SYMMETRY IN NUUCHAHNULTH SYNTAX:
THE STRUCTURE OF THE IP AND DP[*]

Winnie Yiu and John Stonham
University of Newcastle upon Tyne

This paper argues for the symmetry of structure between IP and DP in Nuuchahnulth syntax with evidence from the distribution of person/number and other paradigmatic inflection marking, and the application of head-to-head movement into I° and D°. We will argue that both verbal/predicate and nominal inflection is phonologically dependent and base-generated in their respective functional heads. The combination of the above properties gives rise to a situation where the inflection attaches to a variety of syntactic categories, leading to the common misconception that there is no distinction between noun and verb in the language.

Evidence for the above argument arises from the observation that the person/number inflection is in complementary distribution with the elements between the matrix verb and the overt sentence-initial adverbial, e.g., either (a) ADV-Infl V or (b) ADV V-Infl. The two alternatives are due to either (a) the cliticisation of person/number marking to an overt element to its immediate left, or (b) the head-to-head movement of the verb into I°. In a nominal phrase, it is the next highest head dominated by D° which moves up to be the host.

In the second part of this paper, we demonstrate that the movement of the verb to I° is in fact optional: if the inflection at I° cliticises to the element immediately to its left since it needs a phonological host, the verb will not raise and adjoin to I°.

1.   Introduction

This paper examines two types of constructions involving verbal/predicate and nominal inflectional marking in Nuuchahnulth (aka Nootka), a Southern Wakashan language, along with Ditidaht and Makah. It is a highly polysynthetic language with incorporation (Yiu and Stonham 2000, Yiu 2003), as shown in (1)[1].

[1]Non-transparent abbreviations used in this paper include: CND conditional, INTERRR interrogative, DISTR distributive reduplication, INC Inceptive aspect, IND indicative, INF inferential, LOC locative base, MOM momentaneous aspect, PLDUP plural reduplication, [R] reduplication-trigger, QT quotative, REF referential base, REL relative, REP repetitive reduplication, SUB subordinate marker, SUF suffix-triggered reduplication.

(1) ʔa.ʔa.ʔaƛ.qimɬ.ht̩.imy.iɬ.m̓inḥ.ʔaaqƛ.eʔicuu
DISTRIB- SUF- two -..units -on foot[R] -move -inside -PL -INTENT -2P.IND
'You will carry two dollars on your feet'

Nuuchahnulth is a verb-initial language (VSO/VOS)[2] (Rose 1981, Jacobson 1993) in both matrix clause (2-3) and in finite embedded clause[3] (4-5), with two classes of inflectional system: (a) verb-level inflection/predicate-level inflection (Nakayama 1997) and (b) Nominal-level inflection. (Rose1981:44, Davidson 2002)

(2)   ƛawiiči.ʔaƛ   ḥaaw̓iɬaƛ.ʔis.ʔi   ʔumʔiiq.sak.
       approach[M] -NOW   young man -DIM -DEF   mother -POSS
       'The little fellow approached his mother'

(3)   ḥaaḥuup.ši.ʔaƛ.weʔin   quuʔas.ʔi   ʔačy̓aa.mit.ʔi.
       advise -MOM -NOW -3.QT   person -DEF   go for wood -PAST -DEF
        'The one who had come for wood advised the man.'

(4) n̓ačuʔaɬ.ʔaƛ.weʔin ʔumʔiiqsu [ʔani ʔu.uc.uk.qa   ʔiiḥtuup t̓an̓a.ak.ʔi].
    see -NOW -3.QT   mother   that REF-belong.to-POSS-3.SUB whale child-POSS-DEF
    'The mother saw that her child had a whale.'

(5) hašii.či.ʔaƛ   qʷayačiik.taqimɬ [ʔani maaƛ.iic.qa
    know.about -INC -NOW wolf -...tribe   that tie -L -around.head[L] -SUB

    qičin.m̓it   sit̓aa.nit.ʔi ...]
    louse -...Son tail -INAL -former -DEF
    "The Wolf people found out that Louse had tied about his head the tail ..."

