The nature of Nuuchahnulth classifiers[*]

Winnie Yiu & John Stonham
University of Newcastle upon Tyne

In this paper, we will demonstrate that the Nuuchahnulth lan-
guage falls into the typological category of a *classifier lan-
guage*, following Greenberg (1972) and Allan (1977). We will
draw similarities between it and the otherwise genetically and
typologically quite distinct Cantonese language. The classifier
in Nuuchahnulth has always been subsumed under the class of
lexical suffix and has seldom been isolated as a class by itself.
This paper intends to show that in fact a subset of the lexical
affixes in the language should be placed in a distinct formal
category of classifier, based on their function in the grammar of
the language. In addition, we conclude with a tentative proposal
for the syntactic structure of the classifier phrase and introduce
one puzzle concerning such phrases.

1   Preliminaries

1.1   Nuuchahnulth

Nuuchahnulth consists of a complex of dialects that make up one mem-
ber of the Southern Wakashan family. It is a head-initial, head-marking, poly-
synthetic language that employs incorporation to a high degree.[1] Words are
typically highly polymorphemic, and examples such as those in (1) are not un-
common.[2]

(1)   ċaċałaqḥukummḥinḥʔi

CVdup- ċałaq   -ḥuk^w   -im   -mḥinḥ -ʔiˑ
Suf-   branch out -in hand[R] -...thing -PL   -DEF
'the spread out fingers'

The data for this paper come principally from the fieldnotes gathered by
Edward Sapir in the Port Alberni area during the years 1911–1922, (cf. Sapir &
Swadesh 1939, 1955) supplemented by data from the Kyuquot variety (Rose
1981).

[1] See Yiu & Stonham (2000) for a discussion of incorporation in Nuuchahnulth.
[2] See Stonham (1999) for an exposition of the phonetics and phonology of the language.

1.2   Previous Analyses

Previous investigations of Nuuchahnulth have briefly discussed what might be referred to as the classifier system of the language. Swadesh (1939), discussing the Tsishaath variety of Nuuchahnulth, mentions a set of morphemes, which he calls 'numerate suffixes' that act as classifiers in the language. He states (pg. 88): "There is a group of suffixes used almost exclusively with numeral stems. These suffixes, which may be called numerate suffixes, are all governing suffixes."[3]

Rose (1981) briefly discusses classifiers in the Kyuquot variety, but does not go into great detail on the subject. She states that "there are form-shape classifiers, constituting in Nootka part of a counter affix system." She goes on to say:

> The second major type of classifier G(overning)S(uffix) is the counter type, which affixes to a quantity base. Counter classifiers render a stem nominal, locative, temporal, or quantity .... As a general rule, a quantity modifying an inanimate nominal in such a construction must be specified by a governing nominal counter classifier. (Rose 1981:321)

Overall, there has been no detailed account of the workings of the classifier system and how it interacts with the rest of the system in any variety of Nuuchahnulth.

2   The Nature of Classifiers

The standard description of classifiers involves a class of morphemes that interact with the quantifier system of a language, serving to mediate between the quantifier and its referring noun within an argument phrase. Greenberg (1972:1) defines classifiers as involving "the overt expression of one kind of quantification, namely, counting by units."

Allan (1977: 285) states that:

> ... classifiers are defined on two criteria: (a) they occur as morphemes in surface structures under specifiable conditions; (b) they have meaning, in the sense that a classifier denotes some salient perceived or imputed characteristic of the entity to which an assciated noun refers (or may refer).

One well-known example of a classifier system is that of Cantonese.[4] We will be comparing and contrasting the classifier system of Cantonese with

---

[3] Swadesh includes the element -iiq[w] '...many score' in his list, but we will argue against this morpheme as a classifier later in this paper. It should be noted that Swadesh makes no claim regarding the status of these elements as classifiers.

[4] See Matthews & Yip (1994) for a detailed treatment of Cantonese. Cantonese forms are transcribed in the JyutPing transcription system.

that of Nuuchahnulth in order to establish the universal properties of classifiers and to isolate those aspects of the system that are more specific to Nuuchahnulth.

2.1 Some properties of classifier systems

There are a number of properties of classifier systems which help to distinguish them. These include:

1. *Arbitrariness* - while the class of nouns delimited by a classifier may often be described by certain properties they share, there are often outliers that don't obviously fit under that description. This arbitrariness makes precise definitions of classifiers extremely difficult. For example, the classifier 'zoeng1' in Cantonese attaches to entities with the characteristic of being flat. Note, however, that not all flat objects can be classified with zoeng1.

    jat1 zoeng1 : zi2 / gei1piu3   / soeng2 / zin1   / cong4
    one flat-piece : paper / flight ticket / picture / blanket / bed

   but * jat1 zoeng1 song3 (letter)
        * jat1 zoeng1 jau4piu3 (stamp)

2. *Semantic opacity* – the classifier is a lexicalised item listed in the mental lexicon whose meaning may be rather opaque and difficult to describe, e.g. Sapir & Swadesh's gloss for the Nuuchahnulth classifier -qimɬ "chunk-shaped, (i.e. round, roundish, square, squarish, spherical, spheroid, cubical, etc.) rounded, chunk-shaped, rounded object made of...". In Cantonese, 'baa2' denotes entities with a wide range of shapes, including the following.

    jat1 baa2 : fung1sin3 / dou1 / soi3baa2 / tau4faat3
    one cls : fan   / knife / mop   / a head of hair

