemlémet |
| <i>fold sthg</i> | <i>fold lots of things, fold sthg several times</i> |
| t’émels | t’emt’émels |
| <i>chop, adze</i> | <i>chop sthg in different places</i> |

(Galloway 1993: 328)

Galloway (1993:138,141) lists two CVC reduplicants, distinguishable by stress placement¹⁸. I have however found only two pairs that have been distinguished on separate occasions, but as shown in section 3.2.2.2, they do not systematically reflect a meaning difference. I will therefore take the position that there is only a single CVC reduplicant, and take these examples as the exceptions that prove the rule.

The -lə-/-əl- infix is common to the Halkomelem dialect continuum, reported in Suttles (2004) for Musqueam¹⁹, and found in my elicitations with a Cowichan²⁰ speaker as well. This form is not as well represented as the reduplicant in my data, found in only 12 examples. Again, bare and pluralized pairs are shown below.

- (36) **-lə-/-əl-**
- | | |
|-------------------|-------------------------------------|
| lhóqwet | lhóleqwet |
| <i>wet sthg.</i> | <i>wet many things</i> |
| kw’és | kw’éles |
| <i>get burned</i> | <i>both burned, many got burned</i> |

(G. 1993:325)

¹⁸ Both reduplicants are unstressed, so one (R₂) attaches as an infix after the stressed, first syllable, while the other (R₃) attaches as a prefix.

¹⁹ Musqueam is a member of the Downriver dialect group, with several L2 speakers in the Vancouver area.

²⁰ Cowichan is a member of the Island dialect group, spoken on Vancouver Island.

Least common of all the markers of plurality is the ablaut, with only 4 tokens in my data. Among its manifestations are change in vowel quality and vowel lengthening. While Galloway (1993) always found ablaut to be working in conjunction with reduplication, it is the sole marker of plurality in the examples given below.

- (37) **Ablaut**
- | | |
|----------------------|--------------------------------|
| thíyeltxwem | tháyeltxwem |
| <i>build a house</i> | <i>building a house/houses</i> |
| ímex | í:mex ²¹ |
| <i>walk</i> | <i>do lots of walking</i> |

5.2 Arguments for Allomorphy

The null hypothesis in a system with several forms and several meanings should be that some sort of one-to-one mapping might arise. Thus, given that UH has three plural forms and, broadly speaking, two interpretations (the so-called *event* and *participant* readings) it might be expected that these forms would undergo such a specialization. A plausible scenario would look like that shown in 38, where the two most common forms, the reduplicant and the infix, are assigned a particular reading.

(38) Possible mappings from forms to meanings

(a) Event vs. Participant contrast

Form 1: reduplicant → Meaning 1: plural events

Form 2: infix → Meaning 2: plural participants

(b) Aspectual distinctions (cf. Galloway 1993)²²

Form 1: reduplicant → Meaning 1: continuative plural

Form 2: infix → Meaning 2: non-continuative plural

²¹ Some cases of ablaut, like this one, may be historically derived from reduplication of a ?V? syllable after UH lost its coda glottal stops.

²² This is a simplified account of the findings presented in Galloway (1993), which also took the shape of roots into account in determining which form represents which meaning. I have omitted the full account for reasons of space and presentation, but the argument applies to all of the oppositions he sets up.

- (40) **CVC**
pekw'pékw'-et-es te skw'echóstel (cf. *pékwet*)
break.pl-tr-es det 'window'
a) He smashed up the glass
b) They broke the window
c) They smashed the windows
d) He broke the windows

In this example, the CVC reduplicant is the only available plural form of *pekw'* (break), and compatible with readings in which a window is subjected to repeated blows (a), was broken because of the efforts of multiple agents (b), and in which multiple agents destroy a number of windows (c).

- (41) **Ablaut**
tháy-t-es te sq'eq'os te s-teqtál (cf. *thíyt*)
fix.pl-tr-3s det hanger det nom-door
a) he's fixing the door hinge
b) he fixed the door hinge again and again
c) he fixed all the door hinges
d) the men fixed the door hinge

These examples offer an instance of ablaut operating independently to mark plurality. The readings in 41a,b show that it is compatible with iterative and continuative events²⁵, while 41c,d show ablaut's ability to represent situations with plural patients and agents, respectively.

