Predicative lexical suffixes in Nuu-chah-nulth

Rachel Wojdak
University of British Columbia

This paper illustrates the behaviour of a class of lexical suffixes found in the Wakashan language Nuu-chah-nulth. I analyse these lexical suffixes as morphologically-bound transitive predicates which incorporate their objects via a process of cliticization. The properties of these affixal predicates are contrasted with those of the typically noun-like lexical suffixes found in Salishan languages. I argue that although lexical suffixation has been treated as an areal feature of the Pacific Northwest, this phenomenon is not cross-linguistically homogenous.

1 Introduction

Lexical suffixes have long been recognized as an areal feature of languages of the Pacific Northwest (see, for example, Sapir 1911, Swadesh 1948, Gerdts and Hinkson 1996, Kinkade 1998, Mithun 1999). Kinkade (1963) coined the term "lexical suffix" due to "the semantic similarity between these suffixes and usual lexical items" (Kinkade 1998: 266). Under a strict definition, lexical suffixes are simply suffixal morphemes which convey non-inflectional, lexical meaning (cf. Swadesh 1939). Within the Salishanist literature, however, the term "lexical suffix" has come to be synonymous with the noun-like bound elements found in these languages (cf. Saunders and Davis 1975, Gerdts and Hinkson 1996). For Salish languages, Gerdts (1998; citing Carlson 1989) notes that there is support for the notion that "lexical suffixes can be regarded as incorporated nouns that have lost their status as free-standing nominals" (Gerdts 1998: 97).

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This paper argues against a cross-linguistically uniform treatment of Pacific Northwest lexical suffixes. I demonstrate that morphemes which have been analysed as lexical suffixes in the Wakashan language Nuu-chah-nulth are fundamentally distinct from their counterparts in Salishan languages. I present evidence that "lexical suffixes" in Nuu-chah-nulth are in fact transitive predicates which productively incorporate their objects (cf. Yiu and Stonham 2000, Davis and Sawai 2001), rather than the type of degenerate compounds found in Salish languages. This accords with an observation of Mithun (1984: 888), who remarks that Nuu-chah-nulth lexical suffixes can "resemble incorporating [verbs] in function."

The organization of this paper is as follows. I start off in §2 by introducing the class of affixal predicates in Nuu-chah-nulth, and showing their characteristic properties. In §3, I present an analysis of how the special morpho-phonology of Nuu-chah-nulth affixal predicates is derived. In §4, I conclude by summarizing the key differences between Nuu-chah-nulth lexical suffixes and those typical of Salishan languages.

2 Affixal predicates in Nuu-chah-nulth

In Nuu-chah-nulth, morphemes which have traditionally been labelled "lexical suffixes" have recently been analysed as transitive predicates which incorporate their objects (Yiu and Stonham 2000, Woo 2000, Davis and Sawai 2001, Wojdak 2003). There are approximately four hundred of these affixal morphemes in Nuu-chah-nulth (Swadesh 1948, Rose 1981, Davidson 2002).

These affixal predicates are suffixed either to their object, or to an expletive host (cf. Stonham 1998). This is demonstrated below with the lexical suffix *-ʔaap* "to buy", which attaches to its object in (1a), and to the expletive morpheme *ʔu-* in (1b).[1]

(1) a. maḥtiiʔamitʔiš čakup
maḥtii-ʔaap-mit-ʔiš čakup
house-**buy**-PST-3.IND man
A man bought a house.

b. ʔuʔaamitʔiš čakup maḥtii
ʔu-ʔaap-mit-ʔiš čakup maḥtii
∅-**buy**-PST-3.IND man house
A man bought a house.

Affixal predicates obligatorily occur as suffixes. The example in (2) shows the ungrammaticality of an affixal predicate failing to attain an appropriate morphological host.

[1] Other "empty" hosts besides *ʔu-* have been discussed in the literature. For example, Davidson (2002: 171) refers to *hita/hina* as an "empty root" used in conjunction with lexical suffixes. Tests of the Ahousaht dialect, however, reveal that forms with *hita/hina* are strongly lexicalised and fail to undergo systematic alternations with objects.

(2) * ʔaap-mit-ʔiš čakup maḥtʾii
buy-PST-3.IND man house
A man bought a house.