3. *Feature agreement* - the referring noun must agree with the classifier with which it is bound, otherwise the result is ungrammatical. All countable nouns must be assigned to a specific classifier.[5]

    a. saam1 bun2 syu1 tung4 bou2   'three books and notepads'
        three cls   book and   notepad

    b.* saam1 bun2 syu1 tung4 caang2   'three books and oranges'
        three cls book and   orange

    c. saam1 bun2 syu1 tung4 go3 caang2 'three books and an orange' three
        cls   book and   cls orange

---

4. *Co-occurrence restrictions* - subcategorization is highly restricted most of the time in that the classifier only attaches to numerals and quantifiers but not to other categories.

hou2do1 tiu3 coi3		'many vegetables'
many cls vegetable		
mui5 faai3 zin1		'each blanket'
each cls blankets		
* coeng1 tiu4 se5		'a long snake'
long cls snake		
* dyun2 zi1 bat1		'a short pen'
short cls pen		

5. *Complementarity* - two classifiers cannot co-occur in the same structure, since their featural properties would conflict.

* jat1 go3 hap6 caang2	'one box of oranges'
one cls box orange	
jat1 go3 caang2	'one orange'
one cls orange	
jat1 hap6 caang2	'one box of oranges'
one box orange	

6. *Pronominal force*: a classifier may act as a pronoun without the presence of the referent, that is the agreeing nominal.

lei5 jiu3 gei2 do1 hoeng1ziu1? 'How many bananas do you want?'

ngo5 jiu3 m5 zek3 'I want five' (bananas not apples)
I want five cls

With respect to these properties, Cantonese provides a prototypical case. The examples accompanying each property above demonstrate both grammatical and ungrammatical collocations of classifier and nominal, supporting the validity of the properties introduced here.

These properties provide us with an insight into potential means for determining classifier status. In order to determine whether a specific morpheme constitutes a member of the set of classifiers, we can use these properties as tests of classifier-hood.

2.2 Categories of Classification

Matthews & Yip (1994:92) discuss the distinction between two types of classifiers, mensural and sortal, with respect to Cantonese:

> Classifiers are an important element in the syntax of nouns. Each noun
> is assigned a particular classifier, much as nouns are assigned genders
> in many European languages. While gender is loosely based on sex,

classifiers are based on distinctive features of shape, natural kind and
function. ... It is useful to distinguish two types of classifier: (a) meas-
ure or mensural classifiers, which denote quantities of an item...
(b) type or sortal classifiers which belong with the noun and classify it
in terms of some intrinsic features of the noun it takes.

Allan (1977) provides a more elaborated set of seven categories for the
classification of classifiers. These are: (i) material, (ii) shape, (iii) consistency,
(iv) size, (v) location, (vi) arrangement, and (vii) quanta. He goes on to state that
the first five constitute inherent properties of classifier languages and Nuuchah-
nulth clearly evinces certain of these properties, placing it squarely with the
category of classifier language.

The property of arrangement, demonstrated by morphemes marking
concepts such as 'heap, bunch, clump' is not restricted to classifier languages but
is more universal in scope.

Similarly, the property of quanta, involving units such as 'basketful,
handful, etc.,' as well as number names such as dozen, score, etc. and measure
categories, including dimension, weight, volume, and time are universal in their
distribution.

As Allan states (1977:306) "measurements based on universal human
properties and experience recur in many languages." Such elements do not make
a contribution to the distinction of classifier vs. non-classifier languages and
therefore will not form part of our discussion here.[6]

Furthermore, we will adopt the distinction introduced in Killingley
(1983:15), summarised below:

We can thus make a distinction between the intrinsic classifier
(including the sortal and the non-containment mensural classifier),
which has an inherent and essential relationship with the noun classi-
fied, and the 'extrinsic' classifier (any containment classifier), which
does not have an inherent relationship with the noun classified, since
it operates from without that noun.

Based on Allan's classification, Nuuchahnulth is clearly a classifier lan-
guage. What we will focus on in the remainder of this paper are those classifiers
which satisfy Allan's categories (i-v) and that fall into the class of 'intrinsic'
classifiers according to Killingley.

---

[6] A (non-exhaustive) list of Nuuchahnulth members of these non-intrinsic
classifier classes is, however, provided in an appendix at the end of the paper for the
reader's information.

2.3 Types of Classifiers

2.3.1 Extrinsic Classifiers

Extrinsic classifier refers to classifiers which do not have a bound relationship with the noun they qualify. They can be further divided into two subsets: (i) containment classifiers and (ii) measure classifiers.

Containment classifiers are used to group together objects into sets of various types. Obviously, mass nouns must be quantified by containment units; such mass/collective nouns require this type of classifier even in languages that do not typically employ classifiers, for example, the English cases in (2).

(2)   one glass of water
        three buckets of sand

If we compare such cases with their parallels in Cantonese, we see that the containers employed substitute for intrinsic classifiers. If these are also classifiers then they cannot co-occur with the same referent or they would violate the property of complementarity. It is important to note that each of the containers itself, when acting as a noun, has its own classifier. However when it is used as a classifier, it appears alone, without its own classifier, as in (3).

(3) *Noun as Containment Classifier*   *vs*   *Noun as Head*
        jat1 tung2   saa1   jat1 go3 tung2
        one bucket sand   one cls bucket

        jat1 bui1   soei2   jat1 zek3 bui1
        one glass water   one cls   glass

It also holds true in Nuuchahnulth that the classifier is in fact agreeing with the container rather than with the noun referent.

