# AXIAL PARTS IN INUKTITUT AND UZBEKI[*]

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This paper is a preliminary investigation into the issue of Axial Parts in two understudied languages where a) possessed nominals are widely used to make distinctions made by adpositions in more familiar languages and b) possessive marking is found both on the possessor and possessum.

## 1. Axial Parts

Axial Part (AxPart) is a term used by Svenonius (2006) to refer to a distinct group of P-type elements denoting a region and constituting its own unique syntactic category, and thus differentiating these elements from spatial nouns denoting a portion of a whole (a part-whole relationship). We will refer to the latter as the concrete use and the former as the regional use. An example is the English word *front*, which in its concrete use in (1) denotes a portion of the car but in (2) maps out a region extending away from that portion of the car.

(1) a. There was a kangaroo in the **front** of the car.[1]
    b. There was a kangaroo on the **front** of the car.

(2) There was a kangaroo in **front** of the car.

Like the concrete nominals, the regional use (Axial Part) can be thought of in terms of Figure and Ground DPs; a Figure DP (in the examples *kangaroo*) is described spatially in relation to a Ground DP (*car*). The regional use defines a space in relation to a Ground DP argument, projecting from a central axis, with no outer boundary. Thus the figure is described spatially in relation to a derived Ground, e.g. not the car but a space projected from the car.

As with English *front*, regional nouns (AxParts) in many languages are frequently homophonous with concrete nouns and/or share a similar pattern of distribution and marking with nominals. Languages vary in terms of the criteria differentiating the two. Criteria from Svenonius (2006) for distinguishing concrete from regional use in English are shown in (3), with examples illustrating these distinctions in (4) to (7).

(3) Criteria for English nominal vs. Axial Part (concrete vs. regional use)

| Criteria | Concrete | Regional |
|---|---|---|
| Articles | Yes | No |
| Pluralization | Yes | No |
| Modification | Yes | No |
| Measure Phrase | No | Yes |

[1] The kangaroo examples are taken from Svenonius (2006).

Regional parts in English do not take articles. If an article is present, it is a concrete use.

(4)  a.  There was a kangaroo **in the front** of the car. = (1a)
     b.  There was a kangaroo **in front** of the car. = (2)

Regional parts are not pluralized. If plural marking is present, it is a concrete use.

(5)  a.  There were kangaroos **in the fronts of the cars**.
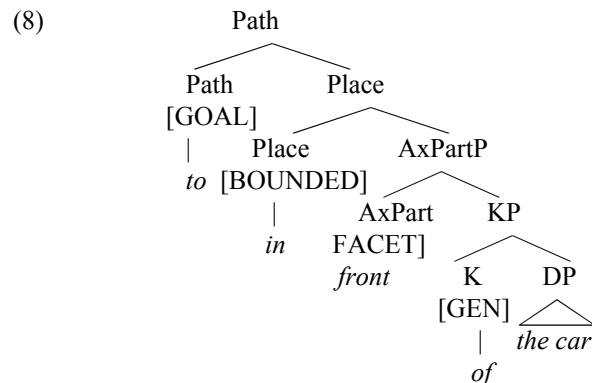     b.  *There were kangaroos **in fronts of the cars**.

Regional parts may not be modified. If modification is present, it is a concrete use.

(6)  a.  There was a kangaroo in **the smashed-up front of the car**.
     b.  *There was a kangaroo **in smashed up front of the car**.

Measure phrases can only appear in the regional use. If a measure phrase is present, it is a regional use.

(7)  a.  *There was a kangaroo sixty feet **in the front of the car**.
     b.  There was a kangaroo sixty feet **in front of the car**.

Svenonius (2006) proposes a distinct syntactic structure for Axial Parts shown in (8). Here we see that the Axial Part is a different category, i.e. not a nominal. As with concrete nominals, the Ground is a genitive complement of the Axial Part.