The behaviour of affixal transitive predicates can be compared to the independent (non-affixal) predicates also found in the language. Swadesh (1948: 107) notes that the types of meanings expressed by lexical suffixes in Nuu-chah-nulth "almost completely overlap" with independent predicates, and in fact, "there are many cases of relatively synonymous stems and suffixes". Typically, affixal and independent predicates of similar meaning "are of altogether different form" (Swadesh 1948: 107), and are thus etymologically unrelated. An example of the independent predicate *makuk* "to buy" is given in (3). As this example shows, independent predicates do not occur as suffixes (3a). Indeed, for these predicates, suffixation is impossible (3b-c).

(3) a. makukʷitʔiš čakup maḥtʾii
makuk-mit-ʔiš čakup maḥtʾii
buy-PST-3.IND man house
A man bought a house.

b. * maḥtʾii-makuk-mit-ʔiš čakup
house-**buy**-PST-3.IND man
A man bought a house.

c. * ʔu-makuk-mit-ʔiš čakup maḥtʾii
∅-**buy**-PST-3.IND man house
A man bought a house.

In the following subsections, I lay out the characteristic properties of Nuu-chah-nulth affixal predicates.

2.1 Subject-object asymmetry

Objects are the only possible host for affixal predicates in Nuu-chah-nulth (Yiu and Stonham 2000, Woo 2000, Woo and Wojdak 2001, Davis and Sawai 2001, Wojdak 2003). It is not possible for an affixal predicate to attach to the subject of the clause.

(4) * čakup-ʔaap-mit-ʔiš maḥtʾii
man-**buy**-PST-3.IND house
A man bought a house.

(5) a. haaʔumʔiχʷasʔiš ƛuẇiiq
haʔum-ʔiχʷas-ʔiš ƛuẇiiq
food-**go.get**[+L]-3.IND father
Father went to get food.

b. * ƛuẃiic-ʔiƛ̓as-ʔiš haʔum
father-**go.get**[+L]-3.IND food
Father went to get food.

2.2 Transitivity

Affixal predicates in Nuu-chah-nulth uniformly require objects.[2] It is ungrammatical for an affixal predicate to appear without an object.

(6) a. ʔuʔuuyukʔiš kakaniʔi
ʔu-yuk-ʔiš kakani-ʔi
∅-**cry.for**[+R +L]-3.IND toy-DET
S/he is crying for the toy.

b. * ʔuʔuuyukʔiš
ʔu-yuk-ʔiš
∅-**cry.for**[+R +L]-3.IND
S/he is crying (for something).

(7) a. ʔuuwiqsʔanitniš ƛ̓uuʔi
ʔu-wiqs-ʔat-mit-niš ƛ̓uuʔi
∅-**invite.for**[+L]-PAS-PST-1pl.IND halibut
We were invited for halibut.

b. * ʔuuwiqsʔanitniš
ʔu-wiqs-ʔat-mit-niš
∅-**invite.for**[+L]-PAS-PST-1pl.IND
We were invited.

Saturation of an affixal predicate's transitivity by its morphological host is asymmetrical: while a non-expletive host fulfills the theta requirements of the transitive predicate, the expletive host *ʔu-* does not. This is indicated by (8), in which the utterance is illicit if a non-expletive object is not available to the affixal predicate.

(8) a. ʔuƛ̓uuƛ̓ẃaʔiš č̓apac Louis
ʔu-ƛ̓uuƛ̓-ẃaʔiš č̓apac Louis
∅-**get.paid**-3.QUOT canoe Louis
Louis got paid a canoe.

b. č̓apacƛ̓uuƛ̓waʔiš Louis
č̓apac-ƛ̓uuƛ̓-waʔiš Louis
canoe-**get.paid**-3.QUOT Louis
Louis got paid a canoe.

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[2] A topic for future investigation is identifying unaccusative affixal predicates. Preliminary results show unaccusative affixal predicates are found in Nuu-chah-nulth, although a complete set of diagnostics for unaccusativity in the language remains to be developed.

c. * ʔu-ƛ̓uuƛ̓-waʔiš — Louis
Ø-**get.paid**-3.QUOT — Louis
Louis got paid.

Affixal predicates whose valency is reduced by a non-expletive host are barred from taking another nominal as an object (9a). No such restriction occurs with affixal predicates hosted by expletive morphemes (9b).

