The internal structure of Kwakwala nominal domain [1]

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In Kwakwala a third-person overt nominal is always marked for Case and the Case Phrases (KP) encode five deictic distinctions: Case, Loc(ation), Det(erminer), Vis(ibility) and Temp(oral). This paper includes Temp as an additional deictic feature in the nominal domain and investigates the morpho-syntactic distribution of all five distinctions. It is argued that each demonstrative heads its functional projection and modifies a nominal (cf. Abney 1987; Ritter 1991, 1992; Giusti 1992; Cinque 1993, 1996). When a nominal is modified by a series of demonstratives in Kwakwala, the nominal phrase shows variation of their order relative to the noun. This paper proposes that the variation of word order in the KP is obtained by Head-to-Head movement in the determiner domain that the closest head under TempP moves and adjoins first to Temp and then to Vis cyclically.

1 Introduction

This paper investigates the morpho-syntactic distribution of deictic elements of the Case phrase in Kwakwala. It is argued that five deictic distinctions are hierarchically organized with head syntax in an order of Case > Loc(ation) > Det(erminer) > Vis(ibility) >Temp(oral). The argumentation in this paper contributes both empirical data and a theoretical analysis that deepen our understanding of certain long-standing controversies regarding the morphosyntactic behaviour of Kwakwala.

A fundamental component of the current findings relates to identifying the full grammatical inventory of deictic categories in Kwakwala. Boas (1911, 1947) provides extensive documentation of the two deictic distinctions of 'prenominals' and 'postnominals'. In addition to his findings, this paper

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identifies that 'prenominals' are composed of three different elements of Case, Loc, and Det, and 'postnominals' of Vis in this paper. This paper also identifies an additional deictic distinction, a temporal category, based on time in the KP.

A further body of significant observations drives from word order variation. The inventory of deictic elements interacts with modifiers (adjective, adverb, quantifier) in the determiner phrase. Without any adjectival modifying elements (such as adverbs, adjectives or numerals), the linear order of a nominal phrase is Case >Loc > Det > Nominal > Temp > Vis. However, with the appearance of an additional modifying element, the word order becomes Case > Loc > Det > Adjective > Temp > Vis > Nominal. According to Anderson (1992, 1996, 2005), this variation in word order cannot be accounted for by either Syntax or Phonology but is rather explained by a morphological alignment of 'Special Clitics' in a second position. This paper departs from Anderson's analysis and proposes that the word order variation can in fact be accounted for syntactically by Head-to-Head movement.

The argument is organized as follows. Section 2 examines the Kwakwala deictic system in a nominal domain, and raises the question of how to account for the relative order of Case > Loc > Det > Temp > Vis and other variations of linear word order. In section 3, the argument follows that each deictic element heads its own functional phrase and that head movement can account for word order in a nominal phrase. Conclusion and further questions are provided in Section 4. All data are from the author's fieldnote otherwise with the reference of sources.

2 Nominal Deictic System in Kwakwala

This section discusses three deictic distinctions and their distribution in the determiner phrase in Kwakwala. Before going into a detailed discussion of the Kwakwala data, the general notion of deixis is briefly introduced.

Fillmore (1977), in his 'Lectures on Deixis', argues that lexical items and grammatical forms can be correctly interpreted only when they are properly anchored in a communication situation.

> "[s]ome social context ...Defined in such a way as to identify the participants in the communication act, their location in space, and the time during which the communication act is performed." [Fillmore 1977:59]

He calls this contextualized aspect of language *deictic*. According to him, deictic elements can only be interpreted by knowing certain situation-specific aspects of the communication act. He provides five sub-categories of deixis:

(1) Five categories of Deixis (Fillmore 1977:61)
Person deixis; the identity of the interlocutors in a communication situation

Place deixis, the speaker's perception of his position in three-dimensional space
Time deixis, the position in time of the speech act
Discourse deixis, the preceding and following parts of the discourse
Social deixis; the social relationships on the part of participants in the conversation

Proceeding from Fillmore's definition of deixis, this section investigates the Kwakwala deictic system. First, it is shown that Place deixis (here Loc) intersects with Person, in terms of proximity of the referent to 1st, 2nd, or 3rd person in the discourse context.

A further category, identified by Boas (1947) as marked in Kwakwala, is Visibility. Diessel (1999) includes this as a potential independent feature in his (1999) discussion:

> "[I]n addition to distance, demonstratives often encode a number of 'special' deictic features: they may indicate, for instance, whether the referent is visible or out of sight..." [Diessel 1999:50]

A third category, which contributes to the theoretical argumentation, but which no explicitly included in Anderson (1992, 1996, 2005) or Bach (2005)'s argumentation, is Time deixis (here Temp). Loc and Vis are discussed in a section 2.1 and Temp in 2.2 in detail.