2.   General Picture

2.1   Predicate Level Inflection

Predicate level inflection consists of a closed set of affixes for tense, mood and person/number marking.[4] The main focus regarding verbal/predicate level inflection in this paper is on the person/number inflection which is part of every predicate in Nuuchahnulth and is found attached to the matrix predicate for subject marking. Note that 3rd person/number marking, may be phonologically null, as in (2) (see Rose 1981:35 and Davidson 2002:101).

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[2] 97% verb-initial (Rose 1981).

[3] Davis, H. and N. Sawai (2001) argues that the word order of non-finite embedded clause is SVO.

[4] In this paper, we adopt the mood/person/number paradigm used in Sapir and Swadish (1939).

Domain of reference of the marking of subject is the whole clause rather then the entity it attaches to. If the subject of the lower predicate is not indicated, it means either it shares the subject with the matrix predicate and is co-referential to it, as in (6a) (bare absolute complement (Davidson 2002:155)) or it is in a separate clause (6b) with 3rd person marking, which is phonologically null.

(6)   a. [s wik'aλ.si]   [s haʔukšiλ.si]]
           not-NOW-1st   eat-mom-1st
           "I didn't; I ate."
        * "I didn't eat"

       b. [s wik'.aλ.si   haʔuk.šiλ]
           not-NOW-1st eat-MOM
          "I didn't eat"   (Davidson 2002:104)

In addition, person/number marking sometimes attaches to the predicate pre-modifier, when present, as in (7b).

(7) a. ḥaṅaḥtuʔaλ.ma   mišɔɔn.ʔak.ʔi
       disrobe-NOW-3.IND   shawl -POSS -DEF
       'She took off her shawl.'

    b. wiiẏa.ma   huuyaał
       never-3.IND dance
       'I never danced.'

2.2   Nominal Phrase Level Inflection

Nominal Phrase level inflections in Nuuchahnulth are affixes which attach only to the highest head of a nominal constituent[5] (see Yiu and Stonham 2003). They are the particularizing marker[6] (8) and the possessive markers (9) (see appendix).

 (8)   a.   čakup
               'a man' (generic reading)

       b.   čakup.i
               man -(ʔiˇ)DEF
               'a/the certain man'   (Kyuquot: Rose 1981)

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[5] Our assumed phrase structure: [[QUANT/NUM [ADJ [N [RELATIVE CLAUSE]]NP]AP]QP

[6] According to Rose (1981), "the particularizing marker" -ʔiˇ signals particularized class membership.

(9) a.   kaaʔuuc.<u>ukqin</u>
           grandchild -POSS.1PL
           'our grandchild'

    b.   ʔaḥ ċak'umc.<u>ukʔitqak</u>
           this earth -POSS.2SG
           'this ground of yours'

3.   Properties

3.1   Person/number Marking On The Predicate

The distribution observed on Person/number marking in Nuuchahnulth conforms to the behaviour of 2P clitic described by Carstairs (1987), Klavans (1982), Spencer (1991) and Zwicky and Pullum (1983), in that, apart from being phonologically dependent, contrary to the behaviour of a prototypical affix, it shows a low selectivity for the syntactic category of its host word, and is only sensitive to the structural/syntactic relation to its host. In Nuuchahnulth, the element on which person/number marking appears is not restricted to the verb only (10a), but can also appear on the adverb (10b), sentential conjunction (10c) or wh-word (10d).

 (10)a. ńaacsaaλ.<u>aḥ</u>   suut.iɫ
        see -NOW-1s. IND   you[sg] -OBJ
        'I see you.'

   b. ʔiiḥ.ʔaλ.<u>aḥ</u>   haana.ʔaλ
      big -NOW -1s.IND   play.slahal -NOW
      'I was playing in a big way.'

   c. ẏuuqʷaa.<u>maḥ</u>   ciʕas.ʔaaqλ
      also -1s.IND   woo –INTENT
      'I too am going to talk marriage'

   d. waa.ʔaλ.weʔin   kʷatyaat ʔaqis.<u>quus</u>   ńačuʔaɫ
      say -NOW-3.QT   Kwatyat   how -1.CND   see
      'Kwatyat said, how could I have seen him…'

As exemplified above, person/number marking exhibits 2P clitic distribution,[7] as also observed by Davidson (2001), in that it always attaches to the first word in a sentence. However, person/number marking may not necessarily appear on the

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[7] It fulfills Klavan's (1985) description of Wackernagel's position, 'Initial, after, proclitic' in her positioning parameters.

predicate pre-modifier[8] (11b) but sometimes on the matrix verb instead, as shown in (11a) below.