(9) a. * kaakaniyuʔaaɬitsiš — kiṯy̓akt̓iʔiɬaʔi
kaakani-yuʔaaɬ-mit-siš — kiṯ-y̓ak-t̓iʔiɬa-ʔi
toy-**find**-PST-1sg.IND — ring-instrument-pretend-DET
I found the toy phone.

b. ʔuyuʔaaɬitsiš — kiṯy̓akt̓iʔiɬaʔi
ʔu-yuʔaaɬ-mit-siš — kiṯ-y̓ak-t̓iʔiɬa-ʔi
Ø-**find**-PST-1sg.IND — ring-instrument-pretend-DET
I found the toy phone.

2.3 Range of possible hosts

Unlike standardly defined cases of noun incorporation (Baker 1988), nouns are not the only category that can host a predicate in Nuu-chah-nulth. Potential hosts for affixal predicates include nouns, adjectives, quantifiers, relative pronouns, *wh*-words, and verbs (see Rose 1981, Yiu and Stonham 2000, Davis and Sawai 2001, Davidson 2002, among others). Despite this unselectivity for lexical category, the choice of host is nonetheless rigidly conditioned by the local environment of the affixal predicate. As Wojdak (2003) describes, the choice of host for an affixal predicate is determined by linear adjacency: the affixal predicate attaches to the first root in its complement. Thus, relative pronouns and *wh*-words which originate in object position of the affixal predicate are both possible hosts for the affixal predicate.[3]

(10) ḥačumsiqsaksiš — ḥaa — čakupʔi — yaʕinḥiʔitq — Mary
ḥačumsiqs-ak-siš — ḥaa — čakup-ʔi — yaq-ʔinḥi-ʔitq — Mary
brother-POSS-1sg.IND — DEIC — man-DET — REL-**wait.for**-3.REL — Mary
The man who Mary is waiting for is my brother.

(11) ʔaqiʔamiṯḥ — Louis
ʔaqi-ʔaap-mit-ḥ — Louis
what-**buy**-PST-3.INT — Louis
What did Louis buy?

[3] In fact, relative pronoun and *wh*-word objects (in addition to pronoun and quantifier objects) are obligatorily incorporated into the affixal predicate (cf. Davis and Sawai 2001). It is not possible for the expletive *ʔu-* to be used in these contexts.

When the object contains more than one word, the affixal predicate is attached to the first word of the object (Rose 1981). Thus, quantifiers are selected as the host for an affixal predicate, rather than the quantified noun.

(12) a. ʔuʔisʔiš ʔaya m̓uksʔi
ʔu-**is**-ʔiš ʔaya m̓uksʔi
∅-**on.beach**-3.IND many rocks
There's lots of rocks on the beach.

b. ʔayiisʔiš m̓uksʔi
ʔaya-**is**-ʔiš m̓uksʔi
many-**on.beach**-3.IND rocks
There's lots of rocks on the beach.

c. * m̓uksʔi-**is**-ʔiš ʔaya
rock-**on.beach**-3.IND many
There's lots of rocks on the beach.

Likewise, modifiers are selected as the host, rather than the modified noun:

(13) a. haʔumʔicʔišʔaɬ ʔaapinis
haʔum-**'iic**-ʔiš-ʔaɬ ʔaapinis
tasty-**eat**-3.IND-PL apples
They are eating delicious apples.

b. ʔuʔiicʔišʔaɬ haʔum ʔaapinis
ʔu-**'iic**-ʔiš-ʔaɬ haʔum ʔaapinis
∅-**eat**-3.IND-PL tasty apples
They are eating delicious apples.

c. * ʔaapinẏicʔišʔaɬ haʔum
ʔaapinis-**'iic**-ʔiš-ʔaɬ haʔum
apples-**eat**-3.IND-PL tasty
They are eating delicious apples.

2.4 Prosodic conditioning

Lexical suffixes in Nuu-chah-nulth are well-known for their ability to effect phonological changes in the morpheme which they attach to (Sapir and Swadesh 1939, Swadesh 1939, Rose 1981, Davidson 2002, Kim and Wojdak 2002, Kim in prep). Affixal predicates can trigger reduplication or an obligatory vowel length in their morphological host. Both expletive (*ʔu-*) and non-expletive hosts are affected by the prosodic requirements of affixal predicates.