2.1 Distribution of Location and Visibility

This section discusses the deictic system and the relative order of deictic elements in the KP with regard to the position of these deictic elements. Boas (1947) provides extensive documentation of nominal deixis in Kwakwala.

> '[T]he positions near speaker, near person addressed, and near person spoken of are distinguished and expressed by means of formative elements suffixed to the pronouns. These three forms are further distinguished as referring to visible and to invisible objects. Thus the third person has always a demonstrative character." [Boas 1947:251]

He notes that the third person pronoun has always a demonstrative character. While the third person pronoun has a different form respectively depending on its demonstrative character, the third person overt nominal has deictic elements separately. He distinguishes these deictic elements as *'Prenominal'* and *'Postnominal'* demonstratives, based on whether they appear before or after a nominal. The locational elements are distinguished as 'prenominal' and the visibility elements as 'postnominal'. Anderson (1984, 2005) also discusses these

two types of demonstratives and categorizes each type into 'simple clitics' and 'special clitics' respectively.
The 'prenominal demonstratives' by Boas are in fact morphologically complex and are here decomposed into four elements: Case, Loc, Det, and Vis in an order of 'Case > Loc > Det > Vis' as in (2) below.

(2) Case > Loc > Det > Vis[2]

Boas' 'prenominals'					Boas' 'postnominals'	
Case		**Loc**	**Det**		**Vis[3]**	
			Indef	*Det*	*Vis.*	*Invis.*
Subj. - Ø	1st.	- ga	-da	-Ø	-k,	-ga,
Obj. - χ	2nd.	- uχ	-da	-Ø	-eχ/-uχ	-aq̓/-a?
Instr. - s	3rd	- i (subj)	-da(subj)	-Ø	-Ø	-a, -i
		- Ø (obj/instr)	-a (obj/instr)			

A nominal is always preceded by a case marker to assign the subject, object, and instrumental functions within a clause. The initial consonants, -≈ and -*s* mark the object and instrumental case of following nominals while the subject is marked null. The linear sequence of Case, Loc, and Det are categorized as a 'prenominal demonstrative' by Boas.
Boas further divides 'prenominal demonstratives' into two categories: the distinction of 'Vocalic' and 'Consonantic' by the existence of a terminal -*(d)a*. According to him, 'Consonantic' without a terminal - (d)a is "used preceding proper names, indetinite nouns, and possessive forms of the third person when the possessor is a person different from the subject of the sentence." Bach (2005:13) interprets it as 'nondeterminative' for proper names, generics, and some possessed nominals. The present paper adopts Bach's proposal that the additional particles of the 'vocalic' and 'consonantic' demonstratives seem to encode the distinction of definite /Indefinite category distinction, respectively. The position of Det is stable, i.e. always suffixed to Loc. While each of the Loc. deictics is confirmed by the Kwakwala consultants during the author's fieldwork, some variations from Boas are found for the Vis. deictics. Examples are shown below.

(3) a. giGame?-ga — Billx
giGameỳ-Ø-ga-Ø — Bill-k
chief-Case-Loc(near 1st)-Det — Bill-Vis.
'Bill is a chief (near 1st. vis.)

[2] InDet. stands for 'inDetinite', Det. for 'Detinite', Vis. for 'visible' and Inv. for 'invisible'.
[3] For Vis. deictics, some gaps are found between the documentation in Boas and the data collected from two consultants during the author's fieldwork.

b. giGameẏuχ — Billχ
giGameẏ-Ø-uχ-Ø — Bill-χ
chief-Case-Loc(near 2nd)-Det — Bill-Vis.
'Bill is a chief (near 2nd. visible.)

c. giGameẏi — Billa
giGameẏ-Ø-i-Ø — Bill-a
chief-Case-Loc(near 3rd)-Det — Bill-Vis.
'Bill is a chief (near 3rd. invisible.)

d. giGameẏi — Bill
giGameẏ-Ø-i-Ø — Bill-Ø
chief-Case-Loc(near 3rd)-Det — Bill-Vis.
'Bill is a chief (near 3rd. visible.)

e. ƙaχpəndas — χgada — ƙadayuk
ƙaχpənd-as — χ-ga-da — ƙadayu-k
Sharpen-2sSu. — Case.-Loc (near 1st.)-Det — pencil-Vis
'Sharpen the pencil (near 1st, visible).

