Analyzing the Structure of Urdu NPs with Multiple Genitives

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ABSTRACT

In this article the syntactic structure of those noun phrases of Urdu is explored in which there are multiple instances of genitive marked elements. The structural ambiguities in such phrases are described. It is shown that only the attributive genitive modifiers stack together at the same level to modify the head noun otherwise there is always a hierarchical structure for the genitive modifiers. The nominal which license genitive marked arguments are described and their classification is given. This classification will help building an enriched lexicon for the development of a computational grammar for Urdu.

Introduction

The form *kaa* in Urdu-Hindi originated from the past participle form of the Indo-Aryan verb *kar-_do*. It inflects for gender, number and case and agrees with the head noun: *kaa* (M.Sg.Dir), *ke* (M.Sg.Obl/M.Pl), *kii* (F). (Payne J., 2004) This form is traced back to a Prakrit past participle form *keraa* that is further traced back to Sanskrit past participle form *kritaa*. The evidence for it is provided by Beames (1996) who has given the example, *kapi-kritamvacanam _* speech made by monkey or alternatively _speech of the monkey'. The inflected forms *keraa*, *kerii*, *kere*were in use in old Hindi. The possessive/genitive forms of pronouns were made by adding these forms to them. Later the first syllable of these forms was lost and only the second one was retained with some forms of the pronouns and hence Hindi-Urdu now uses *meraa*, *teraa*, etc. as possessive pronouns. But with some other forms of pronouns and all nouns the forms *kaa*, *kii, ke* began to be used.

Based on some tests to distinguish affixes and clitics by Miller (1992), Zwicky (1987), Butt and King (2004) have analyzed these forms as clitics. One of the tests is that these have scope over noun coordination and the other is that some other element can intervene between these endings and the nominal host. The most frequent use of these clitics is that they mark possessive nouns, that is, these generally express possession or have-a relation. Consider the following instances of genitive phrases.

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(1) a.   کتبة کی ذاؑ
   nidaa=kiikitaab
     Nida.F.3Sg=Gen.F book.F.3Sg

   ‚Nida'sbook' b.   قسّبک کتبة
   kitaab=kaavarq
     book.F.3Sg=Gen.M.3Sg page.M.3Sg
     ‚The page of a book'

Both of instances in (1) show a *have-a* relation. Although the genitive markers are hosted on the modifier noun, these show agreement of number and gender with the head noun. Another requirement for a genitive phrase to be grammatical is that the host of the genitive marker should be in oblique form. If some genitive phrase hosts a genitive marker then both the head noun and the genitive marker in the host genitive phrase will be in oblique form.

(2) a.   بؑلْکِ کب بچےٹ bacce=kaakHilonaa
   child.M.3Sg.Obl=Gen.M.3Sg.Dir
   toy.M.3Sg.Dir
     ‚A child's toy'
   b.   تویل کی ےؑکِلْ کے بچےٹ

   [bacce=kekHilone]=kiiqiimatchild.Obl=Gen.Obltoy.Obl=Gen.F
   price.F
      ‚The price of a child's toy'

In (2a) the host of the genitive marker baccaa ‚child is in its oblique form. When the whole genitive phrase in (2a) hosts another genitive marker as in (2b) then both the head noun kHilonaa ‚toy and the genitive marker kaa in the phrase become oblique. Such is the morpho-syntactic behavior of genitive markers in Urdu. In addition to possession there are so many other relations that are expressed by genitive markers. (Platts, 2002) To explore all these relations is not in the scope of this paper. The rest of the paper is organized as follows. Section 2 analyzes the structure of genitive phrases with multiple instances of genitive marked nouns. Section 3 describes the genitive marked arguments with the verbal elements and provides the classification of nouns based on genitive marked arguments. An implementation in the LFG (Lexical Functional Grammar) framework is discussed in section 4. Section 5 concludes the paper.

Structure of Genitive Phrases with Multiple Genitive Modifiers

Both flat and hierarchical structures of genitive phrases with multiple instances of genitive marked nouns are possible. Consider[1] the following example.