(8)                     Path
                    ╱          ╲
              Path            Place
             [GOAL]          ╱      ╲
               |         Place       AxPartP
              *to*    [BOUNDED]      ╱     ╲
                         |      AxPart      KP
                        *in*    FACET]     ╱    ╲
                               *front*    K      DP
                                        [GEN]   ╱╲
                                          |    *the car*
                                         *of*

      Svenonius' Axial Parts have been discussed with reference to a number of other languages, e.g. Russian (Svenonius 2006), Persian (Pantcheva, 2006) Korean (Son 2006) and Japanese (Takamine, 2006). Roy (2006) describes how body-part nominals are used to create regions in French. Consider the example in (9a).

(9)  a.  **[la  tete  du      lit]**   est encore humide      (Roy 2006, p. 100)
        the head  of.the  bed    is   still   wet

    b.  Roy: "fixed  spatial part"
        the headboard of the bed is still wet' (after washing it)

    c.  Roy: "relative spatial part"
        the floor under and around the section of the bed touching the wall
        is still wet (the rest already dried for instance).

Roy points out that this example has two meanings, one the fixed (concrete in our terms) in (9b) and the other the relative (regional/Axial Part) in (9c). In (9b), the sentence is referring to a portion of the bed that can be called the head. It is a subset region of the whole entity in question. In (9c) however, what is referred to is not part of the bed but a region projected from part of the bed. Roy points out that the regional use in French is still a DP, unlike English *front* – see (8). She also points out that it is an argument; English *front* cannot be an argument since it is not a DP.

We are examining data from both Inuktitut and Uzbeki because both these languages use concrete nouns extensively to describe spatial relations. For example, both these languages lack adpositions or oblique case for the meaning 'on' and must use a possessed nominal to specifically indicate this meaning, as shown in (10). Inuktitut has a general locative case suffix –*mi*, shown in (10a). This can be translated as 'in,' 'on' or 'at' variously, depending on the unmarked context suggested by the verb meaning. In order to indicate that an object is located not near or beside but **on** the Ground, a relational nominal must be used as in (10b).[2]

(10)  a.  Piita        itsivaaq-tuq itsivautar-mi
        Peter(abs)  sit-part.3s   chair-loc
        'Peter is sitting on the chair'

    b.  qimmiq  siniktuq      qamutauja-up  qaa-nga-ni
        dog(abs) sleep-part.3s  skidoo-rel.      top-3s/sPoss-loc.
        'The dog is sleeping on the skidoo.'

It is interesting to examine the use of regional nouns in these languages to see whether lack of adpositional type elements correlates with any property of Axial Parts. Inuktitut is a polysynthetic language of the Eskaleut or Uralo-Siberian family (Fortescue 1998); Uzbeki is a Turkic language, a variety of Uzbek spoken in northern Afghanistan. Though Uzbeki and Inuktitut are different languages with different syntax, the two show commonalities relevant to work on Axial Parts. Both languages treat regional constructions in the same manner as dependent possessed nominals. This is not unexpected (c.f. *the front*

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[2] Inuktitut abbreviations: abs = absolutive; loc.  = locative; rel. or GEN = possessor case; Poss = possessive inflection on possessum; part. or DEC = declarative mood

*of the car*), but in addition, Inuktitut and Uzbeki doubly inflect all possessive constructions through marking both the possessor and possessum. As as genitive marking on the possessor, phi-features of the possessor are found on the possessum. Both these languages are understudied from a linguistic perspective, so this initial research contributes information about their grammar.

## 2. Inuktitut Axial Parts

In Inuktitut, regional nouns appear to be similar to possessed nominals. We can see the parallel in (11).[3]

(11)  a.  *Possessive*
         anguti-up          nasa-**nga**
         man-relative       hat-**3s/sPoss**
         'the man's hat'

      b.  *Regional/Axial Part*
         iglu-up            saa-**nga**-ni
         house-relative     front-**3s/sPoss**-loc.
         'in front of the house'

Fortescue (1984) refers to regional nouns such as *saa-* 'front' in (11b) as postpositional stems, since they appear after the Ground. Compton (2005), working with the South Baffin dialect, identifies these elements as Axial Parts.

(12)  pusikat      itsivaq-tuq   ami-up              qaa-[ŋ]ani
      cat.ABS.SG   sit-DEC.3SG   animal.skin-GEN.SG  top-LOC.3SG.POSS.SG
      'the cat is sitting on the animal skin'     [from Compton (2005)]

In (13) we provide a preliminary list of the concrete nominals that can be used to indicate spatial relationships and indicate regional meanings as well.