The examples below illustrate the behaviour of the affixal predicate *-ḥwaɬ* [+L] "to use", which triggers vowel lengthening of the first syllable of its host. In (14a), the vowel of the expletive morpheme *ʔu-* is lengthened to *ʔuu-*, while in (14b) the first vowel of *yaxẏak* "broom" is lengthened to *yaaxẏak*.

(14) a. ʔuuḥẘaɬʔi yaxy̓ak
ʔu-ḥẘaɬ-ʔi yaxy̓ak
Ø-**use**[+L]-2sg.IMP.3obj broom
Use the broom!

b. yaaxy̓ak-ḥwaɬ-ʔi
yaxy̓ak-ḥwaɬ-ʔi
broom-**use**[+L]-2sg.IMP.3obj
Use the broom!

I refer the reader to Kim and Wojdak (2002), Davidson (2002) and Kim (2003) for a thorough description of the patterns of prosodic conditioning found in Nuu-chah-nulth.

2.5 The putative governing/restrictive distinction

A common distinction in the Wakashan literature is the contrast between so-called "governing" and "restrictive" lexical suffixes (Sapir and Swadesh 1939, Swadesh 1939, Rose 1981, Nakayama 1997, Davidson 2002). Although a precise definition appears to be elusive, Rose (1981) characterises governing suffixes as affixes which determine the "semantic class" of the resulting word, while restrictive suffixes are considered to not affect the word's "semantic class". Davidson (2002) equates Rose's description of "semantic class" to syntactic word category, while Nakayama (1997) argues that the distinction is reflected in discourse-salience, rather than in formal properties of the word itself.

Suffixes which have been proposed to fall under the rubric of "governing suffix" include verbal morphemes such as *–ʔiiċ* "to eat", and nominal classificatory morphemes such as *–ʔaqsuṗ* "woman of X tribe" (Rose 1981, Davidson 2002). "Restrictive suffixes", on the other hand, include locative morphemes such as *–ċu* "in a container" (Davidson 2002), as well as a variety of other morphemes which Swadesh (1939: 85) proposes have a "looser syntactic relationship to the underlying theme".

Boas (1947: 237) was the first to cast doubt on the governing/restrictive distinction, noting that it is not "based on internal evidence, but rather on our European classifications" (see Nakayama 1997 and Davidson 2002 for discussion). In this section, I present empirical support for Boas' claim. There is strong evidence that morphemes labelled as governing or restrictive pattern identically in their syntax.

For example, consider the affixal predicate *–ċu* "in a container", which is defined traditionally as a restrictive suffix (cf. Davidson 2002: 180-182). This predicate shows the same subject-object asymmetry found with other affixal predicates. The examples in (15) illustrate that this morpheme can suffix to an object, but not to a subject.

(15) a. haʔumċuʔiš niisy̓akʔi
haʔum-ċu-ʔiš niisy̓ak-ʔi
food-**in.container**-3.IND pot-DET
There's food in the pot/ the pot contains food.

b. * niisy̓ak-c̓u-ʔiš haʔum
pot-**in.container**-3.IND food
There's food in the pot/ the pot contains food.

As with other types of affixal predicates, the morpheme *–c̓u* "in a container" readily attaches to the expletive morpheme *ʔu-* in lieu of attachment to its object.

(16) ʔuc̓uʔiš haʔum ʔaḥnii niisy̓akʔi
ʔu-c̓u-ʔiš haʔum ʔaḥnii niisy̓ak-ʔi
Ø-**in.container**-3.IND food DEIC pot-DET
There's food in that pot.

Note in this example that the affixal predicate is supplying the sole lexical content of the word. This is not predicted under an analysis in which restrictive suffixes merely limit the denotation of the base.

An additional similarity to traditionally-defined "governing suffixes" is that this morpheme is transitive, and thus requires an object.

(17) * ʔu-c̓u-ʔiš ʔaḥnii niisy̓ak-ʔi
Ø-**in.container**-3.IND DEIC pot-DET
That pot contains (something).

Furthermore, this affixal predicate permits the same wide range of host types illustrated in §2.3. The example in (18) shows suffixation to a *wh*-pronoun.