(4)   ḥayuqumł maλimł šuukʷaa   'ten barrels of sugar'
        ḥayu -qimł maλimł šuukʷaa
        ten -...unit   barrel   sugar

        ńupqimł   λaḥiqs qʷišaa   'one box of tobacco'
        ńup -qimł   λaḥiqs qʷišaa
        one -...unit box   tobacco

In addition, containment classifiers constitute an open class: any regular lexical elements that have a container-like property may be employed as a classifier of this type. Furthermore, they don not evince the properties of arbitrariness or semantic opacity. For this reason, they do not exhibit intrinsic classifier properties, since there is no bound relationship between them and the noun they classify and we will not consider such elements to be part of the classifier system of Nuuchahnulth.

Similarly, measure words, which are found in all languages, co-occur necessarily with quantifiers. Each language employs a set of such elements, for example English inch, foot, pound, etc., Cantonese *cyun4* (inch), *lei5* (mile), *gan1* (catty), etc. and Nuuchahnulth -pit (handspans), -ẏał (fathoms), etc. These always co-occur with quantifiers. However, neither this group nor the previous

group of classifiers fall strictly into the standard category of intrinsic classifiers since they lack the prototypical property of delimiting the set of entities they take, for example, 'one inch of banana' or 'one box of kangaroos.' In addition they are neither arbitrary nor semantically opaque.

2.3.2 Intrinsic Classifiers

Intrinsic classifiers (also known as sortal classifiers) are marked by a number of inherent features which determine the set of objects which may act as complements to the classifier. This type of classifier typically constitutes a closed class. In addition, it delimits the entire set of count nouns in a language, and any new nouns entering the language must be assigned to a specific classifier set.

(5) presents some of the intrinsic classifiers of Cantonese along with examples of the class membership of each classifier.

(5) *tiu3* 'long object'

jat1 tiu3 min6baau1	'one loaf of bread'
jat1 tiu3 si1gan1	'one scarf'

zi1 'slim-long object'

jat1 zi1 bat1	'one pen'
jat1 zi1 soen4gou1	'one lipstick'

zeung1 'flat piece'

jat1 zeung1 zi2	'one piece of paper'
jat1 zeung1 toi2	'one table'

baa2 'device / tools'

jat1 baa2 gau3zin2	'one pair of scissors'
jat1 baa2 dou1	'one knife'
jat1 baa2 fung1sin3	'one fan'

From the above examples, one can see that the classifier is semantically bound with its referents. Examples where the referent and classifier do not agree in features result in ungrammaticality, as in the examples below.

(6) * sap6 baa2 caa1   'ten forks' (= sap6 zek1 caa1)
       ten   cls   fork

     * loeng5 zek3 se4   'two snakes' (= loeng5 tiu3 se4)
       two   cls   snake

With our focus now centrally on intrinsic classifiers we move on to a discussion of the classifiers found in Nuuchahnulth.

2.4 The Classifiers of Nuuchahnulth

2.4.1 Swadesh on Classifiers

Swadesh (1939) provides a list of so-called numerate suffixes in Nuuchahnulth. For the most part these agree with our interpretation of classifier, but there is at least one case that does not fit within our typology. This is the case of -iiq^w '...score', which is used to augment the numeral system, creating the numbers for forty, sixty, eighty, etc., as in (7). Note that this is similar to the English use of the term 'score' as in 'four score (= eighty)'.

(7) ʔaƛiiq   'forty (= two score)'
     ʔaƛa -iiq^w

     sučiiq   'hundred (= five score)'
     suča -iiq^w

As noted by Allan (1977) in section 2.2, number names are universal and for this reason we do not consider this morpheme as part of the intrinsic classifier system, since it is neither arbitrary nor semantically opaque. Furthermore, the base to which it attaches is limited to the simplex numerals, not *any* quantifier. Most importantly, it does not delimit the class of entities which act as its referents.

An additional reason for ruling this out is the fact that -iiq^w violates one of our properties for classifier-hood, that of complementarity, as demonstrated in (8).

(8)a. ʔaƛiiqčiqitʔi   p'inẁaƚ
       ʔaƛ -iiq^w -čiq   -(m)it -ʔiˑ p'inẁaƚ
       two -...score -...long objects -PAST -DEF whaling canoe
       'the forty whaling canoes'

   b. ʔaƛiiqḥtak   k^{w}aaƚuk
       ʔaƛa -iiq   -ḥtaˑk^w k^{w}aaƚuk
       two -...score -...bundles   rubbing medicine
       'forty bundles of rubbing medicine'

Note that in both of the cases in (8) there is a classifier, -čiq '...long objects' in (8a) and -ḥtaˑk^w '...bundles' in (8b). If -iiq^w '...score' were also a classifier, then we would have a clash of features, and consequent ungrammaticality. Since such cases are not infrequent in the data, we must conclude that -iiq^w is, in fact, not a classifier, but a number name à la Allan, which may then combine with a classifier, resulting in forms such as those in (8) above.

2.4.2 Rose on Classifiers

Rose (1981) provides a list of suffixes which includes elements we would refer to as classifiers. She does not, however, employ the term classifier in our sense, but rather divides the various morphemes we would label classifiers

into several groups based on their affixal properties. Her category of 'Quantity Base' comes closest to our interpretation of intrinsic classifier, but still contains extrinsic classifiers, for example, morphemes for measurement such as -pɬ '...handspans', and -ẏaɬ '...fathoms'. She also refers to 'governing nominal counter' classifiers such as -čiˑɬ 'for...days', -qʔiˑčḥ 'for...years,' but does not list them as a separate category.[7]

In addition, her categories of 'Governing Temporal Affixes' and 'Governing Quantity Affixes', are, in fact, not intrinsic classifiers in the strictest sense as (i) they do not delimit the set of entities they take and (ii) they do not exhibit a bound relation with its complement. These will therefore not feature in our discussion.