(13)  Preliminary List of Inuktitut axial parts

| Inuktitut | English |
|-----------|---------|
| ata- | bottom/underneath |
| sani- | side/beside |
| qaa- | top/on top of |
| ungata- | behind, far side of, beyond |
| isu- | inside |
| saa- | the front |
| qula- | above |
| qiti- | in between/ in the middle |
| tunu- | behind/ back of |

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[3] All Inuktitut data is from the South Baffin dialect. Dialects behave essentially the same.

We see that some of the items in (13) can be either concrete or regional while others are only regional. For example *ungata-* 'behind' does not have a concrete correlate.

(14)   iksivauta-alu-up   **ungata-nga-ni**
    chair-big-rel.      behind-3s/sPoss-loc.
    'It's behind the couch.'  [said of a missing mitten I saw]

Roy (2006, 112) says that in French some regional elements do not (or no longer) have a concrete counterpart.

(15)   a.      au **travers** de la route
            at.the traverse of the road
            'across the road'

      b.      **autour** de la chevelle
            at.the.tour of the ankle
            'around the ankle'

Other Inuktitut elements are ambiguous between the concrete and regional use, as shown by *tunu-* in (16).

(16)   a.      itsivauta-up   **tunu-a**        qaulluq-tuq
            chair-rel.      back-3s/sPoss  white-part.3s.
            'The back of the chair is white'

      b.      pualuk      itsivautau-p    **tunu-a-ni**
            mitten(abs)   chair-rel.      back-3s/sPoss-loc.
            'The mitten is behind the chair'

Inuktitut regional arguments can also be pluralized, as shown in (17).

(17)   saa-t     **ataa-ngit**          salumait-tuit
    table-pl.  bottom-3pl/3Poss     dirty-part.3pl.
    'Underneath the tables is messy'
    [the speaker drew 3 tables and circled the area on the floor underneath a table]

This example displays a property of Inuktitut that is new to our taxonomy of axial parts, plural regions. Both Svenonius (2006) and Roy (2006) say that plurality is not possible for Axial Parts. The only plural region that has been reported is in Persian (Pantcheva 2006); however here the plural carries a distributive meaning, rather than multiple projected regions.

(18)   shekær rixt    in   zir-**ha**-ye     miz
    sugar   spilled  this under-**pl**.-EZ[4]   table
    'The sugar spilled here all over under the table

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[4] ezafe marker

### 3.    Uzbeki Axial Parts

Uzbeki is an agglutinating language and possessed nouns are suffixed in the order ROOT-PLURAL-POSSESSIVE-CASE, as in (19h). The case endings are accusative[5], dative, genitive, locative, or ablative; nominative is unmarked. In common speech the dative form –*ga* is used for both locative and dative. Two forms of the genitive are available, one in polite speech and writing, the other in everyday usage; we will focus on those morphemes found in common speech.

Genitive suffixes, shown in (19), include person and number information. The possessum DP agrees with the possessor in these features, with the exception of third person, which is not marked for number (see 19e, f, and g).[6]

(19)  a.      (men-ɪm)      ui-ɪm
              1sg-1sgGEN   house-1sgPoss
              'my house'

      b.      (bez-ɪm)      ui-ɪmɪz
              1pl-1plGEN   house-1plPoss
              'our house'

      c.      (sen-ɪŋ)       ui-ɪŋ
              2sg-2sgGEN  house-2sgPoss
              'your(sg) house'

      d.      (sez-ɪŋ)       ui-lar-ɪŋɪz
              2pl-2plGEN   house-PL-2plPoss
              'your(pl) houses'

      e.      (u-nɪŋ)        ui-ɪ
              3sg-3GEN     house-3Poss
              'his/her house'

      f.      (u-lar-ɪŋ)      ui-ɪ
              3-PL-3GEN    house-3Poss
              'their house'

      g.      (u-lar-ɪŋ)      ui-lar-ɪ
              3-PL-3GEN    house-PL-3Poss
              'their houses'

      h.      (men) qɒl-lar-ɪm-dɪ          ju-dɪm
              1sg    hand-PL-1sgPoss-ACC    wash-1sg.past
              'I washed my hands.'