(18) ʔaqic̓uḥ ʔaḥ niisy̓akʔi
ʔaqi-c̓u-ḥ ʔaḥ niisy̓ak-ʔi
what-**in.container**-3.Q DEIC pot-DET
What's in this pot?

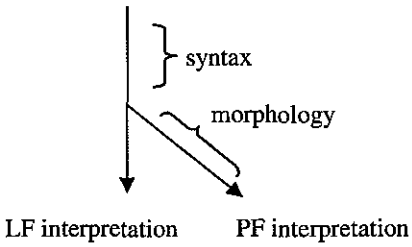
Although the predicate *–c̓u* "in a container" does not trigger prosodic conditioning of its host, this is in fact the most common pattern for affixal predicates. Davidson (2002) lists dozens of examples of so-called restrictive suffixes which are associated with prosodic conditioning. Prosodic conditioning is therefore not a possible distinguishing characteristic of this set of morphemes.

The lack of diagnostic properties for the putative governing/restrictive distinction suggests that this classificatory device should be abandoned. There is no language-internal evidence for such a distinction (*contra* Davidson 2002). A more fruitful area of research would be further investigation into the argument structure of Nuu-chah-nulth affixal predicates, including an analysis of the transitive/unaccusative distinction. I leave this as a topic for future investigation.

3 Analysis

This section presents an analysis of Nuu-chah-nulth lexical suffixes in which these affixal predicates are proposed to have the same syntax as independent predicates in the language. It is only in their morpho-phonology that affixal predicates fail to pattern as independent predicates. I argue that Nuu-chah-nulth lexical suffixes cliticize to their objects in the post-syntax, due to an affixation requirement similar to the Stranded Affix Filter (Lasnik 1981). The syntactic independence of affixal predicates can be represented in a model in which morphology occurs in the post-syntactic component, rather than in the lexicon (Halle and Marantz 1993, Noyer 1997, Embick and Noyer 2001, and related work in the Distributed Morphology framework).

(19)



Under the model in (19), structures are built up in the syntax, and then sent to the morphological component where phonological content is associated with the syntactic terminals, and these terminals are linearized. This linearization makes it possible for a hierarchically-dependent syntactic structure to be represented as a speech string at the interface with speech production at Phonological Form (PF) (Chomsky 1995). The morphological component is also responsible for checking that morpho-phonological requirements of lexical items are met (eg. the "Stranded Affix Filter" of Lasnik 1981; Bobaljik 1994; Embick and Noyer 2001).

I propose that it is at this level of post-syntactic morphology that affixal predicates in Nuu-chah-nulth find their morphological hosts (Wojdak 2002, 2003). In §3.1, I briefly present an analysis of PF incorporation, in which predicates incorporate their objects in the post-syntax via a process of phonological cliticization. In §3.2, I argue against an alternative analysis in which lexical suffixation occurs in the lexicon.

3.1 PF Incorporation

Under my analysis, affixal predicates in Nuu-chah-nulth are lexically specified as suffixes. This lexical specification differentiates them from independent predicates, which are otherwise formally indistinguishable from affixal predicates.[4] Specification as a suffix is a morpho-phonological

[4] One difference between affixal and independent predicates in Nuu-chah-nulth is that only affixal predicates cause prosodic conditioning (cf. §2.4). However, this cannot be

requirement which forces a morpheme to find a morphological host with which it may form a phonological word (cf. Lasnik 1981, Bobaljik 1994).

For a Nuu-chah-nulth affixal predicate such as *–iip* "receive", the suffix requirement is met by incorporation of an object, or by insertion of an expletive host, *ʔu-*.[5] (See Stonham 1998, Yiu and Stonham 2000, and Davis and Sawai 2001 for related syntactic incorporation analyses).

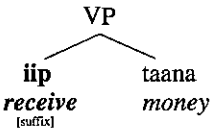
(20) a. taanaqiipaƛk
taana-iip-'aƛ-k
money-**receive**-TEMP-2sg.Q
Did you receive money?

b.

ʔuuʔipaƛk	taana
ʔu-iip-'aƛ-k	taana
Ø-**receive**-TEMP-2sg.Q	money
Did you receive money?	

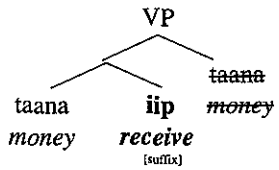
The example in (21) illustrates what I propose is the input to Phonological Form (PF), the stage at which affixal predicates must find a morphological host.