2.4.3 Nuuchahnulth Classifiers

A comprehensive and yet not exhaustive list of classifiers in Nuuchahnulth is provided below, with examples of their usage. The following table aims only to provide a (partial) list of Nuuchahnulth intrinsic classifiers, that is, the intrinsic, sortal classifiers.[8]

(i) -čiq   '... long objects'

    a.   ńup.čiq.ʔi   miʕaat   'one sockeye salmon'
         one -...long-DEF objects sockeye salmon

    b.   muu.čiq   hiinaańuḥsim   'four whaling spears'
         four -...long objects whaling spear

    c.   ʔaƛ.čiq.ʔis.uk   čiiḥati 'his two arrows'
         two -...long objects -DIM -POSS arrow

(ii) -ḥtayuk   '... strings'

       suuča.ḥtayuk   ḥiixʷaa   'five strings of dentalia'
       five -...strings dentalia

(iii) -p'iˑɬʷ   '... long objects'

    a.   ʔaƛ.p'iiɬ.ʔi   ʕicsẏin 'the two spines'
         two -...many long objs-DEF spine

---

[7] Rose's typology merges the categories of intrinsic and extrinsic classifiers. For more information on her system of categorization, cf. Rose (1981).

[8] There are certain ambiguous cases that we have not included in this list, for instance, -ista '...persons in canoe', in the example:

ƛiiḥšiʔaƛ ʔaƛistaƛ ʕiik   'Now the two brothers paddled off in their canoe'
ƛiḥ   -šiƛ -'aƛ   ʔaƛ -ista   -'aƛ   ʕiik
move pointwise-MOM-NOW two-...persons in canoe -NOW pair of brothers

This would seem to be an instance of an intrinsic classifier. The reason for not considering this to be one is that in most other cases it behaves more as a locative than a classifier, as in the example below:

ḥaaẃiiḥaƛista   'The young men in the canoe'
ḥaaẃiiḥaƛ -ista   young men -...persons in canoe

b. muu.p'iił.uk   λama   'his four house posts'
four -...many long objs -NOM house post

c. ʔaλp'iiłʔi   saasaqi   'the two cannons'
ʔaλa -p'ïˑłʷ   -ʔïˑ   saasaqi
two -... long objs -DEF   cannon

(iv) -p'ïˑłʷ '... songs'

a. ʔaλ.p'iił.ʔi   nuuk.m̓inh̓   'the two songs'
two -...songs -DEF song -PL

b. ʔaλ.p'iił   h̓aach̓uuła.y̓ak   'two wealth-displaying songs'
two -...songs display wealth-song

c. n̓up.p'iił   čičih̓inky̓ak   'one spirit song'
one -...songs   spirit song

(v) -qimł '... unit(s)'

a. h̓ayu.qumł.ʔi   nuuty̓ak   'the ten hoops'
ten -...unit -DEF   hoops

b. h̓ayu.qumł   mucmuh̓aq   'ten bear skins'
ten -...unit   bear skin

(vi) -saˑh̓takʷ '...kind(s)'

a. muu.saah̓tak   ʕuy̓i   'four medicines'
four-...kinds medicine

b. muu.saah̓tak   tupaati   'four ceremonial privileges'
four-...kinds ceremonial privilege

(vii) -saˑth̓ '... tribes'

a. ʔaλ.saath̓.ʔi   maatmaas   'two tribes'
two -... tribes-DEF   tribe

(viii) -taqak '... units'

a. h̓ayu.štaq.is.uk   p'aacsačim 'ten potlatch platforms'
ten-...units-on beach-POSS potlatch platform

(ix) -taqimł '... bundle(s)'

a. h̓ayu -taqimł   maatmaas   'ten tribes'
ten -...bundle   tribe

b. ʔaλ -taqimł   huuxʷapiih̓ čistuup   'two balls of rope'
two -...bundle ball   rope

(x) -yaˑsča '... rolls, ...lines'

a. ʔaaλ.yaasča   ʕaaλyaqan̓uł   'two rolls of cedar-branch rope'
two -L -... rolls   cedar-branch-rope

Having provided a list of intrinsic classifiers and their domains, we will now move on to examine some exceptional cases in the Nuuchahnulth classifier system.

2.4.4 Exceptions

There are exceptions to the typical case of classifiers with nominals. In certain situations, a quantifier may occur without a classifier. One class of such cases concerns nominals referring to humans, where no classifier is typically employed, resulting in a bare numeral preceding the nominal, as in (9).

(9) a. ċawaak ƛaṅeʔis   'one child'
       one   child -DIM

   b. ʔaƛa ḥaaẃiiḥaƛ   'two young men'
       two   young men

   c. ʔaƛa ḥaatḥaakʷaƛ   'two girls'
       two   young women

   d. ḥayu ʔiš muu quuʔas   'fourteen people'
       ten   and four person

We would suggest that there may be an animacy feature [+human] that explains the absence of an overt classifier with nominals involving humans.

In addition to this case, there is a consistent case of words for 'blanket' which never seem to occur with an intrinsic classifier. Note that this cannot simply be that 'blankets' are somehow considered to be mass nouns, without intrinsic classifiers, since they do co-occur with numerals, as shown in (10).

(10)a. ʔuyiiʔatsi   ḥaẃiłʔi   suča ƛisał
      ʔu -ayiˠ -ʔat -siˠ   ḥaẃił -ʔiˠ suča ƛisał
      REF-give..-PASS-1s.ABS chief -DEF   five blanket
      'I was given five blankets by the chief'

     ċawaak ƛapqiṁł ƛisał   'one bale of blankets'
     one   bale   blanket

   b. ʔaƛa   čučmaqał   'two mountain goat blankets'
      two mountain goat blanket

     ʔaya   čučmaqał   'many mountain goat blankets'
     many mountain goat blanket

There may remain other cases not yet discussed and there is clearly further work to be done in explaining such exceptional cases.