In (3), the location of the referent is encoded in Loc, providing information as to whether the referent is 'near 1st person (speaker)', 'near 2nd person (hearer)', and/or 'near 3rd person (other participants in the conversation or away from the conversation)'. In each of the utterance in (3), Vis, which encodes the visibility of the referent to the speaker, is suffixed to the nominal. In (4a) the 'man' without a marked Vis. is interpreted as visible by default while the man in (4b) is marked by the overt Vis.

(4) a. χ-Ø-a — bəgʷanəm-Ø
Case-Loc (near 3rd)-Det — man-Vis
'that (near 3rd person) man (visible)'

b. χ-Ø-a — bəgʷanəm-a
Case-Loc (near 3rd)-Det — man-Vis
'that (near 3rd person) man (invisible)'

'Visibility' of the referent indicates whether the referent is visible or not to the speaker during the conversation. For example, consider two people in conversation talking about the late father of the speaker, while referring to a photograph of the late father. Even though the 'late father' does not exist in the real world he is visible to the speaker *in the photo* and therefore his visibility is encoded and anchored to the 'postnominal' demonstrative as in (5a).

(5) heṁən — ʔumpẇəɬi — David
he-əṁ-ən — ʔump-ẇəɬ-i-Ø-Ø — David
That-nominal-poss(1st) — father-past-Case-Loc-Det — David

'that is my late father'

In (5a) the 'late father' is visible to the speaker. Note that no lexical elements are introduced to modify a nominal yet. Now consider the case where other elements, such as an adjective, modify a nominal as in (6).

(6) a. duχ^{w}id-a$^{?}$s χ-uχ-da ẇaladz-**eχ** bəg^{w}anəm
look-2ndSu Case-Loc (near 2st) -Det big-Vis man
'this big man'

b. *χuχda ẇaladz bəg^{w}anəm-**eχ**
c. *χuχda ẇaladz **-eχ** bəg^{w}anəm-**eχ**

In (6a), Vis, *-uχ*, is not in a post-nominal position any longer. Instead, it is suffixed to the preceding adjective. In this case, the notion of 'post-nominal' by Boas is no longer applicable since the motivation of labeling 'post-nominal' demonstratives comes from its position which is followed by a nominal. The word order in (6b) is not grammatical when the 'post-nominal' demonstrative is suffixed to the noun. The doubling of 'post-nominal' to both an adjective and a noun is also ungrammatical as in (6c). To summarize so far, it has been observed that Case, Loc and Det in this order precedes a nominal and all other modifying elements consistently while Vis is suffixed to the first lexical word in the KP.

Now consider the phrases in which additional elements, such as a numeral and adjective, intervene between Loc. and Vis.

(7) a. duχ^{w}ida$^{?}$s χuχda maɬuk^{w}eχ
duχ^{w}id-a$^{?}$s χ-uχ-da maɬ-uk^{w}-uχ
look-2ndSu Case-Loc(near 2nd)-Det two-LS(person)-Vis(near 2nd)

ẇalas bi-bəg^{w}anəm
big men (pl.)
'Look at these (near 2nd p.) two big men'

b. *χuχda maɬuk^{w} ẇalas bibəg^{w}anəm-**eχ**
c. *χuχda maɬuk^{w} ẇaladz-**eχ** bibəg^{w}anəm
d. *χuχda *-eχ* maɬuk^{w} ẇaladz bibəg^{w}anəm

The example (7a) shows that a nominal phrase begins with the sequence of Case, Loc, and Det., '*-χuχda*', while the numeral *maɬ*'two' is followed by Vis, *-eχ*. In (7b), however, with the presence of an adnominal, such as an adjective or numeral, the sequence of Case, Loc, and Det does not attach to the noun as in (7b). If a 'post-nominal' demonstrative attaches to an adjective or a 'prenominal' demonstrative, then ungrammaticality is caused as in (7c) and (7d).

Among previous works, Bach (2005) follows Boas' terminology while Anderson (2005) categorizes 'prenominals' as simple clitics, 'postnominals' as

special clitics. The following table (8) provides comparisons of different labeling of these elements.