(3) a.   ى کی چِبَدی کی اَکُٹِیگَّل

alii=kiicaañdii=kiiañguuTHii
Ali=Gen.F silver=Gen.F ring.F.3Sg
 ˌAliʻs silver-ring' OR ˌThe
ring of Aliʻs silver' b. ذا کب غُۓۓ کب
 گُگیnidaa=kaasone=kaakañgan
Nida=Gen.Sggold.Obl=Gen.Sgbracelet.M
 ˌNidaʻs golden ring'

For (3a), the following three bracketing structures could all be assumed.

(i) [alii=kii [caañdii=kiiañguuTHii]]
(ii) [[alii=kiicaañdii]=kiiañguuTHii]
(iii) [alii=kiicaañdii=kiiañguuTHii]

The first two are the plausible structures for the genitive phrase and are both hierarchical. In (i) the head noun *añguuTHii* ˌring is modified by the genitive marked element *caañdii=kii* ˌof silver and then the resulting genitive phrase is modified by another genitive marked element *alii=kii* ˌof Ali'. In the second bracketing structure (ii), first the noun *caandii* ˌsilver is modified by *alii=kii* ˌof Ali and then the genitive marker is attached to this phrase to modify the head noun *añguuTHii* ˌring'. In (iii) the head noun *añguuTHii* ˌring is modified by two modifiers *alii=kii* ˌof Ali and *caañdii=kii* ˌof silver'.

   Three structures for a noun phrase with two genitive modifiers are not always possible. For example in (3b) the bracketing structure [[nidaa=kaasone]=kaakañgan] is not possible due to morpho-syntactic behavior of the genitive markers. Here, a genitive marker is supposed to be attached with another genitive phrase *nidaa=kaasone* ˌNida's gold in which the genitive marker *kaa* does not show the agreement of case with the head noun *sone* ˌ gold. So the hierarchical structure like (ii) cannot be assumed for (3b).

 The flat structure for both instances in (3) is not plausible in that the two genitive modifiers cannot alternate their positions (4). So we cannot say that the two modifiers are modifying the head noun at the same level.

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[1]In the transcription scheme, consider ˌaʻ, ˌiʻ, ˌuʻ as short vowels and ˌaaʻ, ˌiiʻ, ˌuuʻ as long vowels. The equal symbol ˌ=ʻ marks a clitic boundary. Glosses used in this paper are as follows: 1,2,3 stand for 1st, 2nd and 3rd person, respectively; Gen=genitive, Dir=direct case, Obl=oblique case, Sg=Singular, Pl=Plural, Inf=Infinitive.

(4) a. * چبّڈی کی گُلی کی اَگُّھِی

    *   caañdii=kiialii=kiiañguuTHii   silver=Gen.F.Sg

Ali=Gen.F.Sgring.F.Sg

    ‗Ali‘s silver ring‘

b. * غُنَّے کبّذا کب گُگی

    *   sone=kaanidaa=kaakañgan

gold=Gen.M.SgNida=Gen.M.Sgbracelet.M

       ‗Nida‘s golden bracelet‘

One can argue that (4) is ungrammatical rather due to another reason that the possessive modifier is not the most prominent (the outer most). In (5) there is no possessive modifier and still only one order (5a) of genitive marked elements is grammatical. Some more instances of genitive phrases where a flat structure of genitive modifiers is not possible are given in (6).

(5) a.   هلتبی کے هڈی کے ٹُشتی

multaan=kemaTTii=kebartan

    Multan=Gen.M.PL clay=Gen.M.Pl pot.M.Pl

    ‗Ceramic   pots   of

Multan‘   b. * کے ٹُشتیهڈی کے

  هلتبی

    *   maTTii=kemultaan=kebartan   clay=Gen.M.Pl

Multan=Gen.M.Pl pot.M.Pl

     ‗Ceramic pots of Multan‘

(6) a.   گُلی کی ٹِیی کی اَگُّھِی

alli=kiibiivii=kiiañguuTHii

Ali=Gen.F wife=Gen.Fring.F.Sg

    ‗The ring of Ali‘s

wife‘   b. گُلی کی گِھڑی کی

لیوت

  alii=kiigHaRii=kiiqiimat

    Ali=Gen.F watch=Gen.Fprice.F.Sg

    ‗The price of Ali‘s watch‘

The noun that opens a position for another nominal is called the relational element. (Seiler, 1983) The noun *biivii* ‗wife in (6a) is a relational element and the modifier *alii=kii* makes a constituent with this noun. In (6b) the head noun *qiimat* ‗price actually is an attribute and this attribute can only be of *gHaRii* ‗watch‘. So (6a) and (6b) both have hierarchical structures as illustrated below.

