Periphrastic verbal forms and clause structure in Agul

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We regret not being able to attend the meeting and will be grateful for any comments that would help us to see your impression of the matters discussed in this paper.

1. Introduction

AGUL (also spelled AGHUL, native name [aʁu'l ě'al]) is a language of the Lezgic branch within the Nakh-Daghestanian (or East Caucasian) family. Its closest relatives are Tabassaran and Lezgian; other Lezgic languages are Tsakhur, Rutul, Budugh, Kryz, Archi and Udi. There are more than 20,000 native speakers of Agul in Russia, mainly in mountain villages in South Daghestan. This study is based on the dialect spoken in the village of Huppuq.

Agul is an ergative language with (predominantly) agglutinative morphology and a rich case system (about 30 cases, including numerous locative forms). The basic word order is SOV, dependents precede heads. There is neither nominal class (gender) category, nor person agreement.

The goal of this paper is to discuss the structure of finite clause in Agul. Since Agul possesses a number of verbal periphrastic forms, this cannot be achieved without thorough examination of syntactic behaviour of various periphrastic expressions (cf. other studies investigating constituent structure of periphrastic forms in English and French Abeillé and Godard 2002, Falk 1984, Falk 2008).

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1 The work on Agul was supported by a grant from the Max Planck Institute for Evolutionary Anthropology. A comprehensive grammar of the language is prepared by the authors of the present paper.
2. Synthetic, primary periphrastic and secondary periphrastic verbal forms

Every non-stative verb in Agul has two aspectual stems (perfective vs. imperfective) marked by vocalic suffixes (-u, -ü, -i vs. -a, -e); a few aspectual stems are suppletive:

(1)  
- do, make: aq’-u-  
- become: x-u-  
- read, learn: ruχ-ų-  
- boil, cook: rüx-ų-
- 'write'  
- 'die'  
- 'go, come'  
- 'give'  
- 'become'  
- 'die'  
- 'read, learn'  
- 'give'  

Synthetic forms include all basic non-finite categories (converbs, participles, infinitive, masdar) and some non-indicative forms. Converbs and most participles are derived from each of the two aspectual stems. (Below, the citation form of participles is the substantivized form in -f, which is also used in periphrastic constructions.)

(2)  
<table>
<thead>
<tr>
<th>Category</th>
<th>PF</th>
<th>IPF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infinitive</td>
<td>null</td>
<td>ruχ-á-s</td>
</tr>
<tr>
<td>Converb</td>
<td>ruχ-ų-na</td>
<td>ruχ-á-j</td>
</tr>
<tr>
<td>Participle1</td>
<td>ruχ-ų-(f)</td>
<td>ruχ-á-(f)</td>
</tr>
<tr>
<td>Participle2</td>
<td>ruχ-ų-naje-(f)</td>
<td>ruχ-á-je-(f)</td>
</tr>
<tr>
<td>Participle3</td>
<td>ruχ-ų-nde-(f)</td>
<td>ruχ-á-jde-(f)</td>
</tr>
<tr>
<td>Optative Participle</td>
<td>null</td>
<td>ruχ-á-je(-f)</td>
</tr>
<tr>
<td>Masdar (action nominal)</td>
<td>ruχ-ų-b</td>
<td>null</td>
</tr>
<tr>
<td>Jussive</td>
<td>ruχ-ų-raj</td>
<td>null</td>
</tr>
<tr>
<td>Future Conditional</td>
<td>ruχ-ų-či</td>
<td>null</td>
</tr>
<tr>
<td>Prohibitive</td>
<td>null</td>
<td>ma-ruχ-a</td>
</tr>
</tbody>
</table>

The overwhelming majority of finite forms, including all indicative forms, are periphrastic in origin. They are built on one of the 7 non-finite forms that are framed in (2) and one of two auxiliaries — the nominal copula e or the locative verb a ‘be inside’, whose use is illustrated below:

(3)  
basdad šahar para gürček, para bat’ar šahar e.  
Baghdad city much beautiful much good-looking city COP

Baghdad is a very beautiful, good-looking city.

(4)  
sa gada lelingrad di a, uč.i-n xir qa-j…  
one son Leningrad(IN) {IN}be:PRS self-GEN wife {POST}be-CONV

One son lives (=is) in Leningrad, with his wife...

The models of primary periphrasis (“main verb + auxiliary”) are the following:

- verb + locative verb,
- verb + nominal copula,
- participle1/2 (subst.) + nominal copula,
- infinitive + nominal copula.

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2 Stative verbs (including ita- ‘know’, ita- ‘be ill, ache’, guč’a- ‘be afraid’, kande- ‘want, love, need’, nominal copula and a group of locative statives) have only one stem, which roughly corresponds to the imperfective stem of non-stative verbs. (We do not consider them below.)

3 The only synthetic form which is not based on the aspectual stem is the Imperative, which is usually identical with the verbal root; several verbs have vocalic Imperative suffixes or suppletive Imperative forms. Statives do not have Imperatives.
As the auxiliary appears in the present or the past tense, it gives the paradigm of 18 primary periphrastic forms\(^4\): 8 forms with converbs, 8 forms with participles and two forms with the infinitive (cf. Table 1). The use of some of these forms is illustrated in (5)-(10) below.

The auxiliary follows the non-finite form. Negative periphrastic forms use suppletive negative auxiliaries (cf. copula dawa, locative verb adawa in the Present, and copula daj, locative verb adaj in the Past), while synthetic forms derive negative equivalents by means of a prefix d- || da-: cf. negative infinitive d-aq’-a-s, negative imperfective converb d-aq’-a-j etc. Presumably, periphrastic forms go back to nominal predications (like ‘X is the one who does it’) and locative predications (like ‘X is in the process of doing’). However, it is clear that we deal with periphrastic forms as members of tense and aspect paradigm, and not with free syntactic combinations of non-finite forms and stative verbs at least for two reasons:

- the predicate’s argument structure and case marking is determined by the main verb, not but the nominal copula or locative verb,
- the combinations of non-finite forms and auxiliaries are rather idiomatic and denote the situation named by the main verb (with the associated tense-aspect and modal semantics), they are not identity or locative statements.