Having provided a list of intrinsic classifiers and their domains, we will now move on to address the issue of the relationship between classifiers and their governing category.

3   Quantifiers and their relationship to classifiers

Both intrinsic and extrinsic classifiers appear conjoined with a certain subset of bases in Nuuchahnulth, the numerals and various other quantifiers. In what follows, we will discuss these elements with examples of the combinations.

3.1 Numerals

The Nuuchahnulth number system is fairly complex though relatively transparent. Numbers from 'one' to 'five', 'ten' and 'twenty' are simplex, while those from 'six' to 'nine' are composed of two elements, the roots for either 'one' or 'two' together with the suffixes -pu 'more than' and -k^{w}ał 'less than', giving us:

(11) ńup / ċawaa   'one'[9]   ʔaλpu   'seven'
      ʔaλa   'two'   ʔaλak^{w}ał 'eight'
      qaċċa   'three'   ċawaak^{w}ał 'nine'
      muu   'four'   ḥayu   'ten'
      suċa   'five'   caqiic   'twenty'
      ńupu   'six'

Multiples of 'twenty' are formed by the use of the suffix -iiq^w '...score' combined with the simplex numbers, forming complex numbers, as discussed in section 2.4.1 and exemplified in (12).

(12) ʔaλiiq   'forty'
      muyiiq ʔiš ḥayu   'eighty'

ʔiš 'and' is used in forming complex numbers including increments and multiples of 'ten.'

(13) caqiic ʔiš ḥayu   'thirty'
      ʔaλiiq ʔiš ḥayu   'fifty'
      ḥayu ʔiš ċawaak   'eleven'
      caqiic ʔiš qaċċa   'twenty-three'
      ʔaλiiq ʔiš ċawaak   'forty-one'

When numerals combine with the intrinsic classifiers, the results take three possible forms: (i) simplex number plus classifier; (ii) complex number, e.g. ʔaλiiq 'forty' plus classifier; and (iii) the most complicated case, that where the numeral is composed of several independent bases, typically with the classifier attached to the first member.

(14) (i) *with simplex numerals*

   a. ʔaλqimł   ṁuksẏi   'two stones'
       ʔaλ -qimł ṁuksẏi   two -...chunk stone

   b. muup'iił   nuuk   'four songs'
       muu -p'ïł^w nuuk   four -...songs song

---

[9] The root ńu(p) 'one' alternates with the root ċawaˑ 'one' in a number of different contexts.

(ii) *with complex numerals*

a. ɁaƛiiqčiqitɁi   p'inⱲaɬ
   Ɂaƛ -iiqʷ   -čiq   -(m)it -Ɂiˑ   p'inⱲaɬ
   two -...score-...long objects-PAST-DEF whaling canoe
   'the forty whaling canoes'

b. Ɂaƛiiqḥtak   kʲʷaaɬuk
   Ɂaƛa -iiq   -ḥtaˑkʷ   kʲʷaaɬuk
   two -...score -...bundles   rubbing medicine
   '40 bundles of rubbing medicine'

(iii) *with conjoined numerals*

a. ḥayuqumɬ   Ɂiš suča taanaa   'fifteen dollars'
   ḥayu -qimɬ Ɂiš suča taanaa   ten -...unit and five dollar

b. ḥayusta   Ɂiš suča   'fifteen people in a canoe'
   ḥayu -ista Ɂiš suča   ten -in canoe and five

    The cases in (i) and (ii) are quite straightforward, the classifier attaching to the end of the numeral in both cases, but the case in (iii) is somewhat more complicated, due to the complex nature of compound numerals, which employ a conjunction Ɂiš. As can be seen from these examples, the usual result is that the classifier appears on the first element of the numeral.

    This is the usual pattern of attachment. An alternative pattern marks both members of a compound numeral with the classifier, in which case it must always be the same classifier, as in (15) below.

(15)   caqiicqimɬ   Ɂiš sučaqimɬ kuukuḥⱲisa   'twenty-five seals'
       caqiˑc -qimɬ Ɂiš suča -qimɬ kuukuḥⱲisa
       twenty-...unit and five-...unit   seal

    Such cases, while relatively rare, do occur and must be treated as instances of double-marking.

3.2   Other Quantifiers

    Besides the numerals there is a small class of quantifiers that may co-occur with classifiers. These include:

(16)   Ɂaya   'many'
       Ɂanaḥ   'few'
       Ɂana   'how many?'
       qʷaṁaa   'thus many'
       hiš   'all'
       hiyiq   'all sorts of'
       ƛaɁu   'another'
       čuučk   'all'
       takʷa   'each'

These quantifiers can be seen in combination with various classifiers in the following examples.

(17)a. ƛaʔu.qumɬ.ʔi.   tukuuk   'the other sea lion'
    other -...unit -DEF sea lion

  b. hiš.saatḥ.ʔi   maatmaas   'both the tribes'
      both -... tribes -DEF   tribe

  c. ƛaʔuu.p'iɬ.ʔi   ḥiiṅa   'The other Quartz Being'
      other -...long objs-DEF Quartz Being

  d. wik ʔuḥ ʔayačiq   čišaaʔatḥ
      wik ʔuḥ ʔaya -čiq   čiša˒ -'atḥ
      not is many -...long objects Tsishaa -...tribe
      'The Tsishaa did not have many (canoes)'

  e. qʷaṁaaḥtakuk   qaʔuuc   'her many baskets"
      qʷaṁa˒ - ḥta˒kʷ   -uk   qaʔuuc
      thus many-...containers -POSS packbasket

This concludes the discussion of the quantifiers that may be found to co-occur with classifiers. The following section will examine the internal syntactic structure of the combinations of quantifier, classifier, and nominal that occurs in Nuuchahnulth.