(i) [[alii=kiibiivii]=kiiañguuTHii]
(ii) [[alii=kiigHaRii]=kiiqiimat]

The hierarchical structure could be deep on either side depending upon the semantics of participants in genitive phrases.

Attributive Genitive Modifiers

The list of some attributes and their examples is given in Table 1. Attributive genitive modifiers here are taken to be those genitive modifiers which result after adding a genitive marker to some attribute of the head noun. More than one attributive genitive element can modify the head noun at the same level. That is, a genitive phrase with multiple attributive genitive modifiers has a flat structure.

Table 1. Attributes

SN.	Attribute	Example/Value
1	Material	gold, clay
2	Price	10 rupees, low price
3	Size	small size
4	Height	tall height
5	Color	red color
6	Weight	3 kilograms
7	Age	20 years

Consider the following instances of genitive phrases with multiple instances of attributive genitive modifiers.

(7) a. لوجے لذ کی گُسے سَگ کی لڑکی
]lambeqad=kii[   ]gore rañg=kii[laRkii
tall   height=Gen.F white color=Gen.Fgirl.F
ʿThe girl of tall height and white
colourʾ   b. لیپ کب ضعبئض ے ٹْچ چ کب تلیوت کن
ٹَبپ
]kamqiimat=kaa[ ]cHoTe size=kaa[laptop
low price=Gen.M small   size=Gen.Mlaptop.M
ʿA laptop of low price and small sizeʾ

In both (7a) and (7b) the order of genitive modifiers can be alternated without changing the truth conditional meaning. My claim is that only attributive genitive modifiers can stack together in a flat structure in Urdu. Furthermore, attributive genitive modifiers show a syntactically similar distribution as adjectival modifiers. The instances in (7) can be uttered with adjective modifiers as in (8).

(8) a. لوجی گُسی لڑکی

lambiigoriilaRkiitall.F.Sgwhite.F. Sg girl.F.3Sg

‗The tall and white girl'

b. عغنتب چ ْ ٹب لیپ ٹپپ

sastaacHoTaa laptop

cheap.M.Sgsmall.M.Sglaptop.M.Sg

‗The cheaper and smaller laptop'

Like adjectival modifiers (9), the attributive genitive modifiers also modify the head noun (10) and that these cannot modify other genitive phrases. With this argumentation it is clear why example phrases in (4) and (5b) are ungrammatical.

(9) a. گلی کب ٹڑا کوشۂ

alii=kaabaRaakamrah

Ali=Gen.Mbig.Mroom.M.Sg

‗Ali's big

room' b. * کوشۂٹڑا

گلی کب

* baRaaalii=kaakamrahbig.M.

Ali=Gen.Mroom.M.Sg

‗Ali's big room'

(10) a. پیِّے کب طبف پیَّی

piine=kaasaafpaaniidrink.Inf=Gen.M clean

water.M.Sg

‗Purified drinking-

water' b.? طبف پیِّے کب پیَّی

? saafpiine=kaapaanii

clean drink.Inf=Gen.Mwater.M.Sg

‗Purified drinking-water'

In (9b) the adjectival modifier *baRaa* ‗big'is not modifying the head noun *kamrah* ‗room'. We cannot suppose that this adjective is modifying the possessor noun because in that case it should have been in oblique form to agree with *Ali*, which is oblique given that it is hosting a genitive *kaa* on the possessor noun phrase. As the adjective cannot modify the genitive phrase *alii kaa kamrah* ‗Ali's room', the whole phrase becomes ungrammatical. The phrase in (10b) can only be grammatical if the phrase *pine kaa paanii* ‗drinking-water is considered as a unit. As in English the phrase *every men's room* is acceptable because *men's room* is considered as a noun-noun

compound involving the possessive morpheme and *every* takes *men's room* as a unit for its complement. (Baker, 1995)

Sometimes ambiguity is generated as to whether the genitive attributive modifier before the material genitive modifier is for the material of the head noun or the head noun itself (11a). If the material genitive modifier is placed before any other genitive attributive modifier (11b) then no such ambiguity is generated.