• General Present

(5) ayxpa bagajmi ha-ge miras-ar-i χ-a-ja χunća-jar.
then in.the.morning ha-DEMG relative-PL-ERG bring-IPF-PRS tray-PL

Then in the morning {of the wedding ceremony} relatives bring trays with the gifts.

• Present Resultative

(6) hupaqan-di k’-i-na-a qat:k’.a-s ad.i-naje uṣri.
shepherd-ERG kill-PF-RES-PRS steal.IP PF-PART2 thief

The shepherd killed the thief, who came to steal.

• Present Habitual (here, as ‘historical present’)

(7) …me xir.a-s ag-a-j-e ?emk’.
DEMm wife-DAT see-IPF-CONV-COP dream
...and this woman has (= sees) a dream.

• Experiential

(8) …aw, ha-gi-štī unx-u-f-e sara za-s.
yes ha-DEMG-ADV hear-PF-A-COP PTCL I-DAT

Yes, at least this is what I heard.

• Present Generic

(9) za-s ge ʒiga kianx.a-f-tawa p.u-ne.
I-DAT DEMG place like.IP A-COP:NEG say.PF-PFT

I don’t like this place, said she.

• Future

(10) zun hal qaṭaq’à-s-e č-a-s sa ḥakijat ʒaq’,ala-k-as.
I now tell-IPF-INF-COP you(SG)-DAT one tale sparrow-SUB/CONT-ELAT

And now I will tell you a fairy-tale about one sparrow.

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\(^4\) Below we show that the primary periphrastic forms have morphologized to such a considerable degree that in most instances they appear as synthetic forms, rather than strictly speaking periphrastic.
Table 1. Primary periphrastic forms.

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<thead>
<tr>
<th></th>
<th>Perfective</th>
<th>Imperfective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Converb + present copula e</td>
<td>ruχun-e (&lt; ruχuna e)</td>
<td>ruχaj-e</td>
</tr>
<tr>
<td>Converb + past copula i</td>
<td>ruχun-ij (&lt; ruχuna i)</td>
<td>ruχaj-ij (&lt; ruχaj i)</td>
</tr>
<tr>
<td>Converb + present 'is in'</td>
<td>ruχuna-a</td>
<td>ruχaj-a</td>
</tr>
<tr>
<td>Converb + past 'was in'</td>
<td>ruχuna-ji (&lt; ruχuna aji)</td>
<td>ruχaj-ji (&lt; ruχaj aji)</td>
</tr>
<tr>
<td>Participle1 + present copula e</td>
<td>ruχuf-e</td>
<td>ruχajf-e</td>
</tr>
<tr>
<td>Participle1 + past copula ij</td>
<td>ruχuf-ij</td>
<td>ruχajf-ij</td>
</tr>
<tr>
<td>Participle2 + present copula e</td>
<td>ruχunajef-e</td>
<td>ruχajef-e</td>
</tr>
<tr>
<td>Participle2 + past copula ij</td>
<td>ruχunajef-ij</td>
<td>ruχajef-ij</td>
</tr>
<tr>
<td>Infinitive + present copula e</td>
<td>—</td>
<td>ruχas-e</td>
</tr>
<tr>
<td>Infinitive + past copula ij</td>
<td></td>
<td>ruχas-ij</td>
</tr>
</tbody>
</table>

Apart from the primary periphrastic forms, Agul possesses a rich set of secondary periphrastic forms, which contain as the auxiliary the regular verb xas ‘be, become’ in one of the 18 primary forms. The lexical use of xas is illustrated below:

(11) ürṣùn šuj birgadir x-u-ne.
     Ursun man team.leader become-PF-PFT
     The man from Ursun became team-leader.

Secondary forms are also built on one of the 7 non-finite forms which are framed in (2), cf. Table 2. However, they are much more peripheral than those of the core indicative paradigm, and their formation is more restricted: among 126 theoretically possible combinations, only about a half can be really used in speech, and only some of them are really frequent. In particular, the problematic secondary forms are:

- most forms that consist of a participle of the main verb and the auxiliary xas ‘become’ in one of the primary forms, based on a participle (e.g. *ruχaf xuf-e),
- most forms that include the auxiliary xas ‘become’ in one of the primary forms, based on a past auxiliary (e.g. *ruχaf xun-ij),
- most forms with the infinitive of the main verb (only forms with the auxiliary in the Perfective Past and Experiential are grammaticalized with the ‘avertive’ meaning).

The use of some of secondary forms forms is illustrated below.

- Imperfective Converb + xas (Imperfect)
  (12) te čičin.i-q, gažin.i-q kalašan - zat’ qit’a-j x-a-ji.
  DEXT jug-POST jug-POST shawl thing {POST}tie-IPF-CONV become-IPF-PST
  {During wedding ceremony} they used to tie a shawl or a thing like that to a jug, a jug.
- Imperfective Converb + xas (Present Resultative)
  (13) hûr.i-s ha mîša χar jath-a-j x-u-na-a.
  village-DAT always hail beat-IPF-CONV become-PF-RES-PRS
  The hail has often beaten the village.
- Imperfective Converb + xas (Experiential)
  (14) muja-d-pu kilas ha-ti-sa-? ruχ-a-j x-u-f-e.
  eight-A-ORD class ha-DEMT-LOC-IN study-IPF-CONV become-PF-A-COP
  We studied there in the eighth class.
• Perfective Converb + xas (Present Habitual)

(15) ...wuri alčaq-u-na x-a-j-e mi-saʔ.

all \{SUPER-LAT\}scatter-PF-CONV become-IPF-CONV-COP DEMM-LOC-IN

...it turned out that all (the birds) could be found there.