Thus for those forms where only a single surface form of plural morphology is available, that form can be used to express the full range of interpretations. It could be argued that distinctions that would normally be encoded by the choice of one plural marker over another are neutralized in this context. I will argue in the next section however, that this cannot be the case, insofar as there is no one-to-one mapping of forms to interpretations where multiple forms are available with a single root.

Argument 2: No contrast where multiple forms are available for a single root

I have as yet found only a handful of roots that are compatible with more than one plural form. If these forms were separate morphemes, then choice of one or the other ought to be reflected in some meaning distinction. Galloway (1993:324) claims for instance, that the choice between forms is

²⁵ The continuative is not the same as English progressive, in that it simply indicates that the action took place over an extended period of time. Typically this is marked by the Ci- diminutive reduplicant, but occasionally can be expressed by the [plural] marked form as well.

conditioned by aspectual distinctions²⁶. Thus, for a CVC root, where V is a full vowel, use of the -l★/-★- infix is meant to indicate the ‘non-continuative’ plural, while use of the CVC reduplicant encodes the ‘continuative’ plural²⁷. Unfortunately, Galloway (1993) does not provide any minimal pairs of pluralized verbs that show this contrast. It is clear meanwhile from my fieldwork that very few roots have multiple pluralized counterparts. If these were indeed contrastive forms, one might expect multiple forms to be the default case, rather than the rarity they appear to be. Examples of those I have found are given below.

The forms in (42-43) permit both the reduplicant and the infix. In both cases, the same translations are available for each form, an unexpected situation as explained above.

(42) tq̄tq̄át vs. telq̄át (cf. tq̄át)

(a) telq̄-át-es te kw’óxwe
close.pl-tr-3S det box
He closed the boxes

(b) tq̄tq̄-át-es te kw’óxwe
close.pl-tr-3S det box
He closed the boxes

(43) oxwóxwest vs. ólexwest (cf. óxwest)

(a) oxwóxwes-t-es te sth’óqwi
give.pl-tr-3S det fish
He keeps giving him fish all the time

(b) ólexwes-t-es te sth’óqwi
give.pl-tr-3S det fish
He keeps giving him fish all the time

Somewhat more needs to be said about the forms in (44-45). These are cases of minimal stress pairs, a contrast identified by Galloway (1993) and tied there to the distinction between continuative and non-continuative aspect (cf. 38b) for a certain phonological class of roots. Based on the translations provided below however, it does not appear that there is any stable semantic distinction between the two forms.

²⁶ His actual claim is more sophisticated than that, in that the choice is a function both of the phonotactics of the root and of the aspectual distinction. His general point remains though, that given the phonological context the different forms are contrastive, contrasts that are not born out in my data.

²⁷ A similar claim is made for Musqueam in Suttles (2004), though he treats the distinction as a progressive/perfective one.

(44) qw'elqw'elmet vs. qw'elqw'elmet (cf. *qw'elmet*)

- (a) qw'elqw'él-mét-es te swíweles
scold.pl-ind.tr-3S det boy
- He scolded the boys (Nov 16)
- He scolded the boy (a whole lot) (Nov 23)

- (b) qw'elqw'el-met-es te swíweles
scold.pl-ind.tr-3S det boy
- He scolded the boy all the time (Nov 16)
- He's always scolding the boy (Nov 23)

(45) xwetxwetát vs. xwetxwétet (cf. *xwetát*)

- (a) xwetxwet-át-es te pípa
tear.pl-tr-3S det paper
- He tore up all the papers
- He tore the paper all up

- (b) xwetxwét-et-es te pípa
tear.pl-tr-3S det paper
- He tore up all the papers
- He tore the paper all up

Though the forms were repeatedly distinguished from each other, this distinction failed to extend into the semantics. I would like to speculate briefly on what may be at play in the 'stress shift' examples. Galloway (1993:138,141) treats these as separate reduplicants – one a prefix, the other an infix, both unstressed – and so claims that the semantic difference is located in the choice of one morpheme or another. However, the notion of stress shift appears elsewhere (ibid, 56-57), where it is also tied to these aspectual effects. This situation lends itself to a re-analysis wherein there is a single reduplicant that contributes plurality, and a separate morpho-phonological process that operates on the stress system to contribute to the aspectual interpretation.