(11) a.   سرخ رنگ کی لکڑی کی میز

Rang kii lakRii kii mez
red color=Gen.F wood=Gen.F table.F.Sg
_The table made of red wood OR
_The red table made of wood'

b.   لکڑی کی سرخ رنگ کی میز
surx rang kii mez   wood=Gen.F red
color=Gen.Ftable.F.Sg
_The red table made of wood'

When both adjectives and attributive genitive modifiers are present in noun phrases then attributive genitive modifiers are placed near the head noun after the adjectives (12).

(12)   ندا کا لال رنگ کا خوبصورت لباس
rang   kaaxuub-suurat libaas Nida=gen   red
color=Gen beautiful   suit
_Nida's beautiful red suit'

(13) a.   کم قیمت کا لیپ ٹاپ
low   price=Gen laptop
_A laptop of low price'   b.   پندرہ سو روپے
کا لیپ ٹاپ pandrah sao ropai kaa
laptop   fifteen hundred rupee=Gen laptop
_A laptop of fifteen hundred rupees'

(14) a.   قیمت کا علم
price=Gen knowledge   _Knowledge of the price'

b.   سو روپے کی قیمت
hundred rupee=Gen price   _Price of one hundred rupees'

If a genitive marker is added to some specified attribute (13a) or some value of attribute (13b), in both cases it will be considered as an attributive genitive modifier, provided the modified noun is not an abstract one. In (14a) and (14b) the modified nouns are abstract and therefore modifiers in such cases are not attributive genitive modifiers. The *is-a* relation is expressed in (14b).

The *part-whole* relation with a genitive construction is expressed by marking the *whole* with the genitive marker but the other way round is also possible in Urdu. In the latter case the *part* before hosting the genitive marker is modified by some adjective/quantifier and it acts like attributive genitive modifiers (15a-b).

(15) a.   ایک ٹَیَگ کب ہشغب
    ektaañg=kaamurQaa
    one leg=Gen.Mrooster.M
       ‚The rooster of one leg'
  b.   بپیلے سَگ کب دّ پِشّ کب یہ پُکِ
    piilerañg=kaa   do paroñ=kaayihpañkHaa
    yellow colour=Gen two wing=Gen this fan
    ‚This fan of yellow colour and of two wings'

So far, in this section, multiple instances of genitive modifiers have been explored and the analogy of attributive genitive modifiers with adjectives was described. Multiple genitive arguments of nouns are discussed in the next section.

Nominals and Genitive Arguments

Some nouns like *brother*, *child*, *enemy*, *edge*, etc., are supposed inherently relational, (Partee & Borschev, 2003) taking the genitive arguments in English and many other languages but the clearest cases of arguments in noun phrases are found in some nominalization. The relationship between nouns and verbs was established first by Chomsky (1970), when he showed that verbs and nouns seem to share complement-taking properties (16).

(16) a. The enemy destroyed the city.
  b. The enemy's destruction of the city.

One basic difference between the argument structure of verbs and nouns is that verbs can take bare NPs as their arguments but the nouns cannot take bare NPs as their arguments. First it was believed that nouns take arguments only optionally (Anderson, 1983-1984). Later it was shown (13) by Grimshaw (1990) that many nouns have two senses or interpretations. In one sense they denote complex events and take arguments obligatorily and in another sense they denote simple events and do not necessarily take arguments. In the first sense they are called process nominals or derived nominals (14) and in the later sense they are called result nominals. Later in this section, it will be examined whether this distinction also exists in Urdu or not.

In Urdu, infinitives are used to construct clauses and are also used as nominals. Butt (15) has debated whether infinitive clauses in Urdu are equivalent to finite clauses or whether they are nominalizations or gerunds. Bhatt (2005) (16) proposed that infinitives can be projected without a subject but Davison (2008) (17) recommended only full clause structure for Urdu infinitives. She provided evidence for the presence of projected syntactic subject in infinitive clauses, even if it is not pronounced.