• Perfective Converb + xas (Future)

(16) wun qaj-i-guna, zun k’eʒ lik’-i-na x-a-s-e.

you(SG) RE:come-PF-TEMP 1 letter write-PF-CONV become-IPF-INF-COP

When you come, I will have written the letter.

• Infinitive + xas (Perfective Past)

(17) gada-ji naft: uχ-a-s x-u-ne.

boy-ERG kerosene drink-IPF-INF become-PF-PFT

The boy almost drank (=was just about to drink) kerosene.

3. Ambiguous nature of periphrastic forms

Being originally periphrastic, forms from Table 1 have morphologized to a considerable degree and most often appear in speech as contracted/synthetic (“monolectic”) word forms:

- (former) main verbs and auxiliaries are adjacent and cannot be separated by other material, or occur in the reversed order (auxiliary + main verb);

- these forms represent single prosodic words, where (former) auxiliaries are atonic, or bear secondary stress;

- in some cases, typical word-internal sandhi occur:

  \[/d/ > /t/\] in the negative auxiliary after voiceless consonants, here the substantivization marker \[/f/\] and the infinitive marker \[/s/\]:
  
  ruχaf-tawa (< *ruχaf dawa), ruχaf-tuj (< *ruχaf duj),
  ruχas-tawa (< *ruχas dawa), ruχas-tuj (< *ruχas duj), etc.

- in some cases, (former) auxiliaries undergo vowel change which blurs their original form:

  \[/a/ > /e/, /u/ > /i/\] in the negative auxiliary after imperfective converb marker \[/j/\]:
  
  ruχaj-dewa (< *ruχaj dawa), ruχaj-duj (< *ruχaj duj)

- in some cases, (former) main verb and auxiliary undergo fusion that blurs morpheme boundaries (and in one case leads to syncretism):

  Contraction of the perfective converb with the copula:
  
  ruχune (< *ruχuna e), ruχundawa (< *ruχuna dawa), etc.

  Contraction of forms with the locative auxiliary:
  
  ruχaa (< *ruχaj a), ruχadawa (< *ruχaj adawa), etc.

Due to the fusion, affirmative Past Habitual and Imperfect are syncretized:

ruχaji (< *ruχaj aji) = ruχaji (< *ruχaj iʃ)

\{NB: the negative forms are different, cf.

ruχaduj (< *ruχaj aduj) vs. ruχaj-duj (< *ruχaj duj)\}
Table 2. Secondary periphrastic forms with participles and converbs.

<table>
<thead>
<tr>
<th>PF / IPF converb</th>
<th>PF / IPF participle1</th>
<th>PF / IPF participle2</th>
<th>← Main verb</th>
<th>Auxiliary ↓</th>
</tr>
</thead>
<tbody>
<tr>
<td>ruχuna xune</td>
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</table>
Some of the originally periphrastic forms can now have only this contracted/synthetic shape. Such forms are e.g. negative Present Habitual and negative Past Habitual, which originally include converb and nominal copula. The components of such forms have lost any autonomy.

However, most other primary forms can appear both as contracted/synthetic and as “true” periphrastic. In the latter case the component parts (a converb/participle/infinitive and an auxiliary) are at least prosodically, or both prosodically and syntactically, autonomous.

Originally periphrastic constructions occur as two-word combinations in the following cases:

- for those forms that include the auxiliary a (locative verb) the use of the autonomous, non-contracted auxiliary is just a free option, without any special semantic or pragmatic nuance; two-word variants are much rarer and are mostly used by elder speakers:

  (18) c’eh-er uz-a-j a sa azal.iʔ hupaqan-ar-i.
  goat-PL milk-INF-CONV {IN} be:PRS one cattle.pl-IN shepherd-PL-ERG
  ‘Shepherds milk goats in cattle-pens.’ (Present)

- auxiliary appears as an autonomous form with contrastive stress in the construction with the predicate topicalization; this is possible even for Perfective Past and Remote Past, but not for their negative counterparts, neither for negative Present Habitual and Past Habitual:

  (19) ak.a-j á li-št-ar gada-ji...
  say-INF-CONV {IN} be:PRS DEMG-ADV-PL boy-ERG
  ‘As for saying, the boy does say such things… {but, e.g., never does as he says}’ (Present)

  (20) hal mi q’-a-je-f é sühür.
  now DEMM(ERG) do-INF-PART2-A COP witchcraft
  ‘And he does practise witchcraft.’ (Participial Present)

  (21) ag-u-naje-f é mi-s, up.u-či mi-s guč’-x.a-s-e.
  see-INF-PART2-SUBST COP DEMM-DAT say-INF-PART2-SUBST DEMM-DAT afraid-become-INF-COP
  ‘He did see (this), but if they tell him, he will get afraid.’ (Participial Resultative)

  (22) rux-č-u-n é zun, amma χuralas haraq’.u-ndawa.
  read-INF-CONV COP I but by.heart learn-PFT:NEG
  ‘As for reading, I did read it, but I didn’t learn it by heart.’ (Perfective Past: note that there is no such independent form as ruxčun, which here seems to be just a split-off part of a contracted form ruxčune)

- components of most forms appear separately, when used in a number of syntactic constructions, cf. cases when the additive particle =ra ‘and, also, even’ occurs on the main verb (see below for more details):

  (23) ja ag-u-f=ra dawa, ja unx-u-f=ra dawa,
  or see-PART2=A=ADD COP:NEG or hear-PART2=A=ADD COP:NEG
‘I haven’t seen and haven’t heard it, and I am not going to say anything.’ (Experiential Present, Experiential Present, Generic Present – all negative)

Full and contracted variants of originally periphrastic forms are listed in Table 3 (note that the conditions of use of full variants can be different for different forms).