(11) a. ʔaḥʔaaʔaƛ.<u>ma</u> čiiq.ši.ʔaƛ   ḥaakʷaaƛ.ʔi   ʕił.qii.
    and.then-3s.IND sing.chant-MOM-NOW young.woman-DEF plume-on.head
    'And then the young woman with plumes on her head started singing.'

   b. ʔaḥʔaaʔaƛ   čiiqšiʔaƛ.<u>ma</u>   łuucsaamiiḥ.ʔi.
     and.then   sing.secret.chant -MOM-NOW-3s.IND women -DEF
     'And then the woman chanted"'

In fact, person/number inflection is in a complementary distribution between the matrix verb and the overt sentential adverbials, in that it either attaches to the former or the latter, for example, either ADV-Infl V (11a) or ADV V-Infl (11b).

3.2 Nominal Phrase Marking

Similarily, Nominal inflection, such as the particularizing marker, ʔiˇ, or possessive marking also appear on the first element in a nominal phrase. This element can be a noun (12a, 13a), an adjective (12b, 13b), a quantifier (12c), or a numeral (12d). Again, they are insensitive to the syntactic category of their hosts just as person/number markings do.

(12) a. ʕiiḥ.šiƛ   [naẏaqak.<u>ʔi</u>]
     cry -MOM   baby -DEF
     'the baby cried'

   b. [ƛaaḥmał.<u>ʔi</u>   naẏaqak]
     newborn -DEF   baby
     'the newborn baby'

   c. hiixuq.ši.ʔaƛ   [ʔaye.<u>ʔi</u>   ḥaaẇiiḥaƛ]
     shout -MOM-NOW   many -DEF   young men
     'The many young men cried out.'

   d. ʔaƛe.<u>ʔi</u>   p'išaq maatmaas
     two -DEF   bad   tribes
     'the two bad tribes'

Similarly, for the possessive:

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[8] Contrary to Nakayama's (1997) statement that person/number inflectional MUST attach to the fist word of the sentence.

(13) a. čakup.<u>ukqas</u>
   husband -POSS.1sg
   'my husband'

 b. ƛuɬ.<u>ukʔitqak</u> ʕuy̓i
   good -POSS.2sg medicine
   'your good medicine'

However, they never attach to demonstratives/deictics (in non-pronominal use).

(14)a. kaaʔa ʔaḥn̓ii ƛaʔuu.<u>ʔi</u> miɬsy̓i
    hand.over that other-DEF spear
    'Give me that other spear.'

 b. <u>ʔaḥkuu</u> ʔe.ʔiiḥ.<u>ukʔitqak</u>   tuu.tupati
   this   PL- big -POSS.2sg PL- ceremonial.privilege
   'These great tupaatis of yours'

   Given the above distribution, both the predicate/verbal and nominal level inflection are insensitive to syntactic category of their host but are only sensitive to the structural position within the syntactic domain in which they appear, that is, the Wackernagel position. This leads strongly towards the analysis that, in fact, they occupy a fixed position in their respective domains (IP and DP) in the syntax.
   We argue that both the predicate/verbal and nominal inflections are functional heads: I° is the site hosting the person/number marking, as widely adopted in transformational Grammar, while D° is the site hosting nominal level inflection.