In this paper Urdu infinitives as nominals will be explored as to what types of genitive arguments they can take. Consider the example phrases of infinitival nominals in (17).

(17) a.   ایٗڈٗي کب جَلُّب
iiñdHan=kaajalnaa
fuel=Gen.Mburn.Inf
        ‗burning of fuel'
b.   هشيغ کب کِئُغُّب
mariiz=kaakHaañsnaa
patient=Gen.Mcough.Inf
        ‗Coughing   of   the
patient'   c. ٗذا کب دیکِنُّٗب
nidaa=kaa   de   kHnaa
Nida=Gen.Msee.Inf
        ‗Seeing of Nida/ Seeing by
Nida'   d. گٗلی کبٗذا کْٗ دیکِنُّٗب
alii   =kaanidaa=kodekHnaa
Ali=Gen.MNida=Accsee.Inf
        ‗Seeing of Nida by Ali'

For both unaccusative intransitive verbs (17a) and unergative intransitive verbs (17b), the subject argument (the theme in the first case and the agent in the latter case) of the nominal is marked genitive.

The question is which argument of the transitive verb *dekHnaa* ‗see is marked by genitive marker in (17c). Is it subject or object? It is assumed that it can be either in Urdu. If only one argument of the infinitival nominal of a transitive verb is mentioned in Urdu then it can be either its internal argument or its external argument.

Lebaux (1986) (18), however, explained that if the subject of nominal derived from transitive verb is present then object must obligatorily be there for the noun phrase to be grammatical. Grimshaw (1990) showed that obligatory arguments are taken by nominals only when these are action nominals and it could also be the case that the same nominal behaves in both senses. With this explanation the nominal in (17c) will be considered as a result nominal. It is observed that with infinitives only one argument is marked genitive. In case full argument structure is realized, the subject is marked genitive and the object is marked nominative or accusative. This is illustrated in (18)-(19).

(18) a. بیچُنا کب َذا

nidaa=kaabecnaaNida=Gen.Msell.In
f

      _Selling by Nida/ Selling of
Nida'   b. بیچُنا کب کِھْلَوْنَوں

kHilonoñ=kaabecnaa
toy.Pl=Gen.M sell.Inf

      _Selling of toys'

c. بیچْنا کْ کِھْلَوْنَوں/کِھْلَوْنَے کب َذا

nidaa=kaakHilone/kHilonoñ=kobecnaaNida=Gen.M
toy.Pl/toy.Pl.Obl=Acc sell.Inf

      _Selling of toys by
Nida'   d. کِھْلَوْنَے کْ بَچْں کب َذا

بیچُنا

nidaa=kaabaccoñ=kokHilonebecnaaNida=Gen.M
child.Pl=Dat toy.Pl   sell.Inf

      _Selling of toys by Nida to the children'

(19) a.   ہ کب خذا کایِبَّ

ekxudaa=kaamaan-naa
one God=Gen believe.Inf

      _Believing   in   one
God'   b. بُرّھْنا کب قرآن

quran=kaapaRHnaa
Quran=Gen read.Inf

      _Reading of Quran'

     In (18) the infinitive of a transitive verb *becnaa* _sell is given with its arguments. The subject reading of genitive modifier in (18a) and object reading in (18b) both are okay. In (18c-d) both object and subject are mentioned and only the subject is marked genitive. The instances in (19) are frequent expressions in Urdu web corpora where only the object reading is construed. In case of only single genitive argument of the infinitive, most of the times object reading is meaningful.

     Persian infinitives are also used as nominals and they too can take either subject or object, but not both with the ezafe construction [19]. In Urdu, however, not only some arguments of infinitive nominals are marked with the genitive, but also arguments of participial adjectives and some subordinate clauses are marked genitive.