(8)

Boas (1947)	Anderson (2005)	Bach (2005)	Current claim
Prenominals	Simple clitics	Prenominal deictic	Case, Loc, Det
Postnominals	Special clitics	Postnominal deictic	Vis

What this section was shown is that nominal deictics, Case, Loc, Det and Vis, are discussed with a focus on their morphological distribution and position in relation to nominals and to other lexical elements. The sequence of Case, Loc, Det always precedes all other elements in a nominal phrase while Vis is suffixed to a first lexical word in a nominal phrase. In the next section, one more deictic category in a nominal domain, Temporal, will be discussed.

2.2 Temporal Deixis

Besides Case, Loc, Det and Vis, which were first identified by Boas, this paper identifies an additional deictic feature in a nominal domain, that is, a Temp(oral) deixis. This Temp in a nominal domain has not been discussed in previous literatures. This paper shows that a nominal is also marked for time. Consider the following phrases.

(9)

a. χuχda — gukʷeχ
χ-uχ-da — gukʷ-eχ
Case- Loc (near 2nd)-Det — house-Vis.
'that house (near 2nd person, visible)'

b. χuχda — gukʷƛeχ
χ-uχ-da — gukʷ-ƛ-eχ
Case- Loc (near 2nd)-Det — house-Temp(future-to-be)-Vis.
'that future-to-be house (near 2nd person, visible)'

c. χuχda — gukʷẇəɬeχ
χ-uχ-da — gukʷ-ẇəɬ-eχ
Case- Loc (near 2nd)-Det — house-Temp(used-to-be)-Vis.
'that used-to-be house (near 2nd, visible)'

In (9a) the context is that we are looking at a building which is finished and currently being used as a house. In (9b), we are looking at a building which is under construction and will be used as a house in the future. In (9c), the building was used as a house a long time ago but is no longer used as a house. Nominal phrases above all begin with Loc and the nominal is followed by Temp and Vis in an order of Temp > Vis.

Sentences and nominal phrases without overt tense markers are interpreted as either past or present, as in (10).

(10) a. qəqəlkʸ-ən
tired- 1sSu..
'I am tired.'

b. digil-as qaʔ-ən
making tea-2sSu. for -1s.Obj.
'You making tea for me.'

c. la-m-ən p̓əxʸid-a
Aux-Nom-1sSu. taste-verbal ending
'I tasted it.'

A main predicate with future temporal suffix marked is interpreted only as a future sentence, as in (11b).

(11) a. həm̓apən
həm̓ap-ən
eat-1sSubj.
'I am eating / I just ate'

b. ham̓əpχən
ham̓əp-χ-ən
eat-FUT -1sSu.
'I will eat'

The same temporal morphemes can mark either in clausal or nominal domains. Boas lists 6 temporal suffixes in a clausal domain but he does not include them in 'prenominal/postnominal' categories.

(12) *Temporal suffixes from Boas (data from Boas 1947:240-241)*

a. *-oɬ, wəɬ;* remote past
e.g. ʔump-ẇəɬ 'the late father'

b. *-xʔid*, recent past
e.g. ʔaχʔa-xʔid 'place where he had been'

c. *-χ* future
e.g. xʷaǩʷəna-χ 'a future canoe'

d. *-xde* transition from present to past
e.g. waɬdəmxde 'what he had said'

e. *-ayadzəẇaɬ* used to be, used to do
e.g. χiq̓inuxʷ-ayadzəẇəɬ 'used to be a canoe-builder'

f. *-a(y)agoɬ* to have been done
e.g. χig-ayagoɬ 'one who had made a canoe'

Overt temporal morphemes are used both in main predicates in (13a) and inside noun phrases as in (13b).

(13) a. giGameẏuɬi Billa
giGameẏ-ə́ɬ Ø-i-Ø Bill-a
chief-Temp(the late)-Case-Loc-Det Bill-Vis.
'Bill was a chief (near 3rd, invisible) long time ago'

b. ɬaxʷəlanukʷẇaɬənuʔχʷa sa giGameẏuɬa
ɬaxʷəlanukʷ-ə́ɬ-ənuʔχʷ-a s-Ø-a giGameẏ-ə́ɬ-a
love-Temp (past)-1st pl.-ACT Case-Loc-Det chief-Temp-Vis.
'we loved the late chief (inv.)'

c. ɬaxʷəlanukʷẇaɬənuʔχʷa sa giGameẏa
ɬaxʷəl-anukʷ-ə́ɬ-ənuʔχʷ-a s-Ø- a giGameẏ-a
love -1st pl.-Temp (past)- ACT Case-Loc-Det chief-Inv.
'we loved the (current) chief (inv.))'

d. ɬaxʷəlanukʷẇaɬənuʔχʷa sa giGameẏa
ɬaxʷəl-anukʷ-ə́ɬ-ənuʔχʷ-a s-Ø- a giGameẏ-a
love -1pSu..-Temp (past)- ACT Case-Loc-Det chief- Invis
'we loved the (current) chief (inv.)'

e. * ɬaxʷəlanukʷẇaɬənuʔχʷa sa giGameẏuƛa
ɬaxʷəl-anukʷ-ə́ɬ-ənuʔχʷ-a s-Ø- a giGameẏ-ə́ƛ-a
love -1st pl.-Temp (past)- ACT Case-Loc-Det chief-Temp-Vis
'we loved the future-to-be chief (inv.)'