Table 3. Primary periphrastic forms: full and contracted variants.

<table>
<thead>
<tr>
<th>Participle1</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfective</td>
<td>Imperfective</td>
<td></td>
</tr>
<tr>
<td></td>
<td>affirmative</td>
<td>negative</td>
</tr>
<tr>
<td>Converb</td>
<td>Perfective past</td>
<td>Present Habitual</td>
</tr>
<tr>
<td>+ present copula</td>
<td>ruχun e</td>
<td>—</td>
</tr>
<tr>
<td>+ past copula</td>
<td>ruχune</td>
<td>ruχundawa</td>
</tr>
<tr>
<td>Converb</td>
<td>Present Resultative</td>
<td>Present</td>
</tr>
<tr>
<td>+ ‘is in’</td>
<td>ruχuna a</td>
<td>ruχuna adawa</td>
</tr>
<tr>
<td>+ ‘was in’</td>
<td>ruχunaja</td>
<td>ruχunadawa</td>
</tr>
<tr>
<td>Participle1</td>
<td>Experiential past</td>
<td>Present Generic</td>
</tr>
<tr>
<td>+ present copula</td>
<td>ruχufe</td>
<td>ruχuf dawa</td>
</tr>
<tr>
<td>+ past copula</td>
<td>ruχufij</td>
<td>ruχufdawa</td>
</tr>
<tr>
<td>Participle2</td>
<td>Participle Resultative</td>
<td>Participle Present</td>
</tr>
<tr>
<td>+ present copula</td>
<td>ruχunajaef e</td>
<td>ruχunajaef dawa</td>
</tr>
<tr>
<td>+ past copula</td>
<td>ruχunajaefij</td>
<td>ruχunajaefstawa</td>
</tr>
<tr>
<td>Infinitive</td>
<td>Participiple Past Resultative</td>
<td>Participiple Imperfect</td>
</tr>
<tr>
<td>+ present copula</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>+ past copula</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The number of parts into which a periphrastic form splits depends on the original structure of the form. Maximally, a periphrastic form can repeat the original structure. For forms originally consisting of more than two parts, several split variants are possible:
4. Syntactic structure of the finite clause headed by a contracted / morphologized verbal form

The structure of the finite clause headed by a contracted / morphologized verbal form is not very interesting. With regard to word order, the verbal head of a transitive clause does not seem to form a constituent with the object NP. Other syntactic tests (coordination, focus construction etc.) are not applicable to finite verb. By the presumption of innocence, this suggests a flat structure like the following:

Figure 1. Flat structure of the finite clause headed by a morphologized form

As for word order, all six logically possible orders are grammatical (the choice between different order depends on information structure):

(25) a. rasul-a χal lix-i-ne.
   Rasul-ERG house build-PF-PFT
   ‘Rasul built a house.’

b. rasula lixine χal.

c. lixine rasula χal.

d. lixine χal rasula.

e. χal lixine rasula.

d. χal rasula lixine.

However, some ellipsis facts (not to be discussed here) indicate that the object NP may be structurally closer to the head than the subject NP, suggesting a structure like shown on Figure 2.
In any case, structural asymmetries between subject and object NPs are not so strong.

5. **Syntactic structure of periphrastic constructions**

In contrast to morphologized forms, syntactic behaviour of periphrastic forms points to a more complex constituent structure than Figures 1 and 2 demonstrate. Moreover, periphrastic forms do not show a uniform behaviour with respect to syntactic tests.

In order to reveal the constituent structure of clauses headed by periphrastic forms in Agul, we use the following syntactic tests:

- Insertion of the additive particle *=ra* ‘and, also, even’ between V and I
- Head ellipsis (gapping)
- I as morphosyntactic locus (embedding of the clause with a periphrastic form under the matrix verb *ḥaa* ‘know’)
- VP coordination
- Word order

Below we confine the discussion to several primary and secondary periphrastic forms:

A. Durative Present in two variants:
   - A1. *ruχaj xaa* (imperfective converb of V + *xaa*)
   - A2. *ruχaj xaj a* (imperfective converb of V + imperfective converb of *xas + a*)
B. General Present (*ruχaa*: imperfective converb + *a*)
C. Present Habitual (*ruχaje*: imperfective converb + *e*)
D. Generic Present (*ruχafe*: imperfective participle 1 + *e*)
E. Participial Present in two variants:
   - E1. *ruχajef e* (imperfective participle 2 + *e*)
   - E2. *ruχaj ajefe* (imperfective participle 2 + Participial Present of *a*)
F. Future (*ruχase*: infinitive + *e*)
G. Perfective Past (*ruχune < *ruχuna e*)

---

5 Below and until section 7, we use I as a label for the finite part and V as a label for the non-finite part (converb, participle, infinitive) of periphrastic forms. In case there are several non-finite parts they are distinguished by means of a subscript index.
5.1. Insertion of the additive particle \( \text{=} \text{ra} \) between \( V \) and \( I \)

(26)

A1. ga-da-ji kitab \( \text{ru} \text{x}-\text{a}-\text{j} = \text{ra} \) \( \chi \text{-a-a} \).
boy-ERG book read-IPF-CONV = ADD become-IPF-PRS

A2. ga-da-ji kitab \( \text{ru} \text{x}-\text{a}-\text{j} = \text{ra} \) \( \chi \text{-a-j=ra x-a-a} \).
boy-ERG book read-IPF-CONV become-IPF-CONV = ADD \{IN\} be:PRS

‘The boy also reading a book.’