4   The Syntax of Classifiers

Having demonstrated the existence and nature of Nuuchahnulth classifiers, we will now move on to a discussion of how the classifiers operate within the syntactic system of the language.

4.1   The Pronominal Use of Classifiers

In languages that employ classifiers, they may act as pronouns in combination with numerals or other quantifiers within the sentences. The following examples illustrate this property in Nuuchahnulth.

(18)a. wik ʔuḥ ʔayačiq   čišaaʔatḥ
      wik ʔuḥ ʔaya -čiq   čiša˒ -'atḥ
      not is many -...long objects Tsishaa -...tribe
      'The Tsishaa did not have many (canoes)'

  b. ƛawiiči?aƛ   ƛaʔuktaqimɬʔi
      ƛawiičiƛ -'aƛ   ƛaʔu˒ -taqimɬ -ʔi˒
      approach -NOW   other -...group -DEF
      'He approached the other (pair)'

  c. ʔaḥ ʔaƛp'iiɬʔi   ʔuučaƛ   huuḥinkʷap
      ʔaḥ ʔaƛa -p'i˒ɬʷ -ʔi˒   ʔu -iic   -'aƛ huuḥinkʷap
      this two -...songs-DEF REF -belong to... -NOW Slopes-Together
      'these two (songs) belonged to Slopes-Together'

d. maaƛši?aƛƛaa čišaa?atḥ ?aƛp'iiłʔi.
   maƛ -[L] -šiƛ -'aƛ -ƛaa čišaˑ -'atḥ ?aƛa -p'iˑł^w -?iˑ
   tie -GRAD -MOM-NOW-again Tsishaa-...tribe two -... long objs -DEF
   'Again the Tsishaa tied up the two (whales)'

Note that this property is entirely in keeping with our expectations for a classifier language, as set out in section 2.1.

4.2 The scope of classifiers

In any construction employing a classifier, the classifier predetermines the range of possible nouns which must agree with it. Thus the classifier has scope over its referent. (19) demonstrates a case where the numeral applies to all of the conjoined members of the object phrase.

(19) ḥayuqumł?aƛukquuwe?in   p'ačak   k^{w}aƛaq
     ḥayu -qimł -'aƛ -uk -quu -we?in p'ačak   k^{w}ak^{w}aƛ -a?aq
     ten -...unit -NOW -POSS -CND -3.QT potlatch gift sea-otter -...skin

     čučmaqał   hišcuq^{w}ati čitii?asim ḥiix^{w}aa čip'uuqs.
     čučmaqał   hišcuq^{w}ati čitiˑ?asim ḥiix^{w}aˑ čip'uˑqs
     goat-hair blanket abalone   copper   dentalia brass
     'He used as gifts ten sea-otter skins, goatskin blankets, abalone, copper, dentalia, brass.'

If the referents do not agree in terms of the classifier they take, as shown in (20), then the numeral must be repeated with each classifier in the sentence.

(20) ?aƛ.čiq   łuuˁamḥinḥ suup'iisỹak ?iš ?aƛp'iił   qicaałmḥinḥ.
     ?aƛ -čiq   łuuˁa -mḥinḥ suup'iisỹak ?iš ?aƛ -p'iˑł^w qicaał -mḥinḥ
     two -...long obs tray -PL   soup dish and two-..long objs calico -PL
     'two soup plates and two lengths of calico.'

In the cases below, the quantifier has scope over all the referents in the phrase. Furthermore, definiteness is marked on the quantifier in (a), again having scope over the entire phrase.

(21)a. hišimỹuup'aƛ   ?aye?i   quu?as ?iš łuucsaamiiḥ Xiiʔiłʔaƛ.
      hiš -imł   -'uˑp -'aƛ ?aya -?iˑ quu?as ?iš łuucsaamiiḥ Xiiʔił -'aƛ
      all -in group -MC -NOW many -DEF men   and women   feast -NOW
      'He assembled the many men and women and gave a feast.'

   b. čawaak quu?as ?iš łuučsaamiiḥ
      one   person and women
      'each man and woman.'

The above cases clearly suggest a situation where the numeral is intimately connected to the classifier, with scope relations based on the combination having scope over any nominal argument. This will figure centrally in our discussion of the syntactic structure of the quantifier phrase in section 4.3.
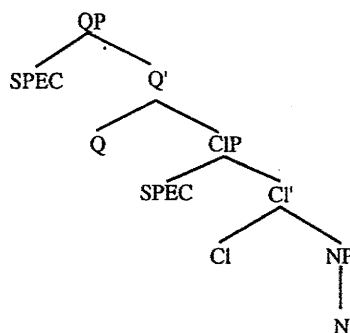
4.3   The Syntactic Structure of the QP

With regard to the previous discussion, we conclude that the numeral/quantifier, the intrinsic classifier, and its referent (the NP) within a nominal expression take the following order (22). Note that the classifier is absent under the conditions discussed in section 2.4.4.

(22)   Num/Quantifier — (CLS) — Noun

Since classifier always requires a governing category which is always the numeral or quantifier, we will assume that the quantifier appears as the head of a Q(uantifier) P(hrase), which then takes the classifier as its complement. This suggests a structure as in (23), where the Cl(assifier) P(hrase) is the sister of Q.