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[5] There is some relation between definiteness and accusative marking; since it is not relevant to the discussion at hand, we will not pursue it at this time.

[6] Uzbeki abbreviations: GEN = genitive possessor; Poss = possessive inflection on possessum; ACC = accusative; DAT = dative/locative case in common speech; LOC = formal locative

Uzbeki has a large set of relational nouns which can be regional (AxPart). In (20)-(23) we see that the regional forms in the a. examples are homophonous with concrete nouns (20b), adjectives (21b), or postpositions (22b).

(20)   a.     ui-dɪ        **jɑn**-ɪ-nɪ           kur-ɒl-amman
               house-GEN  **side**-3Poss-ACC     see-able-1sg.non-past
               'I can see **beside** the house.'

       b.     ui-dɪ        **jɑn**-ɪ       jaʁʃɪsɪ
               house-GEN  **side**-3Poss   beautiful
               '**The side** of the house is beautiful.'

(21)   a.     motar-dɪ   **jaqɪn**-ɪ-ga      kutʃi   bor
               car-GEN     **near**-3Poss-DAT   dog    there.is
               'There is a dog **near** the car.'

       b.     ui   **jaqɪn**
               house **near**
               'The house is **nearby**.'

(22)   a.     tepan-ɪŋ   **narɪ**-sɪ-ga      ui    bor
               hill-3GEN    **after**-3Poss-DAT   house there.is
               'There is a house **past** the hill.'

       b.     film-dan     **narɪ**  gapir-dɪk
               film-ABL     **after**  talk-1pl.past
               'We talked **after** the film.'

The regional use of these elements is clearly distinct from the free-standing postpositions, such as the one seen in (22b). Postpositions are uninflected and assign ablative case to their complement. The regional elements look more like possessed nouns. Kornfilt (1997, 425) refers to similar possessed elements in Turkish as "fake postpositions". Uzbeki regional elements show the same pattern of case-marking and phi-feature agreement that we saw in the possessives in (19) above (see also Azimova 2010, 161). The examples in (23) illustrate this similarity.

(23)   a.     boja  ɒdam-**dɪ**    kula-**sɪ**-ga
               paint  man-**3GEN**  hat-**3Poss**-DAT
               'The paint is on the man's hat.'

       b.     kutʃi  ui-**dɪ**       arqa-**sɪ**-ga
               dog    house-**3GEN**  back-**3Poss**-DAT
               'The dog is behind the house.'

       c.     kuʃ  (men-**ɪm**)     dɑm-**ɪm**-ga
               bird  (1sg-**1sgGEN**) front-**1sgPoss**-DAT
               'The bird is in front of me.'

In (24) we see a range of these regional elements.

(24)    Uzbeki Axial Parts.

| Uzbeki | English | Uzbeki | English |
|---|---|---|---|
| ɑld | in close proximity | jaq | side, face |
| ɑldɪn | front | jaqɪn | near |
| arqa | behind | kejɪn | back |
| aʃaʁ | below | narɪ | after |
| atrɑf | around | orta | middle |
| bɪlant | up | pas | down |
| bɪrɪ | before | qɑrʃɪ | opposite, across |
| dash | outside | taj | under |
| dɑm | front | teraf | (be)side |
| itʃ | inside | tʃevra | around |
| itʃkari | inside | uzoʁ | far |
| jɑmbaʃ | right beside | ʏst | top |
| jɑn | (be)side | | |

We see examples of these elements in (25).

(25)  a    motar-dɪ    **arqa**-sɪ-ga         kutʃi bor
           car-3GEN    behind-3Poss-DAT  dog there-is
           'There is a dog behind the car.'

    b.    kutʃi ui-dɪ        **dɑm**-ɪ-ga
           dog   house-3GEN  **front**-3Poss-DAT
           'The dog is in front of the house.'

    c.    kutʃi ui-dɪ        **ɑld**-ɪ-ga
           dog   house-3GEN  near/close-3Poss-DAT
           'The dog is in the space near the house.'

    d.    motar-dɪ    **ɑldɪn**-ɪ-ga         kutʃi bor
           car-3GEN    front-3Poss-DAT    dog there.is
           'There is a dog in front of the car. '

    e.    jul-dɪ    **orta**-sɪ-da          tur-dik
           road-3GEN   middle-3Poss-LOC  stop-1pl.past
           'We stopped in the middle of the road.'

    f.     ui-mɪzɪng        **qɑrʃɪ**-sɪ-ga       ui       bor
           house-1pl.GEN      front-3Poss-DAT house     there.is
           'There is a house across from ours.'

g.    kutʃi  ui-dɪ       kup  **jaqɪn-ɪ-ga**
        dog    house-3GEN very   near-3Poss-DAT
        'The dog is very near the house.'