There is still a problem though, in that this semantic distinction, regardless of its source, is not present in the speech of my consultant, while there are at least these two cases where the forms used to make the distinction are still recognizably distinct. I will claim in this regard that either the process of stress shift or the different reduplicants have been bleached of their semantic import, leaving behind a few vestigial phonological contrasts as exceptions.

The conclusion I am driving at with this argumentation is that the three forms of plural marking are not semantically contrastive in the speech of my consultant. Rather, they are allomorphic, and their

distribution is governed by phonological or idiosyncratic constraints. I do not yet have an analysis of these constraints though.

6. Future research

There are several avenues this research could pursue along, mostly having to do with the interface between the semantics of number and various other parts of the grammar. Here I sketch out a few of these and attempt to identify the missing pieces that such research would need to address.

6.1 Relation to syntax

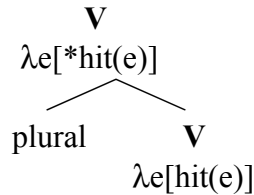
I would like in this section to consider some of the issues involved in relating the semantic account with the syntax. There are at least two possible syntactic accounts that are sympathetic to the semantics I am proposing here. I first argue that extending a radical neo-Davidsonian decomposition of argument structure into the syntax will provide a syntactic account that is compatible with the Indirect Access Hypothesis. The other possibility I consider here involves the notion of pre-categorial syntax put forward in Wiltschko (2005a,b), where it was argued that roots constitute a syntactic category in their own right. Though these options are compatible with each other, they are ultimately independent in that one does not depend on the other.

6.1.1 Neo-Davidsonian Decomposition

With a definition of the plural operator in hand, I would like to show how it composes with bare forms. Given the central claim that plural operators range strictly over events in the verbal domain, I will adopt a representation of verbs that offers a level at which only an event argument is present. Neo-Davidsonian representation (cf. Parsons 1990), in which verbs are construed as one-place predicates that take events as their sole arguments, has been interpreted in such a way as to provide this arrangement. The rest of the verbs arguments are introduced by two-place thematic role predicates like [agent] and [patient] that take individuals and events as their arguments. Parsons (1990) explicitly presents this system as a semantic representation, having only to do with the logical form of sentences. It is, in his view, completely independent of issues of syntactic composition. However, the possibility of extending this decomposition into the syntax has been explored in Kratzer (1994, ms), for example. In such a scenario, the thematic role predicates provide the lexical content of functional heads which serve to

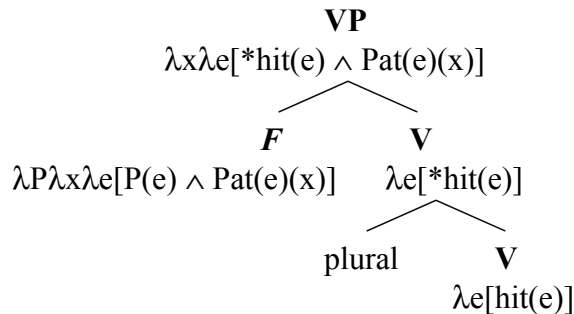
introduce arguments into the structure. With this radical decomposition of argument structure, the event argument is the only true argument of the verb. It is therefore possible to posit a level at which only the event argument is present, giving a representation like $\lambda e[P(e)]$. If the plural operator were to apply here, as shown in (46) below, the event argument would be the only available target for it to modify.

(46) Pluralized verb



This structure would then be selected by some functional head that would introduce an NP specifier, producing the structure shown below. The semantic composition would then proceed, given a syntactic structure like this.