(20) a.   ا'جلا کب دُّدّduudH=kaajalaahuaa
milk=Gen.Mburn.Perf.Mbe.Perf.M
      _One, who has been burnt of milk'

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b. ا'عبڈ کب پّیَع

saañp=kaadasaahuaa

snake=Gen.Mbite.Perf.Mbe.Perf.M

‗One, who has been bitten of snake'

(21) a. ئے تے کے پّلیظ

Police = kehote   hue

police=Gen.Oblbe.Imperfbe.Perf

‗In the presence of police,   b.

ustaad=keaatehii آتے کے بدعتاا ی

teacher=Gen.Oblcome.ImperfEmph.

‗With the coming of teacher,

(22) a.   laad=kaapalaahuaa پلا'ا کب ڈالا

love=Gen.M   bring-up.Perf.Mbe.Perf.M

‗One, who has been brought up with love'

b.   raat=kaab Huulaahuaa ا'لاثِ کب سات

night=Gen.Mforget.Perf .M be.Perf.M

‗One, who has forgotten at night'

In (20) the subjects of participle adjectives are marked with the genitive. In (21) the subjects of participles are marked genitive and here these participles are acting like clauses. In (22) genitive marked elements give adverbial meanings with derived adjectival participles.

Nominals other than infinitives with genitive marked arguments

In Urdu many nouns other than infinitives are derived from verbal roots and take genitive arguments. Some nouns are derived from verbal roots of Urdu itself and some are derived from verbal roots of other languages like Arabic and Persian. These nouns can be divided into two classes. The nouns in one class take only one genitive marked argument and the nouns in other class can take two genitive marked arguments. Some instances of nouns from the former class are given in (23)-(24).

(23) a. سّ کی ٹشیی گی

Train=kiiravaangii

Train=Gen departure

‗departure of train'

b.   اعٹیشی کی ٹشیی گیآسّ ےع Train=kii

station=se ravaangii

Train=Gen station=Abl departure

‗departure of train from the station'

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(24) a.   سیلاب کی تجبیsailaab=kiitabaahii

     flood=Gen.Fdestruction.F

         ‗Destruction due to

   flood'   b.   فظلْں کی

         تجبیfasloñ=kiitabaahii

       crop.Pl=Gen.F destruction.F

       ‗Destruction of crops'

c.   اَغبی کی تجبی

insaan=kiitabaahii

man=Gen.Fdestruction.F

       ‗Destruction of man OR

‗Destruction by man'   d.   اَغبی کی فظلْں

        تجبیinsaan=kiifasloñ=kiitabaahii

man=Gen.F crop.Pl=Gen.F destruction.F

*   ‗Destruction of crops by man'

OR   ‗Destruction of crops of a

man'   e.   *   عیلاة کی فظلْں کی تجبی

*   sialaab=kiifasloñ=kiitabaahii

flood=Gen.F   crop.Pl=Gen.F

destruction

        ‗Destruction of crops due to

flood'   f.   ة عے فظلْں کی تجبیعیلا

sailaab=se fasloñ=kiitabaahii

flood=Abl crop.Pl=Gen.M destruction

       ‗Destruction of crops due to flood'

In (23) *ravaangii* ‗departure is a noun derived from the intransitive verb and has two alternate sub categorization frames. In both cases it takes genitive marked subject. All nouns of intransitive nature have their subject as genitive marked. The noun *tabaahii* ‗destruction is of transitive nature and can take either a genitive marked subject or a genitive marked object (24a-c) but not both of them (24d-e) are marked for genitive case. In (24f) the subject of the nominal is marked by the ablative marker *se*. Other nominals in Urdu which fall in this class are for example *pitaaii* ‗beating', *dHulaaii* ‗washing', *pisaaii* ‗crushing', *muaaina* ‗examination'.

There are some nouns that can take only a genitive marked object, for example, the nominal *bacaao*

_safety derived from the verb *bacaanaa* _save'. The noun *intixaab* _selection usually takes a genitive object. However, it can also act as result nominal where it refers to the result of the selection process as in English.