(21) *Input to PF: the suffix requirement is not satisfied*



The examples in (22) and (23) illustrate the two options that are available for satisfaction of the suffix requirement.

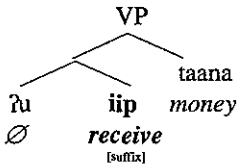
(22) *Suffixation via incorporation of object*



used to distinguish affixal and non-affixal predicates, since only a subset of affixal predicates are associated with prosodic conditioning.

[5] One way to represent how this [suffix] feature is satisfied is through a feature-checking analysis (Chomsky 1995).

(23) *Suffixation via insertion of an expletive host*



Evidence supporting the post-syntactic locus of Nuu-chah-nulth incorporation is discussed in detail in Wojdak (2002, 2003). I will briefly summarize the main arguments here. Unlike syntactic movement, incorporation in Nuu-chah-nulth is conditioned by linear adjacency (cf. §2.3). Incorporation in Nuu-chah-nulth ignores hierarchically-defined syntactic relationships (such as that defined by the Head Movement Constraint of Travis 1984, Baker 1988), and is insensitive to syntactic category and constituency. For example, when an affixal predicate has as its object an adjectivally-modified noun, it is the linearly-adjacent adjective which is selected as host for the affixal predicate, despite independent evidence that it is the noun which heads the object. Incorporation in Nuu-chah-nulth violates the Coordinate Structure Constraint (cf. §3.2), even though this constraint is active in the syntax of the language. Although these properties are problematic for a syntactic analysis of incorporation, they are readily predicted by a PF analysis in which incorporation is akin to cliticization. Since the PF branch is responsible for linearization of syntactic terminals, relationships based on linear adjacency are anticipated (cf. Bobaljik 1994, Embick and Noyer 2001).

3.2 Lexical suffixation does not occur in the lexicon

There is strong evidence against an analysis in which Nuu-chah-nulth lexical suffixation occurs in the lexicon. What a lexical analysis fails to capture is the fact that the choice of a host for an affixal predicate depends on the output of the syntax: it is the leftmost root in the complement of the affixal predicate that is selected as host. If the syntax generates a modified noun, it is only the modifier and not the noun that can host the affixal predicate (cf. §2.3). If the syntax generates a quantified modified noun, then it is only the quantifier that can host the affixal predicate (Rose 1981). The only instance in which a noun may host the affixal predicate is when an unmodified NP is generated by the syntax. These facts go unexplained by a lexical analysis, since there is no way of looking ahead to the syntax to state how the choice of noun, adjective or quantifier host is determined.

A second type of evidence against a lexical account is the problem with how to derive the semantic interpretation of the host-affix forms. As Stonham and Yiu (2000) describe, in many cases "the verb and incorporee do not form a coherent semantic unit." Consider numbers as an example. As Stonham (1998) describes, in the Tseshaht dialect of Nuu-chah-nulth, affixal predicates attach to the first component of a complex number formed with the conjunction *ʔiš*.

(24) ḥayučiɬšiʔaƛ ʔiš qačča
ḥayu-**čiiɬ**-šiƛ-'aƛ ʔiš qačča
ten-**days**-PERF-TEMP and three
He did it for thirteen days. (*adapted from Stonham 1998: 391 (21a)*)

Under a lexical analysis, the form *ḥayučiɬ* "ten days" would be formed in the lexicon. If this were the case, the derived interpretation of "thirteen days" would be enigmatic. This problem is avoided under an incorporation analysis, since the semantics are read off of the syntax, before cliticization takes place.

A third type of problem for a lexical analysis is the difference between expletive (*ʔu-*) and non-expletive hosts for the affixal predicate. The PF analysis I have proposed states that the expletive *ʔu-* is inserted in the post-syntax, which accounts for the fact that its presence does not saturate the transitivity of the affixal predicate (cf. §2.2). Non-expletive hosts, in contrast, are present in the syntax, which corresponds to the observation that they saturate the transitivity of the affixal predicates. Under a lexical analysis of attachment, expletive and non-expletive hosts have identical provenance, so this difference with respect to saturation of theta roles would need to be stipulated.