In (13a), a nominal predicate *giGameẏ* is followed by a temporal suffix while the same temporal suffix also appears in a nominal phrase, as in (13b). The temporal interpretation of nominal phrases is independent of the tense in the main clause, as in (13d), encoding temporal information explicitly on noun phrases. Without the presence of Loc, (14a) is identified as a main clause with a nominal predicate, *gukʷ*. In this case Temp provides the temporal information on the main clause while a nominal, *gukʷ*, in (14b), has a specific future time interpretation. Note that Kwaḵwala does not have a copular verb.

(14) a. gukʷƛi
gukʷ-ƛ-i
house-Temp -3sSu.
'It is going to be a house.'

b. duχẇid-as χ-uχ-da gukʷ-ƛ-uχ
look-2sSu. Case-Loc- Det house-Temp(future)-Vis (vis.)
'Look at the future-to-be house (near 2nd, visible)'

In a previous section we examined word order variation in a nominal phrase in relation to the presence of numerals and adjectives. Now consider the temporal-marked nominal phrase with the presence of an adjective and a numeral.

(15) a. χuχda ẇaladzɪƛuχ gukʷ
χ-uχ-da ẇaladz-ƛ-eχ gukʷ
Case-Loc(near 2nd)-Det big-Temp-Vis house
'that (near 2nd big future-to-be house (near 2nd, visible)

b. χ-uχ-da maɬ'-ƛ-uχ ẇalas gəgukʷ
Case-Loc(near 2nd)-Det two-Temp-Vis big house (pl.)
'these two big future-to-be houses'

c. *χuχda ẇaladzɪƛ gukʷuχ
d. *χuχda ẇalas gukʷƛuχ
e. *χuχdaƛuχ ẇalas gukʷ

In (15a), the Case Phrase begins with the sequence of Case, Loc and Det, and a sequence of Temp and Vis attaches to an adjective or to a numeral, as in (15b). All other possible combinations of word order in a nominal phrase are ungrammatical, as in (15c, d, and e).

The possible deictic markers in a nominal phrase are summarized in table (16) below. Note that Boas does not discuss the temporal with regard to interactions with the other deictic elements, Loc and Vis, in a nominal domain.

(16) Case, *Loc, Det, Temp, Vis in a nominal domain*

Demonstratives for 3rd person	Case	Loc	Det	Temp	Vis
1-vis.	-Ø -χ -s	-ga	-(d)a - Ø	-ẇəɬ 'used-to-be' -Ø 'present' -ƛ 'future-to -be' etc. (as in (12))	-kʷ/-eχ
1-invis.					-ga/-uχ
2-vis.		-uχ			-eχ
2-inv.					-uχ
3-vis.		-i			-i/-a/-Ø
3-inv.					-a/-i

This paper assumes that Loc, Vis, and Temp are all obligatory in a nominal domain. When Vis and Temp are left unmarked in a nominal domain, they are interpreted as 'present/past tense' and 'visible' respectively. So far we have seen all possible deictic elements in nominal phrases in terms of their morphological distribution. This is summarized by the following generalizations, in (17) and (18).

(17) *The linear order of the deictic elements relative to each other*
Case > Loc > Det > Temp> Vis

(18) *The linear order of the deictic elements relative to noun*
a. [Case [Loc [Det [Noun [Temp [Vis]]]]]]
b. [Case [Loc [Det [Adjective [Temp [Vis $_{NP}$[Noun]]]]]]
c. [Case [Loc [Det [Numeral [Temp [Vis [Adjective [Noun]]]]]]]

From the generalizations in (17) and (18), this paper raises two separate questions; (i) what is the syntactic category of each deictic element? and (ii) how can account for the linear word order with regard to the nominal in the interaction with other lexical elements such as adjectives or numerals.
This paper argues that each deictic element, Case, Loc, Det, Temp and Vis, is the head of its own functional phrase. Each head is base-generated in higher positions than NP in an hierarchical order of Case > Loc > Det > Vis > Temp. It is also argued that the functional projection of Numeral Phrase and Adjective Phrase are realized between deictic phrases and a nominal phrase. The paper analyzes that the linear order of the deictic elements relative to the noun is obtained by Head-to-Head movement. In the next section, I will provide the proposed analysis in more detail.