B. ga-da-ji kitab \( \text{ru} \text{x}-\text{a}-\text{j} = \text{ra} \) \( \chi \text{-a-j=ra a} \).
boy-ERG book read-IPF-CONV = ADD \{IN\} be:PRS

‘The boy is also reading a book.’

C. ga-da-ji kitab \( \text{ru} \text{x}-\text{a}-\text{j} = \text{ra} \) \( \chi \text{-a-j=ra a} \).
boy-ERG book read-IPF-CONV = ADD COP:PRS

‘The boy also reads a book.’

D. ga-da-ji kitab \( \text{ru} \text{x}-\text{a}-\text{f} = \text{ra} \) \( \chi \text{-a-f=ra e} \).
boy-ERG book read-IPF-INF = ADD COP:PRS

‘The boy reads a book.’

E1. ga-da-ji kitab \( \text{ru} \text{x}-\text{a}-\text{j} = \text{ra} \) \( \chi \text{-a-je-f=ra e} \).
boy-ERG book read-IPF-PART2-S = ADD COP:PRS

E2. ga-da-ji kitab \( \text{ru} \text{x}-\text{a}-\text{j} = \text{ra} \) \( \text{a-je-f-e} \).
boy-ERG book read-IPF-CONV = ADD \{IN\} be-PART-S-COP

‘The boy also reads a book.’

F. ga-da-ji kitab \( \text{ru} \text{x}-\text{a}-\text{s} = \text{ra} \) \( \chi \text{-a-s=ra e} \).
boy-ERG book read-IPF-INF = ADD COP:PRS

‘The boy will also read a book.’

G. *ga-da-ji kitab \( \text{ru} \text{x}-\text{u}-\text{n} = \text{ra} \) \( \chi \text{-u-n=ra e} \).
boy-ERG book read-PF-PFT = ADD COP:PRS

‘The boy also read a book.’

These examples show that the additive particle can be inserted between \( V \) and \( I \) in almost all periphrastic forms, except for Perfective Past (and also Remote Past). This can be taken as evidence that most forms are periphrastic not only prosodically, but also syntactically, i.e. parts of periphrastic forms occupy two different terminal nodes in the phrase structure.\(^6\)

On the contrary, Perfective Past is interesting in that it demonstrates purely prosodic split into two phonological words, which do not count as words in syntax. This behaviour is confirmed by all the tests we employ here (examples see below), so that we propose the structure on Figure 3 for ‘periphrastic’ Perfective Past.

---

\(^6\) Below we mostly ignore the pragmatic information conveyed by periphrastic realizations and give only translations of propositional content of the corresponding forms.

\(^7\) Some languages, such as Portuguese and Udi, are known to have ‘mesoclitics’ or ‘endoclitics’, i.e. clitics that can appear inside (synthetic) words, cf. Luís 2009. However, here, we assume that the insertion of \( \text{=} \text{ra} \) is not the case of mesoclisis/endoclisis in Agul and that it cannot be placed inside a word.
5.2. Head ellipsis (gapping)

(27)

A1. \( \text{ga da-ji kitab ru} \chi -a-j=ra x-a-a, k’e_{\chi} =ra. \)  
\( \text{boy-ERG book read-IPF-CONV=ADD become-IPF-PRS letter write-IPF-CONV=ADD} \)  
\( \)  
\( \text{‘The boy was reading a book and writing a letter.’} \)  

A2. *\( \text{ga da-ji kitab ru} \chi -a-j x-a-j=ra a_{\chi}, k’e_{\chi} =ra. \)  
\( \text{boy-ERG book read-IPF-CONV=ADD become-IPF-PRS=ADD} \{\text{IN}\} \text{be:PRS letter} \)  
\( \text{write-IPF-CONV becom e-IPF-CONV=ADD} \)  
\( \)  
\( \text{‘The boy is reading a book and writing a letter.’} \)  

B. \( \text{gada-ji ru} \chi -a-j=ra e_{\chi}, lik’-a-j=ra. \)  
\( \text{boy-ERG read-IPF-CONV=ADD COP:PRS write-IPF-CONV=ADD} \)  
\( \)  
\( \text{‘The boy (usually) reads and writes.’} \)  

C. \( \text{gada-ji ru} \chi -a-j=ra \chi, lik’-a-j=ra. \)  
\( \text{boy-ERG read-IPF-CONV=ADD COP:PRS write-IPF-CONV=ADD} \)  
\( \)  
\( \text{‘The boy (usually) reads and writes.’} \)  

D. \( \text{gada-ji ru} \chi -a-f=ra \chi, lik’-a-f=ra. \)  
\( \text{boy-ERG read-IPF-S=ADD COP:PRS write-IPF-S=ADD} \)  
\( \)  
\( \text{‘The boy (usually) reads and writes.’} \)  

E1. \( \text{gada-ji ru} \chi -a-je-f=ra \chi, lik’-a-je-f=ra. \)  
\( \text{boy-ERG read-IPF-PART2-S=ADD COP:PRS write-IPF-PART2-S=ADD} \)  

E2. \( \text{gada-ji ru} \chi -a-j=ra \ a-je-f-e, lik’-a-j=ra. \)  
\( \text{boy-ERG read-IPF-CONV =ADD } \{\text{IN}\} \text{be-PART-S-COP write-IPF-CONV=ADD} \)  
\( \)  
\( \text{‘The boy (usually) reads and writes.’} \)  

---

8 \( \omega \) stands for phonological word.

9 This example and other examples in this subsection are given without an object NP, since such sentences, though grammatically correct, are judged to be too complex and unnatural by native speakers.
F. *gada-ji ruχ-a-s = ra ę, lik’-a-s = ra.
   boy-ERG read-IPF-INF=ADD COP:PRS write-IPF-INF=ADD
   ‘The boy will read and write.’