(25) a. صدر کا اِنتخاب

sadr=kaa intixaab

president=Gen selection

_Selection of the president'

b. علی کا اِنتخاب alii=kaa

intixaab   Ali=Gen

selection

     _Selection made by Ali'

c. یہ خُوبصُورت شِعر علی کا اِنتخاب ہے

yih xuub-suurat Ser alii=kaa intixaab hai

this beautiful   verse Ali=Gen selection be

     _This beautiful verse is selection of Ali'

     In (25b) the noun *intixaab* _selection refers to some result of the process which is evidenced in (25c). Because event or process nominals cannot be used predicatively as showed by Grimshaw [13], the instance of noun *intixaab* _selection in (25c) is a result nominal which is modified by a genitive modifier. The second class of nominals in Urdu is typical in that both subject and object/theme are marked by genitive markers. In Persian there is not a single nominal in which both subject and object are licensed by *ezafe* construction. In English too, both subject and object of any noun cannot be prenominal genitives. It is a special characteristics of Urdu and some other Indo-Aryan languages that these have some nominals in which both subject and object/theme both are marked genitive at the same time. The noun *gHeraao* _circumventing derived from the verb *gHernaa* _circumvent is one example of such nouns.

(26) a. نَوجَوانوں کا تھانے کا گِھراؤ

naojavaanoñ=kaa tHaane=kaa gHeraao

youngster.Pl=Gen   police-station=Gen circumventing

     _Circumventing of police-station by youngsters'

b. الیکشن کرانے کا اِعلان صدر کا sadr=kaa

election karaane=kaa elaan   president=Gen election

do. Inf=Gen announcement   _Announcement made

by president to conduct elections'   c. عوام کے صدر کے

مذہِشیخ کا اعلانی avaam=kaa sadr=kee elaan=kaa xair-

maqdam   people=Gen president=Gen

announcement=Gen welcome   _Welcome of people for

the announcement of president.

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For each head noun in noun phrases of (26), there are two arguments and these are both marked genitive.

LFG Implementation

LFG's modular framework represents the syntax with two basic representations. The c-(constituent) structure encodes the basic constituency structure and linear hierarchy of the elements and the (functional) structure models grammatical relations, functional information and other dependencies. In Urdu grammar development [20] genitive markers are dealt in syntax. These clitics have their own terminal node to represent the head of a case phrase.

The genitive marker agrees in gender, number and case with the head noun. This agreement is dealt with at f-structure via feature unification. The genitive phrases with a single instance of genitive marked element work well. With multiple instances of genitive elements the complexity increases. Consider (27):

(27) a. لشکش کب بیٹِیں کب بشٹا
abrahaa=kaahaatHiyoñ=kaalaSkarAbraha=Gen.Sg
elephant.Pl=Gen army.M
  ‗Abrah's army of elephants
b. لشکش کب بیٹِیں کے بشٹا
abrahaa=kehaatHiyoñ=kaalaSkar
Abraha=Gen.Pl   elephant.Pl=Gen   army.M
‗The army of Abraha's elephants'
c.   لشکش کے بیٹِیں کے بشٹا
abrahaa=kehaatHiyoñ=kelaSkarAbraha
=Gen elephant.Pl=Gen army.Pl   ‗The
armies of Abraha'selephants' OR
  ‗Abraha's armies of elephants'

Without any restriction the following three bracketing structures for (27a) can be assumed.

(i)   [abrahaa=kaa [haatHiyoñ=kaalaSkar]]
(ii)   [abrahaa=kaahaatHiyoñ=kaalaSkar]
(iii)   [[abrahaa=kaahaatHiyoñ]=kaalaSkar]

Due to non-agreement of number with the head noun the bracketing structure in (iii) is ruled out via feature unification. Structural ambiguity increases when a genitive phrase with multiple instances of genitive elements hosts a case marker, say for example an ergative marker. When a case marker is added to any instance of (27a-b) both result into the similar surface structure as in (27c).

To rule out the bracketing structure (ii) above, it is proposed to typify different genitive case phrases in the grammar, like attributive genitive case phrase, relational genitive case phrase, and

so. When the two case phrases in (ii) will not be recognized as attributive case phrase, then it will be rejected and only the first one will be recognized for (27a) that seems plausible.

Likewise different nominals taking genitive arguments are proposed to be categorized according to the number and type of genitive arguments they take. The lexicon with full sub categorization information of nouns will help to correctly parse the noun phrases in Urdu and the coverage of the parser will be increased.