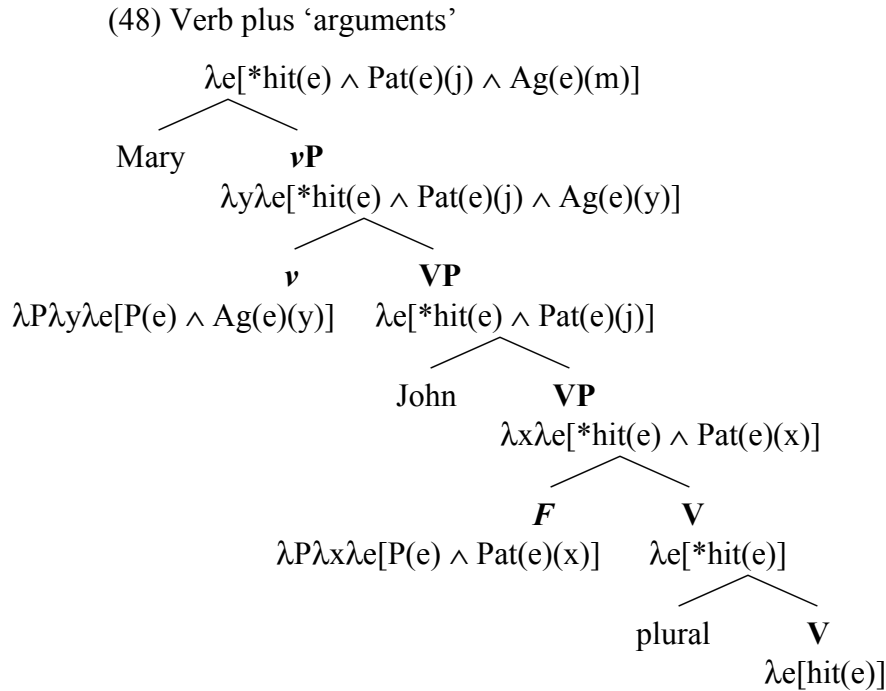
(47) Verb plus ‘internal argument’



This view is not uncontroversial though. For example, while Kratzer (1994, in prep.) argues for separating the agent this way, she argues that for at least some predicates, this is the wrong view of patients/themes. These she treats as true arguments of the verb alongside the event argument. Davis (1997) also argues for the view that all Salish predicates are lexically equipped with an internal argument. It remains to adduce the syntactic evidence for the node I am here labeling as *F*, particularly given the arguments presented in Davis (1997) for associating an internal argument directly with roots. In other words, for this analysis to be defended, there must be independent syntactic evidence for

separating the internal argument from the verb. I do not have independent syntactic arguments as yet that would support further decomposing the argument structure.

Assuming such evidence were available though, one could continue with the derivation as show in (48) below.



Here, the functional head v (Voice, in the sense of Kratzer 1994), is responsible for introducing the external argument. The end result of this composition is still a predicate over events, which would then receive existential closure in the CP domain.

6.1.2 Pre-categorial syntax

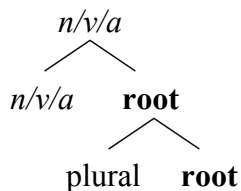
Wiltschko (2005a,b) brings certain facts of plural marking in UH to bear in her arguments for the status of roots as a syntactically active category. It has already been mentioned in this paper that the same plural morphology occurs across the verbal and nominal domains, and as the examples below show, this morphology operates in the adjectival domain as well.

(49) Plural adjectives

| | |
|-----------------|---------------------------------|
| <u>Singular</u> | <u>Plural</u> ²⁸ |
| <i>tl'éxw</i> | <i>tl'exwtl'éxw</i> |
| hard | real hard, bunch of hard things |
| | |
| <i>tl'áqt</i> | <i>tl'áleqt</i> |
| long | real long, long for a long time |

Wiltschko explains this behavior by claiming that it is an example of roots engaging in the syntactic process of selecting a modifier²⁹. On this analysis then, the plural operator does not scope over verbs, nouns, and adjectives, but rather over roots as illustrated in 50.