As an appendix to this discussion, note that morpho-phonological idiosyncracies associated with lexical suffixation do not necessarily constitute evidence for a lexicon-based analysis. In Nuu-chah-nulth, there is a form of allomorphy in which several morphemes have a "combining form" which differs from the form used when the morpheme occurs as an independent word (cf. Sapir and Swadesh 1939, Davidson 2002). For example, for the Nuu-chah-nulth equivalent of "salmon", *suẃ-* is the bound form used in conjunction with lexical suffixes, while *suuḥaa* is the version used independently. These combining forms are largely idiosyncratic, and are unpredictable from the related free form of the morpheme. However, these lexical idiosyncracies are not incompatible with an incorporation analysis. These properties are anticipated under a late lexical-insertion model of syntax, such as Distributed Morphology (Halle and Marantz 1993, Noyer 1997, Embick and Noyer 2001). Under this model of the grammar, syntactic terminals are purely abstract, and have no phonological content. Phonological content is only assigned to syntactic terminals late in the derivation. Under a PF incorporation analysis, phonological expression would not be introduced until after incorporation has taken place. It is at this point of vocabulary insertion that contextual allomorphy would arise: the bound allomorph would be inserted when the morpheme is serving as a host for an affixal predicate, and in other cases the free allomorph would be used. Other forms of word-internal morpho-phonology in Nuu-chah-nulth (such as the appearance of the "buffer consonant" *-q-*) would be similarly represented in this framework as context-sensitive allomorphy in the spell-out of morphemes. There is thus no need to derive these lexically-idiosyncratic combinations in the lexicon.

4 Conclusions

This paper has argued that lexical suffixation in Nuu-chah-nulth is a process in which affixal predicates attach to their morphological hosts via post-

syntactic incorporation. This form of lexical suffixation bears little resemblance to the well-known types of lexical suffixation documented in Salish languages.

Gerdts and Hinkson (1996) provide a survey of Salish lexical suffixes and identify two basic categories of lexical suffixes in Salish. The authors argue that both types are derived historically from nouns, but have undergone differing degrees of grammaticalisation. In the first case, exemplified by noun compounds and suffixation which parallels compounding incorporation, the lexical suffix retains its categorial status as a noun. The following example shows an instance of lexical suffixation in Lillooet Salish, in which the lexical suffix corresponds to the theme of the root verb. (Data is from Gerdts and Hinkson 1996: 168 (11); originally van Eijk 1985).

(25) nɬ̓ḵ̓-**ɬc̓a?**
cut-**flesh**
"cut meat"

In the second type, represented by applicatives and suffixation resembling classificatory noun incorporation, the lexical suffixes are semantically bleached and behave acategorially. An example of this highly grammaticised form of lexical suffixation is shown in (26) with data from Halkomelem. (Data is from Gerdts and Hinkson 1996: 172 (20)).

(26) te?cs-**élə** kʷθə nə mémn̓ənə
eight-**people** DET 1POS children
I have eight children.

Unlike lexical suffixes in Salish, lexical suffixes in Nuu-chah-nulth are strongly predicative.[6] Rather than resembling an incorporated noun or part of a degenerate compound, lexical suffixes in Nuu-chah-nulth productively pattern as incorporating predicates. On the whole, Nuu-chah-nulth lexical suffixes also appear to contribute more substantially to the lexical content of words, as there are instances in Nuu-chah-nulth involving expletive morphemes in which the full lexical content of a word derives exclusively from the affixal predicate. An additional contrast is the wide range of host types in Nuu-chah-nulth, in which affixation to functional morphemes is possible, including affixation to *wh*-pronouns. To my knowledge, a further difference is that prosodic conditioning of the type observed in Nuu-chah-nulth is undocumented in Salish languages. These contrasts constitute a strong formal distinction between Salish and Wakashan lexical suffixes.

[6] However, an interesting parallel between Salish and Wakashan which merits further research is the existence of "classificatory" lexical suffixes in both language families.

Appendix

ABS	absolutive	PERF	perfective
CAUS	causative	PL	plural
DEIC	deictic	POSS	possessive
DET	determiner	PST	past tense
DUR	durative	Q	interrogative
FUT	future tense	QUOT	quotative
IMP	imperative	R	reduplication
IND	indicative	S	vowel shortening
L	vowel lengthening	SG	singular
NEG	negative	SP	sporadic
PAS	passive	TEMP	temporal

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