4. Phrase Structure

4.1 IP Structure

Example (15) shows that person/number marking is based generated at I°, which serves as the site of the inflectional cluster whereas verbs, either free or bound[9], are based-generated in V° (15b). As the person/number marking is in need of a host, the verb rises to adjoin with I° as in (15c).
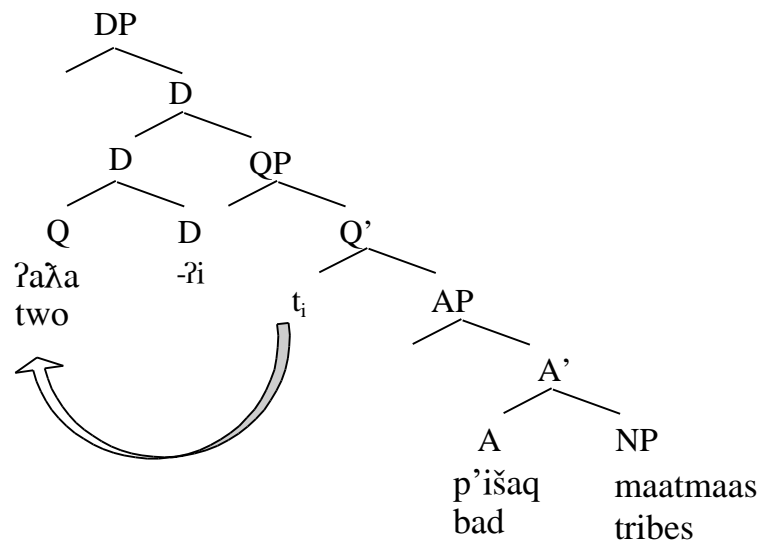
(15a)=(10a) n̓aacsa.aƛ.aḥ suut.iɬ
     see -NOW-1s.IND you.SG -OBJ
     'I see you.'

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[9] In case of bound verb, either empty root ʔu- is employed or incorporation of its direct object in order to make the bound verb free standing.

b.

```
            IP
           /  \
              I
            /  \
           I     VP
         /  \   /  \
        I       V'
    -(m)aˇḥ    /  \
    -1s.IND   V    DP
           ṅaacsaaƛ
              see
```

c.

```
            IP
           /  \
              I
            /  \
           I      VP
         /  \    /  \
        V    I      V'
    ṅaacsaaƛᵢ -(m)aˇḥ  / \
       see   -1s.IND  tᵢ   DP
                          suutił
                           you
```

In (15c), the matrix verb ṅaacsaaƛ 'see' moves into the inflectional cluster head-adjoining with I° whereby the person/number marking is in need of a phonological host. However, it is an optional process as evidenced by the fact that the predicate pre-modifier, when present, can be the host instead of the verb, and thus the verb movement described here is not obligatory when there is an alternative host available.

4.2 DP Structure

With the distributional fact that nominal phrase-level inflection appears in the Wackernagel position, and also that it co-occurs with demonstratives within the nominal domain, we propose that, following Abney's DP-hypothesis (1987), Nominal phrase level inflection is base generated at D°, while deictic/demonstratives occur in SPEC: DP (Yiu and Stonham 2003).

In Nuuchahnulth, the resulting position of Nominal level inflectional (16a) is due to the obligatory movement of the next highest head below D° within the nominal phrase to adjoin with D°, as in (16c).

(16a)=(9a) ʕiiḥ.šiƛ [naẏaqak.ʔi]
        cry -MOM   baby -DEF
        'the baby cried'

b.

```
        DP
       /  \
          D
        /  \
       D     NP
     /  \   /  \
    D      N'
   -ʔiˇ    |
   -DEF    N
        naẏaqak
         baby
```