G. *gada-ji kitab ruχ-u-n = ra ę, k’eʒ lik’-i-n = ra.
   boy-ERG book read-PF-PFT=ADD COP:PRS letter write-PF-PFT=ADD
   ‘The boy read a book and wrote a letter.’

This diagnostics shows that the copula e does not constitute the clausal head by itself in split Durative Present, Future, and Perfective Past, while the auxiliaries e, a and xaa do so in unsplit Durative Present, Present, Habitual, Generic Present, and Participial Present. This result is expected for Perfective Past. We suppose that in split Durative Present and Future the copula forms a verbal cluster (VC) with the preceding non-finite form, which serve together as a complex head, cf. Figures 4 and 5.

Figure 4. Auxiliary as a clausal head.

Figure 5. Verbal cluster as a clausal head.

5.3. Morphosyntactic locus

According to Zwicky (1985: 6), the morphosyntactic locus is:
“the bearer of the morphosyntactic marks of syntactic relations between the construct and other syntactic units”;
“the constituent on which inflectional features will be marked if the language has the appropriate morphology”.

If the whole clause is embedded under the matrix verb haa ‘know’ as its complement, the head of the complement clause is in the form of a substantivized participle.

(28) za-s ʰa-a...
   I-DAT know-PRS
   ‘I know...’

A1. gada-ji kitab ruχ-a-j x-a-f.
   boy-ERG book read-IPF-CONV become-PF:PART1-SUBST

A2. gada-ji kitab ruχ-a-j x-a-j a-je-f.
   boy-ERG book read-IPF-CONV become-IPF-CONV {IN}be:PRS-PART-S
   ‘that the boy is reading a book.’
B. gada-ji kitab ruχ-a-j  a-je-f.
boy-ERG book read-IPF-CONV {IN} be-PART-S
‘that the boy is reading a book.’

C. gada-ji kitab ruχ-a-j  i-de-f.
boy-ERG book read-IPF-CONV COP-PART-S
‘that the boy (usually) reads a book.’

D. gada-ji kitab ruχ-a-f  i-de-f.
boy-ERG book read-IPF-S COP-PART-S
‘that the boy (usually) reads a book.’

E1. gada-ji kitab ruχ-a-je-f  i-de-f.
boy-ERG book read-IPF-PART2-S COP-PART-S

E2. gada-ji kitab ruχ-a-j  a-je-f.
boy-ERG book read-IPF-CONV {IN} be-PART-S
‘that the boy (usually) reads a book.’

F. *gada-ji kitab ruχ-a-s  i-de-f.
boy-ERG book read-IPF-INF COP-PART-S
‘that the boy will read a book.’

G. *gada-ji kitab ruχ-u-n  i-de-f.
boy-ERG book read-PF-PFT COP-PART-S
‘that the boy read a book.’

This test yields the same results as the head ellipsis test in all the cases, save A2. This is not unexpected, since it is actually one of typical functions of head to serve as morphosyntactic locus:

(i) if the auxiliary is a head by itself (unsplit Durative Present, General Present, Present Habitual, Generic Present, and Participial Present), then it naturally can be the morphosyntactic locus;
(ii) if the auxiliary forms a verbal cluster with the verb (split Durative Present, Future), then we do not expect the auxiliary to be the morphosyntactic locus of the clause.

However, the second expectation is not fully borne out by the facts, since only in Future the auxiliary cannot serve as a morphosyntactic locus. Instead, the verb is in the form of the substantivized participle 1:

F’. gada-ji kitab ruχ-a-f.
boy-ERG book read-IPF-S
‘that the boy will read a book.’

Contrary to our expectations, clauses with A2 (split Durative Present), when inserted under the matrix verb ᴩaa ‘know’, have the auxiliary a in participle. This contrast between Future and split Durative Present suggests that there are two types of verbal clusters in Agul with different syntactic properties. Note the lexical verb is inside the verb cluster in Future, but outside it in split Durative Present, cf. Figures 6 and 7.
5.4. Coordination

The particle \( =\text{na} \) is used in Agul to coordinate both lexical categories and maximal projections. In the latter case it attaches to the head of a constituent.

\[
\text{(29) A1. } \text{gada-ji } [\text{kitab ruχ-a-j}] =\text{na } [k'\text{e}^3 \text{ lik'-a-j}] x-a-a. \quad \text{10}
\]

\[\text{boy-ERG book read-IPF-CONV=COORD letter write-IPF-CONV become-IPF-PRS}\]

\[\text{‘The boy is reading a book and writing a letter.’}\]

\[
\text{*k'\text{e}^3 [gada-ji lik'-a-j] =na [ruş-a ruχ-a-j] x-u-ne.}\]

\[\text{letter boy-ERG write-IPF-CONV=COORD girl-ERG read-IPF-CONV become-PF-PFT}\]

\[\text{‘The boy was writing and the girl was reading a letter.’}\]


\[\text{girl-ERG food cook-IPF-CONV=COORD bread bake-IPF-CONV } \{\text{IN}\} \text{be:PRS}\]

\[\text{‘The girl is cooking food and baking bread.’}\]


\[\text{girl-ERG food cook-IPF-CONV=COORD bread bake-IPF-CONV COP:PRS}\]

\[\text{‘The girl (usually) cooks food and bakes bread.’}\]


\[\text{girl-ERG food cook-IPF-S=COORD bread bake-IPF-S COP:PRS}\]

\[\text{‘The girl (usually) cooks food and bakes bread.’}\]

\[\text{10 Sentences of this type are grammatically possible, but sound unnatural and too complex to native speakers, so they bear at least one question mark. However, what is important for us here is the asymmetry between subject and object NPs and the contrast between absolute ungrammaticality and at least marginal acceptability. Lexical choice also plays a (not yet understood) role in such contexts.}\]
The girl cooks food and bakes bread.

The boy will read a book and write a letter.