(23)

```
              QP
           /      \
        SPEC       Q'
                 /    \
               Q       CIP
                      /    \
                   SPEC     Cl'
                          /    \
                        Cl      NP
                                |
                                N
```
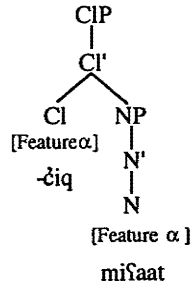
Unlike English, in Nuuchahnulth, a numeral or quantifier cannot combine directly with a noun even if the noun is countable except, perhaps, in those exceptional cases of 'blanket' and human nominals discussed in section 2.4.4. We would argue that there is a functional layer of CIP above the NP, taking NP as its complement with the evidence from the feature agreement and subcategorisation of the classifier, which acts as the head.
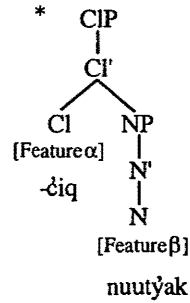
Given the fact that the classifier subcategorises for a certain class of nominals, it should act as head of a phrase taking a nominal complement; for example, a subset of entities bearing the semantic feature of -ćiq 'long-object', say 'canoe', are restricted in their occurrence, as the physical properties stipulated cannot be taken by nominals taking a classifier which specifies the feature of 'chuck-shape' such as '-qimɬ.' In such an eventuality, there will be a feature clash and the nominal phrase will not be read off properly. Therefore, this shows that Cl, as a functional head, is needed to carry the functional information which contributes directly to semantic interpretation, although such semantic interpretation is not overt lexically.

An example of this is given in (24). In (24a), the entity subcategorized by the classifier, miʕaat 'sockeye salmon,' is of the same feature, while (24b) is ungrammatical, as the classifier requires an entity with the feature of the same sort but the NP nuutyak 'hoops' is of another feature which does not comply with the classifier.

(24) a.   b.

```
        ClP                          *    ClP
         |                                 |
        Cl'                               Cl'
        / \                               / \
      Cl   NP                          Cl    NP
  [Featureα]  |                    [Featureα]   |
     -čiq    N'                       -čiq     N'
             |                                 |
             N                                 N
        [Feature α ]                      [Featureβ]

        miʕaat                           nuutÿak
```
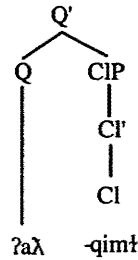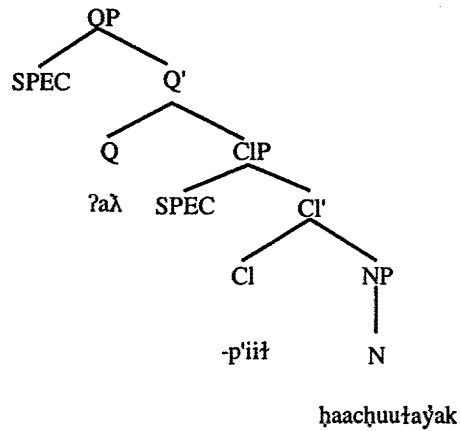
       Further evidence to support the presence of such a functional layer above NP within the nominal phrase is that the classifier may act as a pronominal, without the accompanying nominal, as in (25).

(25)

```
          Q'
         / \
        Q   ClP
        |    |
        |   Cl'
        |    |
        |    Cl
        |
      ʔaƛ    -qimł
```

       As to the position of numerals and quantifiers with respect to the ClP proposed above, we argue that they constitute the head of QP taking the CLP as its complement. Given the fact that intrinsic classifiers never occur without the presence of a quantifier in Nuuchahnulth and that they are a dependent element and must attach to the quantifier.

(26)

```
              QP
             /  \
          SPEC   Q'
                / \
               Q   ClP
               |   / \
             ʔaƛ SPEC  Cl'
                       / \
                      Cl  NP
                      |   |
                   -p'iił  N

            ḥaachuułaÿak
```

The relationship between quantifier, classifier and its referent is manifested in the phrase structure provided in (26) above, exemplifying the phrase ʔaƛpliƚ ḥaacḥuuƚýak 'two wealth-display songs'.

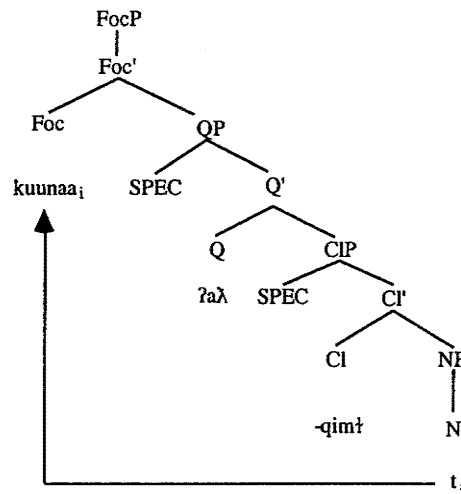## 4.4 Fronting in the QP? a puzzle

There is an interesting phenomenon found among the data involving classifiers in Nuuchahnulth which suggests the possibility of a process of fronting that takes place within the nominal phrase whereby the referent is fronted ahead of the numeral, as in (27).

(27) a. ʔuʔuʔiiḥuk k'iƚanuus [[kuunaa]ᵢ ʔaƛqimƚ tᵢ]QP

     be after   fur-seal   schooner   two -CLS

     'his two schooners were after fur-seals'

b. hinaasʔaƛ   [[t̓iick'inʔi]ᵢ ʔaƛqimƚ tᵢ]QP

    be on surface thunderbird two-CLS

    'Two thunderbirds were on a platform.'