(50) Plural as a root modifier



The structure presented shows a root selecting plural as a modifier, root projecting. The root is then selected by some category-inducing functional head *n/v/a*. On the assumption that roots do not have arguments, adopting this analysis again places the plural operator at a level where it cannot directly pluralize any of them. This proposal is attractive on a number of levels, particularly in its ability to derive the cross-categorical nature of plural marking, and the requirement it imposes on the semantics of plural marking that it be quite general. But it does introduce some complications that must be addressed, chiefly the fact that it too depends on roots not taking an internal argument in the sense of Davis (1997)³⁰. Additionally, as pointed out in Davis (2005), it is difficult to establish evidence of syntactic activity at the level of the root – standard tests of syntactic constituency such as displacement do not work below the word, so other diagnostics must be developed.

6.2 Extending the account across categories

Assuming this account is on the right track in accounting for the mechanics of verbal number, and on the null hypothesis that UH plural morphology has the same meaning regardless of which domain it appears in, one next step is to extend the account to the nominal and adjectival domains. This will of

²⁸ I have not yet elicited an adjective with a plural form marked by ablaut.

²⁹ Identical behavior on the part of the diminutive Ci- reduplicant is presented alongside the plural data as further evidence of this syntactic behavior of roots.

³⁰ Wiltschko (2005) does argue that roots take complements, namely lexical suffixes, but this is a separate issue.

course require a considerable amount of fieldwork to establish just what the facts are in those domains, after which the appropriate modifications to the formal account can be proposed. The expectation on this account must be that there will be a range of interpretations associated with pluralized entities, and that this range will be subject to pragmatic constraints on how entities can be ‘distributed’. Similarly there will be a range of interpretations reflecting the ways that properties or degrees can be distributed, depending on ones views of the denotation of those items that are typically realized as adjectives.

Some preliminary research appears to support this claim, with pluralized nominal forms generating interpretations ranging from multiple instantiations of the relevant entity, to a single but durationally extended instance, to multiple instantiations of the stages of a stage-level entity. Examples of this last are given below.

- (51) tl'e sí:yám te-thá
 it.is chief.pl det-dem
 a) They're *all* chiefs
 b) That one's been chief *a bunch of times*

Plural adjectives generate a range of interpretations as well. While an ‘intensive’ reading appears to be the easiest reading to get (it is always the first translation offered for a pluralized form), multiple instantiations or prolonged instantiations are also available, as shown in the examples below.

- (52) tl'áleqt te-l máqel
 long.pl det.-1sg.poss hair
 a) My hair is *really* long
 b) My hair's been long *for a long time*

It seems then that there is reason to pursue a generalized analysis of the plural operator in UH along the lines sketched out here. The null hypothesis ought to be that we are dealing with the same operator, one that will have a certain range of effects when applied to events, and another when applied to entities. The future research will have to include an analysis of the denotation of ‘adjectives’ though, before a fully generalized analysis can be defended.

6.3 Relation between number and aspect

Certain interpretations of pluralized verb forms in UH have a very aspectual flavor to them, namely the iterative and continuative readings. As mentioned in fn. 4, Cusic's *connectedness parameter* speaks to this issue. Lasersohn (1995) formalizes this as a clause that stipulates either the existence or non-existence of some time interval at which the relevant does not hold between the time intervals at which it

does hold. There are at least two questions that spring to mind at this point – firstly, what would the analog of this effect be for plural events and properties; secondly, how does this clause interact with the ability of the plural operator to range over sub-events.

In any event, developing an analysis of UH aspect is the unfulfilled pre-requisite of a study of the interaction between the number and aspect systems.

7. Conclusion

I have argued in this paper for a particular implementation of the Indirect Access Hypothesis, based on the analysis of pluractional operators presented in Lasersohn (1995). The principle claim is that plural operators range strictly over events in the verbal domain, while the surface interpretations that are associated with [V+PL] constructions are uniformly derived from this underlying arrangement. I have further argued that the plural operator in UH is sensitive to sub-events, and shown how in the context of the mechanisms needed to derive the other interpretations, this sensitivity predicts the ability of UH [V+PL] constructions to be compatible with collective interpretations. Finally, I have argued that the various surface forms of plural morphology in UH are allomorphs.

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