As shown in A1, the verb forms a constituent (usually called VP) only with the object NP, but not with the subject NP. Notice that the results are exactly the same as in the head ellipsis test: the non-finite form in Future and split Durative Present behaves differently and does not form VP. Again, this correlation is not unexpected, since the auxiliary in these forms already belongs to the verbal cluster, but verbal clusters typically include only heads (or at least non-projecting categories), not maximal projections. See Figures 8 and 9.

Figure 8. VP in clause headed by VC2.  Figure 9. VP in clause headed by the copula.

It can be also noted that coordinating periphrastic forms with a converb as non-finite part give more acceptable sentences than coordinating periphrastic forms with a participle. Seemingly, worse results in the latter case cannot be ascribed to semantic or pragmatic factors. This fact suggests that the difference arises due to different structural positions of converbs and participles. This is confirmed by the fact that the same periphrastic form Participial Present rüxejef e (< rüxej aje fe e) includes both the converb and the participle. When realized as rüxejef e, this form patterns with participial forms of the type rüxej e (cf. D and E1), but when realized as rüxej aje fe, it behaves similar to other forms with converb (cf. B, C and E2). Examples E1 and E2 show that both the converb and the participle within this periphrastic form form VP with the object. Three facts, namely

(i) both the converb and the participle form VP with the object,
(ii) lower acceptability of coordinated participles,
(iii) internal structure of the form rüxej aje fe e (with the converb preceding the participle),

allow us to conclude that
(a) the converb is closer to the object,
(b) VP headed by the converb (labelled as VP1 on Fig. 10–12 below) is the complement of VP headed by the participle (labelled as VP2 below).
Interestingly, coordinating participles within the original form \( rüxej \ ajef \) yields even less acceptable results than coordinating participles within the form \( rüxej \ ajefe \), see (30). Although syntactically this structure is well-formed, such constructions are considered to be too ‘heavy’ and difficult to produce and parse.

(30) ???ruñ-a [jamak rüx-e-j a-je-f]=na [guni uñ-a-j
girl-ERG food cook-IPF-CONV \{IN\}be-PART-S = COORD bread bake-IPF-CONV
a-je-f]
\{IN\}be-PART-S COP:PRS
‘The girl cooks food and bakes bread.’

The structure of all the three variants of Participial Present (\( rüxej \ ajef \)) is shown on Figures 10, 11, 12.

Figure 10. \( rüxej \ ajef \).

Figure 11. \( rüxejef \).

Figure 12. \( rüxej \ ajefe \).

Similarly, other forms have structures shown on Figures 13 and 14.
5.5. Word order

In this section we are interested whether the object (or any other) NP can be placed between the non-finite part and the auxiliary.

(31)

A1. ruχ-a-je kitab  x-a-a  gada-ji.
    read-IPF-CONV book  become-IPF-PRS boy-ERG

A2. *ruχ-a-je kitab  a  gada-ji.
    read-IPF-CONV book  {IN}be:PRS boy-ERG
    ‘The boy is reading a book.’

B. ruχ-a-je kitab  a  gada-ji.
    read-IPF-CONV book  {IN}be:PRS boy-ERG
    ‘The boy is reading a book.’

C. *ruχ-a-je kitab  e  gada-ji.
    read-IPF-CONV book  COP:PRS boy-ERG
    ‘The boy (usually) reads a book.’

D. *ruχ-a-f kitab  e  gada-ji.
    read-IPF-S book  COP:PRS boy-ERG
    ‘The boy (usually) reads a book.’

E1. *ruχ-a-je-f kitab  e  gada-ji.
    read-IPF-PART2-S book  COP:PRS boy-ERG

    read-IPF-PART2-S book  {IN}be-PART-S-COP boy-ERG
    ‘The boy (usually) reads a book.’

F. *ruχ-a-s kitab  e  gada-ji.
    read-IPF-INF book  COP:PRS boy-ERG
    ‘The boy (usually) reads a book.’
As is expected, the object NP cannot be placed between the auxiliary and the non-finite verb in Future and split Durative Present, where both components form the cluster. However, contrary to our expectations, the object NP cannot be placed also between the auxiliary and the non-finite verb in C, D, E1, E2, where the auxiliary is the head. Note that all of these forms have the copula as the auxiliary, while A1 and B (with the auxiliary and xas) allow insertion of the object NP. We take this contrast as evidence for existence of two different heads (and projections):

(i) the copula e is of type I1,
(ii) the auxiliaries a and xas are of type I2.

Recall that in 5.2 we distinguished between two types of verbal clusters (between clusters with e and xas). The word order facts in this section give the same result distinguishing between the copula e and the auxiliary xas. In addition, the word order test indicates that the locative verb a belongs to the type of head as xas.

5.6. Summary of syntactic diagnostics

- Additive particle between V and I
  Whether V and I are separate syntactic words or not
- Head ellipsis
  Whether I is the head or it forms a verbal cluster with a non-finite verb
- I as morphosyntactic locus
  Distinguishes between two types of verbal clusters: one headed by the copula and the other headed by xas
- Coordination
  Whether V and the object NP form VP
- Word order
  Distinguishes between two types of heads: e vs. a, xas

<table>
<thead>
<tr>
<th></th>
<th>Additive particle between V and I</th>
<th>A</th>
<th>A1</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E1</th>
<th>E2</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>2.</td>
<td>Head ellipsis</td>
<td>I</td>
<td>VC</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>VC</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>I vs. VC as morphosyntactic locus</td>
<td>+</td>
<td>VC</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>VC</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Coordination: VP?</td>
<td>?+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
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</tr>
<tr>
<td>5.</td>
<td>Word order</td>
<td>H₂</td>
<td>H₂</td>
<td>H₂</td>
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<td>H₁</td>
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<td>H₁</td>
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</tbody>
</table>

The most important result of these tests is that they do not give contradictory results, but confirm and, hence, support each other.
6. Semantic motivation of syntactic structure

As a result of applying syntactic diagnostics above, we found the following distinctions between syntactic structures of different periphrastic forms:

(i) two types of VPs: VP₁ and VP₂,
(ii) two types of heads: I₁ and I₂,
(iii) each of I₁ and I₂ can be either a separate syntactic word or a verbal cluster.