3 Analysis

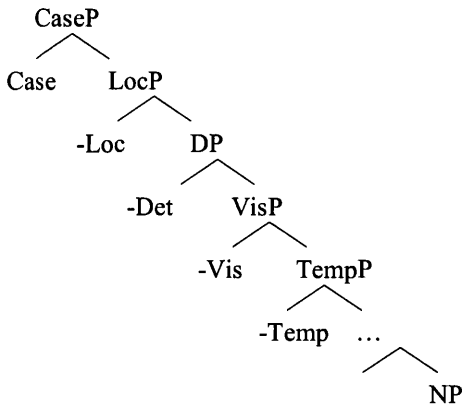
3.1 Hierarchical organization of the deictic phrases

The previous section has shown that there are three types of deictic elements in a nominal phrase in an order of Loc > Vis > Temp. It is also shown that they are all overtly marked to specify the deictic information on a nominal. Even when Vis and Temp appear unmarked, they have default interpretations for 'present/past' tense and 'visible' respectively. From this observation, this paper argues that each deictic category occupies the head position of its own functional projection.

This paper adopts the claim that there are several functional heads between the determiner and its NP-complement (Abney,1987; Ritter1991,1992; Giusti1992; Cinque1993, 1996) Furthermore, Hawkins (1983), Greenberg (1963) and Cinque (2005) among many others argue that the possible orders of the four elements such as demonstrative, numeral, adjective, and noun conform to the order Dem > Num > A > N.

Adopting this generalization, this paper assumes that syntax conditions the internal order of a nominal phrase underlyingly, and then other processes, such as movement, take care of the surface order later. Each functional head of the modifiers precedes the noun in the underlying structure (e.g. demonstrative, numeral, adjective).

(19) *Functional projections of the deictic Phrase in Kwakwala nominal phrases (preliminary).*



This paper argues that Case, Loc, Det, Vis and Temp are obligatory elements modifying nominals and that CaseP is the maximal projection of a nominal domain. Under the CaseP, the LocP occupies the position of demonstrative, hosting the DP. This argument agrees with Greenberg's (1978, 1991) where he argues that the universal word order in the DP is stated as demonstrative > definite article > non generic article > noun marker. The ordering of demonstrative > determiner in Kwakwala is analogous to that of English.
As discussed in a previous section, one of the differences between a clause and a nominal phrase is in the presence of Case at the beginning of the phrase, as in (20b), while no Case appears at the beginning of a clause as in (20a).

(20) a. gug^{w}adən
gug^{w}ad-ən
house-1sSu.
I have a house.

b. χ-a-Ø guk^{w}-Ø-Ø
Case-Loc(near 3rd)-Det house-Temp(present)-Vis
'the (current) house (near 3rd p. visible)'

In (20a) 'gug^{w}ad' is a nominal predicate while it is a noun in (20b). In (20b) Case hosts the NP complement and serving as a determiner as in 'this' and 'that' in English.

Sentences or nominals without overt tense morphology are always interpreted as either past or present (see examples in (10) and (11)). A similar property of tense morphology is observed in St'át'imcets by Matthewson (2003). She argues that St'át'imcets sentences without overt tense morphemes contain a phonologically null, that is, underspecified tense morpheme. This paper adopts her claim and argues that Temp in a Kwakwala nominal is always occupied by

an overt or covert temporal morpheme. Temp is an obligatory position in Kwakwala nominal phrases and temporal interpretation is syntactically construed in a Temp position. This paper assumes that the DP in Kwakwala is clausal. Since Abney (1987), the Clausal DP-Hypothesis, the hypothesis that the nominal layer displays the same structure as the clausal layer, has received considerable attention. Adopting this standard assumption, this paper argues that the DP in Kwakwala also displays the clausal properties of CP (see Wojdak 2005), as in (21).

(21)

The deictic feature of Visibility also carries overt morpheme, heading its own functional head. The paper assumes that the VisP provides some discourse function within a clausal DP, occupying a higher position than a TempP.

In the next section, I will argue that Head-to-Head movement determines relative word order with regard to an interaction with lexical elements such as adjectives and numerals.