c.

```
        DP
       /  \
          D
        /  \
       D     NP
     /  \   /  \
    N    D      N'
  naẏaqak -ʔiˇ    |
   baby  -DEF    tᵢ
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In the case of a complex nominal phrase with modifiers preceding the noun, it is the next highest head of the nominal phrase, irrespective of its syntactic category, which is required to move to adjoin with D° as its phonological host. This head to head movement of the next highest head is obligatory.

(17)=(12d) ʔaƛe.ʔi̲   p'išaq maatmaas
            two - DEF   bad   tribes
            'the two bad tribes'

(18)

DP
  D
    D   QP
   Q   D   Q'
  ʔaƛa -ʔi   t_i   AP
  two   A'
                    A   NP
                   p'išaq   maatmaas
                   bad   tribes

5.   Cliticization

5.1   Person/number Marking

The only behavioural difference between predicate- and nominal-level inflection is that the former has an alternative measure in getting a host. This is cliticisation[10] to the element in the higher SPEC position, whatever the syntactic category that element may be (sentential conjunction, sentential adverbial, verbal adverbial),[11] which is already available on its immediate left (19b). When this happens, the verb will not head-adjoin with Person/number marking at I°.

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[10] Cliticization: we use this term simply to refer to INFL at I° (a syntactically dependent unit) attaching onto whatever element is immediately adjacent on its left

[11] The class of predicate modifiers is comprised of a small set of adverb-like modifiers (Davidson, 2002:106-9)
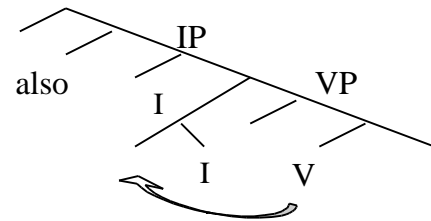
(A) Adverbial Predicate

(19)a. ADV-Infl   V

    ẏuuqʷaa.<u>mah</u>   ciʕas.ʔaaqλ
    also -1s.IND   woo -INTENT
    'I too am going to talk marriage'
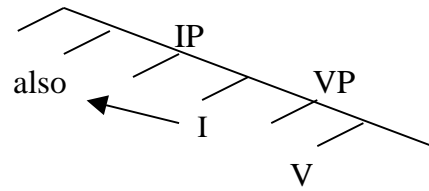
    b. ADV   V-Infl

    ẏuuqʷaa čuqsiʔ.<u>i</u>
    also   bend.down -2s>3.IMP
    'Also bend down your heads.'

(B) Conjunctional Predicate

(20) a. ADV-Infl   V

    ʔaḥʔaaʔaλ.<u>ah</u>   ciq.ši.ʔaλ
    and.then -1s.IND   speak -MOM -NOW
    'Then I spoke.'

    b. ADV   V-Infl

    ʔaḥʔaaʔaλ weʔiču.ʔaλ.<u>quuweʔin</u>   ḥaakʷaaλ.ʔi λawiiči.ʔa.ẋat
    and.then sleep[M]-NOW -3.CND -3.QT girl -DEF   approach -NOW -PASS
    'And then the girl who was approached went to sleep'

5.2   DP

Unlike person/number marking at I°, cliticisation to an element on its left is not an available option to nominal inflection at D° since it is never found to appear on the deictic/demonstrative. Movement of the subsequent head element is then the only operation involved in the nominal phrase for inflection at I° to acquire a host (22).

(21) a. <u>haa</u> čakup.<u>i</u>
    this man -DEF
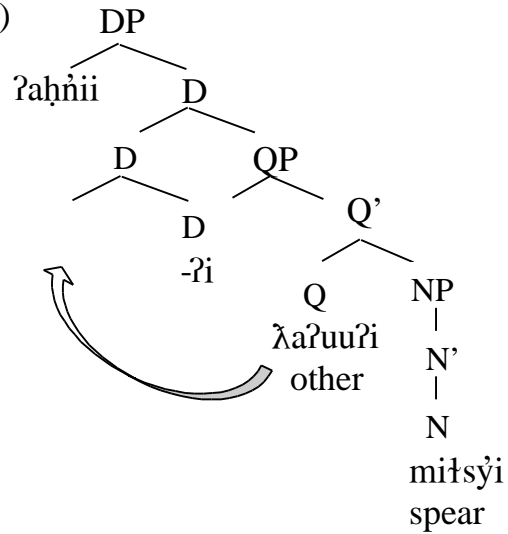   'the/that man'   (Rose 1981:251)

    b. kaaʔa   [<u>ʔaḥṅii</u> λaʔuu.<u>ʔi</u> miɬsẏi]
    hand.over! that other -DEF spear
    'Give me that other spear!'

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c.=(13a) ʔaḥkuu   ʔe.ʔiiḥ.<u>ukʔitqak</u>   tuu.tupati
         this   PL- big -POSS.2sg   PL- ceremonial.privilege
         'These great tupaatis of yours.'