Like the French example above in (9b), Uzbeki regional elements do not require a locative marker, i.e. they can be arguments (see Roy 2006).

(26)  ui-dɪ         jɑn-ɪ     qarɒŋ-gɪ
      house-3GEN side-3Poss    dark
      'Beside the house is dark'

Uzbeki optionally allows AxParts to be pluralized.

(27)  a.    ui-lar-dɪ         ʏst(**-lar)-ɪ-ga**         pufɐj-lar   bor
            house-PL-3GEN  top(-**PL**)-POSS-DAT  balloon-PL  there.is
            'The balloons are over the houses.'

      b.    laoha-lar  ui-lar-dɪ         jɑn(-**lar**)-ɪ-ga
            sign-PL    house-PL-3GEN     side(-**PL**)-3Poss-DAT
            'The signs are beside the houses.'


## 4.    Possessives and Structure.

As discussed above, regional elements are often homophonous with nominals that express a concrete or part/whole relation which crucially involves possession. How is the possessive relation syntactically encoded? We saw in (8) above that Svenonius (2006) has the possessor (the Ground) as the complement of the concrete or relational noun. Similarly Compton (2005) provides a tree where the regional element takes the Ground element as its complement for Inuktitut.

       In contrast, Takamine (2006) argues that the GEN node (or Ground) in Japanese must be in a higher syntactic position than complement of the Axial Part in order to account for sentences such as (28) where the Ground precedes the measure modifier.

(28) Japanese (based on Takamine 2006)[7]

      a.    Keikkan-ga    **ie-no**        ni-meetoru mae-ni     tatteiru
            policeman-NOM **house-GEN**   two-meter front-LOC  standing
            'A policemen is standing two meters in front of the house'

      b.    *Keikkan-ga      ni-meetoru  **ie-no**      mae-ni     tatteiru
            policeman-NOM two-meter   **house-GEN** front-LOC  standing

       She argues that even if we were to base-generate the Ground as the complement of the Axial Part, (28b) shows that it must obligatorily move to a

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[7] Japanese abbreviations: GEN = genitive; NOM = nominative; LOC = locative

higher position. She proposes the following tree where the Ground *ie* 'house' will subsequently move up to GEN to get case.

(29)
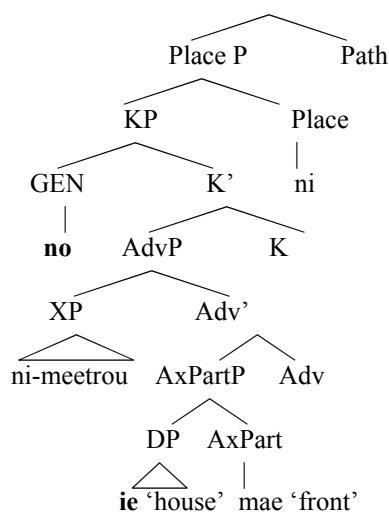


Although we do not have measure data from Inuktitut,[8] the Uzbeki data follows the Japanese pattern, where the possessor Ground appears to be either base-generated in or moved to a higher position.

(30)  motar-dı  ɑltı  mıtır  arqa-sı-ga  kutʃi  bor
      car-3GEN  6  meter  behind-3Poss-DAT  dog  there-is
      'There is a dog 6m behind the car.'

In summary, Inuktitut and Uzbeki both show a rich set of Axial Parts and both allow plural marking on Axial Parts, likely related to the fact that both languages mark phi-features of the possessor on the possessum.

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[8] So far consultants maintain that measure phrases are not used in these constructions. This may have something to do with general properties of distance measure in this language.

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