3. 2 Head-to-Head Movement

In section 2, this paper has shown that the relative word order in a nominal phrase is varied as follows:

(22) *The linear order of the deictic elements relative to a noun*

a. Loc > Noun > Temp > Vis

b. Loc > Adjective >Temp> Vis > Noun

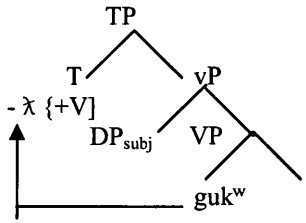
c. Loc > Numeral > Temp> Vis > Adjective > Noun

While the relative order of Loc, Vis and Temp is not changed, the sequence Loc and Temp is broken by an intervening word, such as a noun, adjective or numeral. This paper proposes that Head-to-Head movement takes place to derive the linear word order.

Stowell (1996) argues that tense is predicative. According to his argument, predicative elements must have the categorical feature [+V]. The Temporal element in Kwakwala is suffixal. For this temporal suffix to be realized as a predicate, it should be attached to a predicative host in order to be interpreted as a predicative entity in a clausal structure as in V-to-T movement in English. This paper assumes that the same process takes place in a clause domain in Kwakwala, as in (23).

(23) a. $guk^{w}\lambda$ən

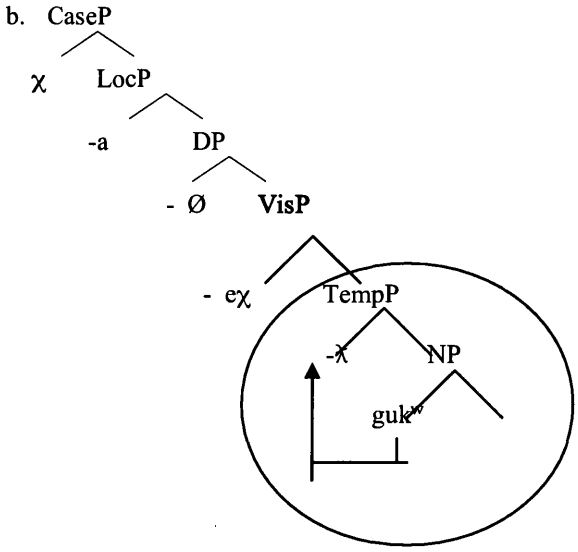
b.



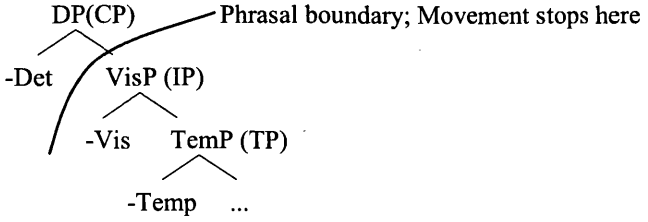
A main clause with a nominal predicate, as in (23a), is derived in a way that a nominal predicate *guk*^{w} moves and adjoins to T as in (23b). This paper suggests the VSO word order in Kwakwala is derived by V-to-T movement. Furthermore, it is proposed that TempP in a nominal domain is structurally parallel to TP in a clause. That is, Predicate-to-T movement is what happens in a nominal domain to derive the linear word order, as in (24). The circled TempP domain in (23b) is analogous to a TP in a clause, as in (23b). In the presence of Vis and Temp, the surface word order cannot be obtained without movement.

(24) a. χa — $guk^{w}\lambda$-eχ
χ-a — guk^{w}-λ-eχ
Case-Loc (near 3rd p.) — house-Temp(future)-Invis

b.



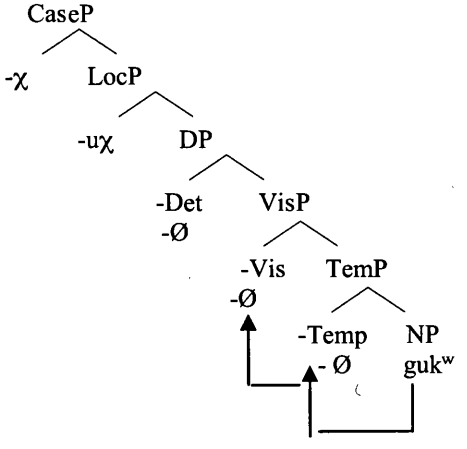
c.



The linear word order in a nominal domain as in (24a) is derived in a way that the closest head under TempP moves and adjoins to T as a predicative host, as in (24b). The adjoined element in Temp moves to Vis to check the feature of Visibility cyclically as in (25b), deriving the linear word order in a nominal domain. Given that DPs and CPs possess parallel functional structure, as argued in section 3.1, this paper argues that VisP is the phrasal boundary where movement cannot proceed any higher as in (24c).