The above cases suggest that there appears to be a focus position within the nominal phrase, analogous to the case in Cantonese, 'syu1, loeng5 bun2' (books, two cls) where 'books' is fronted to carry an emphatic effect. One analysis of this type of focus construction is that in (28).

(28)

However, this apparent fronting could also be some sort of afterthought, thus acting as an adjunct in the syntax giving further information on the previously mentioned noun.

In either case, such an order must clearly not be based-generated in the syntax, since it would violate the typological nature of the language which is head-initial. Granted that the classifier is the head instead of its referent, having the classifier as based-generated in final position and its referent higher up in the

tree would be extremely undesirable, since its referent will then not be lexically governed by the classifier and so agreement between the two cannot be assured.

5. Conclusion

This paper has demonstrated the various properties of the Nuuchahnulth classifier system, the types and tokens of the system, and the syntactic structure of the classifier phrase in the language. We have also provided criteria for determining whether or not a particular morpheme is a classifier and have out-lined the class of elements that co-occur with classifiers. There remain certain questions concerning the absence of classifiers in certain countable contexts involving numerals and the issue of linear order variations, possibly due to focus-triggered fronting.

Appendix - Extrinsic Classifiers

(a) Containment Classifiers

Classifier	Meaning	Examples
-ḥtaʔkʷ	containers	p'a.čiƛ.si ḥayu.ḥtak ƛiƛick'uk 'I potlatched ten potlatch-MOM-1sg10-..sacks flour sacks of flour'
niisaak	sacks	ḥayu.ḥtak niisaak sapnin 'ten sacks of ten-...containers sack flour flour'
ƛaḥiqs	box	ńup.qimł ƛaḥiqs qʷišaa 'one box of tobacco' one -...unit box tobacco
ťapqimł	bales	ćawaak ťapqimł ƛisał 'one bale of blankets' one bale blanket
maƛimł	barrel	ḥayu.qumł maƛimł šuukʷaa '10 barrels of sugar' ten -...unit barrel sugar

(b) Measure Classifiers

Temporal

-čiʷł	...days	muu.čiił 'four days' four -... days
-qʔiʷčḥ	...years, ...seasons	muu.qʔičḥ 'for four years' four -...years
-p'inq	...times around	muu. p'inq.sak 'exactly four times around' four -...times around -just -NOM
-p'it	...times	muu. p'it.šiƛ 'Four times (I) did it' four -...times -MOM
-qimłiya	...months	ńup.qimłiya.ƛ.quu '... in one month' one -...month -NOW -CND

-taq	...times	ʔaa.ʔaƛ.taq.š	'repeated two times'
		SUF- two -...times -ITER[F]	
-t̓im	...at a time	čaawa.t̓im.ʔap.ik.aḥ 'I will do it one at a time'	
		one -L -...at a time -CAUS -FUT -1s.IND	

Physical

ƛišƛin	...feet	ʔaƛpu ƛišƛin ʔiš qatw̓aat ʔaana čit̓yakʔi	
		seven foot and half really saw-DEF	
		'seven and a half foot saw'	
-ista	...persons in canoe	ʔaƛ.iste.ʔis 'two in a canoe'	
		two -...persons in canoe -at beach	
-k̓aa	...many points	muu. kʷaa 'four points'	
-p̓it	...many handspans	ʔaƛ. p̓it. p̓iqa 'two handspans at the top'	
		two -...many handspans -at summit	
-y̓aɬ	...fathoms	ḥayu.uɬ ƛukwiit.ʔi čistup '10 fathoms of	
		ten -fathoms thick-DEF rope thick rope'	
-y̓ayisu	...fathoms	muu.y̓ayisu.kʷiƛ.eʔic 'you do it for 4	
		four -...fathoms -MOM -2s IND fathoms'	

References

Allan, Keith. 1977. 'Classifiers.' *Language* 53.3: 285-311.

Greenberg, Joseph H. 1972. 'Numeral classifiers and substantival number: Problems in the genesis of a linguistic type.' *Working papers on language universals.* 9: 1-39.

Killingley, Siew-Yue. 1983. *Cantonese classifiers: syntax and semantics.* Newcastle upon Tyne: Grevatt & Grevatt.

Matthews, Stephen & Virginia Yip. 1994. *Cantonese: A comprehensive grammar.* London: Routledge.

Rose, Suzanne. 1981. *Kyuquot Grammar.* U. of Victoria Ph.D. thesis.

Sapir, Edward & Morris Swadesh. 1939. *Nootka Texts, Tales and Ethnological Narratives.* Baltimore: Linguistic Society of America.

——. 1955. *Native Accounts of Nootka Ethnography.* Bloomington: Indiana U. Research Center in Anthropology, Folklore & Linguistics.

Stonham, John. 1999. *Aspects of Tsishaath Nootka Phonetics & Phonology.* 1999. Munich: LINCOM Europa.

Swadesh, Morris. 1939. 'Nootka Internal Syntax.' *International Journal of American Linguistics*, vol. 9:77-102.

Yiu, S.M. & J. Stonham. 2000. 'Good-stocked with mussels: Incorporation on the edge.' Paper given at the Annual Meeting of the Linguistic Society of America, Chicago, Jan. 8, 2000.

Winnie Yiu
School of English Literature, Language, and Linguistics
University of Newcastle upon Tyne
winnie.yiu@newcastle.ac.uk

John Stonham
School of English Literature, Language, and Linguistics
University of Newcastle upon Tyne
john.stonham@newcastle.ac.uk