Conclusion

In this article noun phrases of Urdu with multiple instances of genitive elements have been analyzed. The flat and hierarchical structures of such phrases are explored. It is shown that attributive genitive modifiers behave like adjective modifiers in the syntax and can stack together at the same level and it is proposed to deal such elements separate to other genitive elements. The hierarchical structure of noun phrases with genitive modifiers, however, needs to be worked out further as to disambiguate depth of hierarchy in either direction based on features of the participants. It will help making grammar robust and increasing the coverage. The classification of nominals based on their number and type of genitive arguments is proposed to provide an enriched lexicon to the parser of the grammar.

References

Anderson, M. 1983-1984. Prenominal Genitive NPs. *Linguistics Review* 3(1): 1-24

Babby, L.H. 1995. Nominalization in Russian. In *Formal Approaches to Slavic Linguistics,* eds. W. Browne, E. Dornisch, N. Kondrashova, and D. Zec 54-83, The Cornell Meeting Ann Arbor: Michigan Slavic Publications.

Baker, C. 1995. *Possessive Descriptions*. California: CSLI Publications

Beames, J. 1996. *A comparative grammar of the modern Aryan languages of India* 3. Turbner and Co., London, Reprinted by Munshiram Manoharlal, New Delhi.

Bhatt, R. K. 2005. Long-distance agreement in Hindi-Urdu. *Natural Language and Linguistic Theory* 23(1): 757-807.

Butt M., and King, T. H. 2004. The status of case. In eds., *Clause Structure in South Asian Languages, eds.* V. Dayal and A. Mahajan. , Dordrecht: Kluwer Academic Publishers, 153 198

Butt, M., and King, T. H. 2007. *Urdu in a Parallel grammar Development Environment*, Language Resources and Evaluation. Special issue on Asian Language Processing: State of the Art Resources and Processing.

Butt, M. 1995. *The Structure of Complex Predicates in Urdu*. Center for the Study of Language and Information (CSLI) Publications.

Davison, A. L. 2008. *On the categorical identity of infinitives in Hindi/Urdu*. Paper Presented (in absentia) at the XXIV South Asian Language Analysis Roundtable, South Asia Conference, Madison, Wisc, October 17, 2008.

Dowty, D. R. 1987. *Thematic Proto-Roles, Subject Selection, and Lexical Semantic Defaults*. Columbus: Ohio State University.

Ghomeshi, J. 1997. Non-projecting nouns and the ezafe construction in Persian. *Natural Language and Linguistic Theory* 15(3): 729-788.

Grimshaw, J. 1990. *Argument Structure*. Cambridge, Mass: MIT Press.

Lebeaux, D. 1986. The Interpretation of Derived Nominals. In CLS (Papers from the General Session at the Twenty-Second Regional Meeting of the Chicago Linguistics Society) 22, eds. A. M. Farley, P. T. Farley, and K. E. McCullogh, 231-247.

Miller, P. 1992. *Clitics and Constituents in Phrase Structure Grammar*. NewYork: Garland

Chomsky, N. 1970. Remarks on Nominalization. In *Readings in English Transformational Grammar*, R.A. Jacobs and P.S. Rosenbaum, eds. Ginn and Co., Waltham, Mass.

Partee B. H., and Borschev, V. 2003. Genitives, relational nouns, and argument-modifier Ambiguity. In *Modifying Adjuncts*, eds. E. Lang, C. Maienborn and C. Fabricius-Hansen, 67-112.

Payne, J. 2004. Inflecting postpositions in Indic and Kashmiri. In *Double Case: Agreement by Suffixaufnahme*. F. Plank, ed. Oxford : Oxford University Press.

Platts, J. 2002. *A Grammar of the Hindustani or Urdu Language, London: Crosby Lockwood and Son, 1909, republished in 2002 by Sang-e-Meel Publications: Lahore*

Seiler, H. 1983. *Possession as an Operational Dimension of Language* 2, Gunter Nar Verlag, Tuebingen.

Zwicky, A. 1987. Suppressing the Z's, *Journal of Linguistics* 23(1): 133-148