(25) a. χ-uχ-Ø guk^{w}
Obj-Loc-Det house
'that (near 2nd) house'

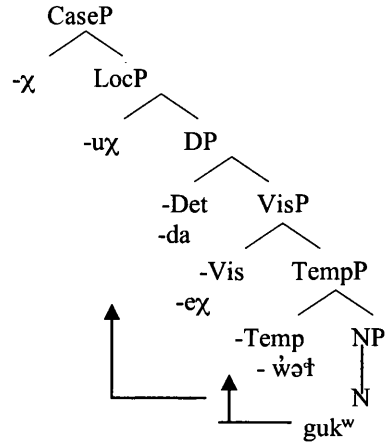
b.



In (25), since a nominal is not marked with a Temp and Vis overtly, it is not clear whether movement actually occurs. Consider the following phrase with an overt Vis and Temp.

(25) a. χ-uχ-da guk^{w}-ẇəɬ-eχ
Case-Loc-Det house-Temp (past)-Vis
'the used-to-be house (2-vis)'

b

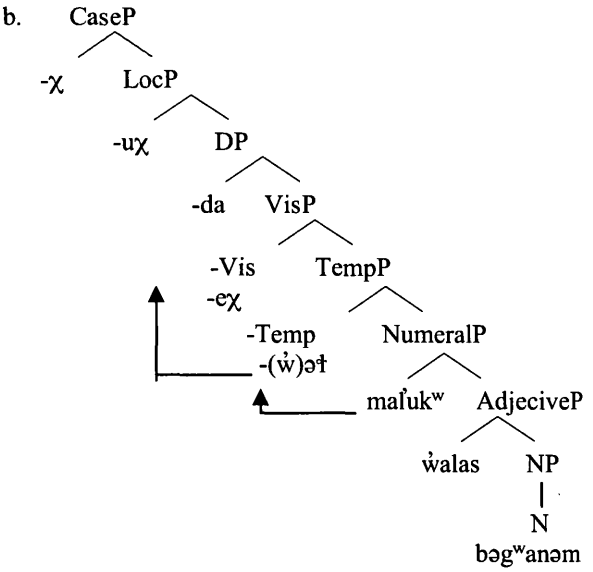


c. *χ-uχda **ẇəɬ-eχ-guk^{w}**

In (26b), without cyclic Head-To-Head movement, the nominal phrase is ungrammatical, as in (26c). A noun (predicative noun) moves to T position. The closest head under TempP, *guk^{w}*, moves to Temp and checks the tense feature first, and then it continues to move and adjoins to Vis, resulting in the linear word order.

Now consider a structure with the presence of both a numeral and an adjective in a nominal phrase.

(27) a. χ-uχ-da maɬ̓uk^{w}-əɬ-eχ ẇalas bibəg^{w}anəm
Case-Loc-Det two-Temp-Vis big man (pl.)
'the two (passed-away) big men' (2-vis.) (context: pointing at the photo of two men who passed away)



In (27a), each deictic phrase is base-generated in a position higher than a noun, and then the first predicative element, *maɬ* moves and joins to the head of the TempP, deriving the correct word order in a nominal phrase. The head of the NumeralP, that is immediately below VisP, moves and joins to the TempP, successfully deriving the correct word order.

In this section, the relative order of Loc > Vis > Temp is established in a hierarchical order in Head syntax and the relative word order in a nominal phrase with interaction of other lexical elements such as Numeral and Adjective is derived by Head-to-Head movement. In the next section, I will discuss the previous analysis by Anderson (1992, 1996, 2005). This paper argues against Anderson's (1992, 1996, 2005) where the variation in word order cannot be accounted for by either syntax or phonology, but instead by a morphological alignment of 'Special Clitics' in a second position

4. Conclusion and further questions

I have argued that the syntactic and morphological distribution of the demonstratives is as follows: Loc > Vis > Temp. Each demonstrative heads its own functional projection and modifies a nominal. When a nominal is modified by a series of demonstratives, a variation of word order is observed. This paper argued that T is the anchoring position of a predicate to check T feature. The first head of the Predicate moves and adjoins to the head of T, deriving the linear word order of DP in Kwakwala. The conclusions reached in this study raise a number of questions of considerable theoretical interest for further research to determine what motivates the hierarchical order in Loc > Vis > Temp.

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