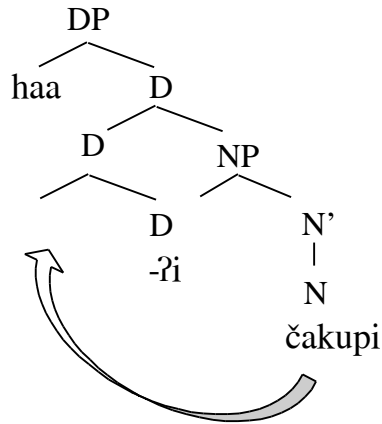
(22)=(21a) a.   b.=(21c)

6.   Further Issues In IP Structure

Fronting

Person/number marking never attaches to fronted element(s).

(23) a. [ʕaanus.m̓it]   ʔaak'uu.ʔat.<u>weʔin</u>
         crane -…Son   borrow[M] -PASS -3s.QT
         'It was Crane they borrowed it from'

   b. [ʔiiwaanux] ʔu.kɬaa.mit.<u>aḥ</u>
       Iiwaanuh   REF -name... -PAST -3s.IND
       'Iiwaanuh, he was called'

   This suggests that the fronted element ends up in its position by a syntactic operation, whether it is topicalisation or stylistic fronting, after cliticisation of person/number marking or head-to-head movement of V° to I°. This shows that person/number marking does not attach to the edge of an XP.

Wh-element

(24)a. ʔaaqin.<u>ḥak</u>   čitx.šiƛ
       why? -2s.INTERR move.sideways -MOM
        'Why do you turn to one side?'

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b. ʔaqi.yuʔał.ḥak   waa.ʔaƛ.at.
   what? -perceive -2S.INTERR say -NOW -PASS
   'What did you see?' he was told.

It is observed that cliticisation of person/number marking on Wh-elements in Nuuchahnulth takes place when the Wh-element refers to the subject or to an adverbial (24a) which originates in an adjunct position such as 'why' and 'how'; but when the Wh-element is referring to the direct object (24b), it needs to incorporate into the verb first (Davis and Sawai 2001) before the derived verbal complex with the Wh-element as the root moves to adjoin with the person/number making at I° in order to act as its host. This is due to the fact that Wh-elements in Nuuchahnulth are bound in nature and therefore unable to stand alone.

7.   Summary

In this paper, we investigate the distribution and properties of person/number marking and nominal level inflection within the matrix predicate and the nominal phrasal domain. In respect to their distributions, they always appear in a second position structurally in their respective domains. Also, they exhibit property of second position clitic that they attach to different syntactic categories, which leads to the misconception that it is due to mere linear ordering.

    We propose that they are based generated at a functional head in IP and DP and stipulate that there are two separate operations involved in the configuration of deriving the phenomenon in both the clause domain and the nominal domain as summarized in diagrams (25-26) below.
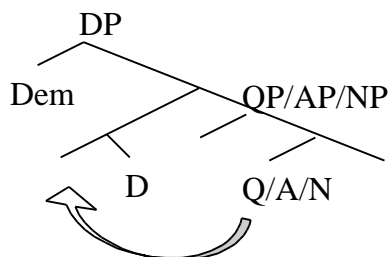
(25) **IP**   (a) ADV –Infl   V   OR   (b) V-Infl
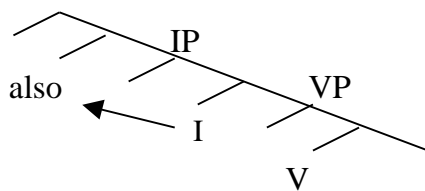
● Predicate level inflection at I° can cliticise to an element to its immediate left.

OR
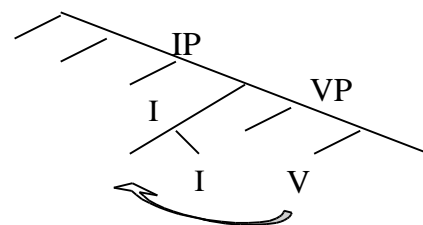
● The verb is obligatory to move to adjoin with I° if cliticisation does not take place.

(26) **DP**   (c) Dem Q/A/N-Infl

● The highest head below D° must move to adjoin with D°.

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Appendix

Possessive person/number marking paradigm (others see Sapir and Swadish 1939:242-243)

	Singular	Plural
1	-ukqas	-ukqin
2	-ukʔitqak	-ukʔitqsuu
3	-uk(ʔi)	

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