So far, we have distinguished between them by means of numerical indices. However, an important question is whether we can find some meaningful labels for different syntactic objects. In short, we think that this is indeed possible, although we cannot yet provide a full and articulated answer to this question (partly due to space limitations, partly because this requires further investigation). Nevertheless, we give some preliminary labellings based on semantics and syntax of primary periphrastic forms:

- the copula e (I₁) expresses the distinction between events that are relevant to the actual state of affairs and events that are not (any longer) relevant to the actual SoA (present e vs. past ij) and roughly can be labelled as T(ense);
- the locative verb a and the auxiliary xas: State (very preliminarily)
- VP₁ distinguishes between perfective and imperfective events (perfective vs. imperfective converb) and should be labelled as Asp(ect);
- VP₂ is occupied by participles which we (preliminarily) label as Fact(ive);
- Future (infinitive + e) expresses reference to future events as well as various modal meanings. A possible solution as to how label the infinitive can be Mod (future/modal meanings minus relevance to the actual SoA).

These labels allow us to provide (meaning)fully annotated syntactic trees for all primary periphrastic forms. Figure 15 shows the structure of Present, whereas Figure 16 shows the general structure of periphrastic forms with the copula e (non-finite forms that can appear in a certain position are shown in the terminal nodes).

Below we present how the general structure shown on Figure 16 is realized in Present Habitual, Generic Present, Participle Present, and Future.
Hierarchical structure as on Fig. 17–20 of functional heads can be thought of as constituting extended verbal projection. The object NP is generated as the complement to the lowest generated head within the extended verbal projection, while the subject NP is generated as the specificator of the highest head.

Two further points should be highlighted. First, we assume that the nodes are generated only if there is phonologically pronounced material to be placed in it. Cf. absence of AspP in Generic Present (Fig. 18), absence of FactP in Habitual (Fig. 19) and absence of both in Future (Fig. 20).

Second, there is no such head as V in our structure. The lexical verb is generated in the lowest present functional head associated with a given periphrastic form. This allows us to avoid unnecessary complications related to empty VP, namely, why the verb is generated in this position in some forms, but is not there in others.

These two points imply that if a periphrastic form does not have fully articulated syntactic structure, i.e. if phonological fusion of two (or more) functional heads occurs, the lexical verb is generated in the highest of fusing nodes. Ultimately, this means that synthetic / morphologized forms are located in T. As an examples, consider three variants of Participial Present on Fig. 21–23 (cf. the full structure on Fig. 17).
Recall that different realizations of the same form (Participial Present in this case) display different syntactic behaviour (see section 5.6). This fact is readily explained under our syntactic representation, since forms that behave in the same way have the same structural representation. Cf. Habitual (Fig. 19) and Generic Present (Fig. 18), on the one hand, and two variants of Participial Present (Fig. 21 and 22).

**Figure 21.** Participial Present (*ruχaj ajefe*).

```
TP
| NP
|   | gada-ji [boy-ERG] AspP
|   |   | T
|   |   |   | a-je-f-e
|   |   |   | [(IN)be-PART-S-COP]
|   |   | kitab ruχ-a-j [book] [read-IPF-CONV]
```

**Figure 22.** Participial Present (*ruχajef e*).

```
TP
| NP
|   | gada-ji [boy-ERG] FactP
|   | T
|   |   | e
|   |   | [(COP]
|   |   | kitab ruχ-a-je-f [book] [read-IPF-PART-S]
```

**Figure 23.** Participial Present (*ruχajefe*).

```
TP
| NP
|   | gada-ji [boy-ERG] NP T
|   |   | kitab ruχ-a-je-f-e [book] [read-IPF-PART2-A-COP]
```

### 7. Diachronic interpretation

From a diachronic point of view, single-word realizations similar to one on Fig. 23 can be viewed as a result of morphologization of original periphrastic forms like that on Fig. 17 with intermediate stages shown on Fig. 21 and 22. The morphologization process consists of two steps that can be represented as ‘diachronic head-to-head movement’, see Fig. 24 (NB! We do not assume that structures on Fig. 21, 22, 23 are surface representations resulting from application of something like ‘Move α’ to the structure on Fig. 17).

Notice that the intermediate structures on Fig. 21 and 22 show that (i) the two steps are independent of each other and (ii) single-word realization occur as the result of two subsequent ‘movements’. As far as motivation for such simplification is concerned, we can safely assume that something like ‘Economy of expression’ (Bresnan 2001) is operative here, leading to realizations containing less words.
8. Co-existence of single-word and periphrastic realizations

Another point of interest here is co-existence of single-word realizations and synonymous periphrases which differ in some pragmatic / information structure features. This indicates that they do not exclude each other, as is often supposed, and no special principles excluding their co-existence are needed (cf. morphological blocking in Andrews 1990). Rather, cross-linguistic tendency towards complimentary distribution between single-word realizations and periphrastic forms is in fact just one of possible diachronic paths of evolution.

Synthetic expressions arising as a pragmatically marked way of expression, gradually loose their marked status due to constant inflation / bleaching processes. We suppose that at this point there are two alternative options. Either periphrastic expressions disappear, or both forms may co-exist, but now periphrasis becomes pragmatically marked. We cannot exclude that in the latter case at some further time point the distinction between synthetic and periphrastic expressions can be lost due to the fact that alternative realizations are no longer seen as conveying different pragmatic information.

9. Syntactic structure of secondary periphrastic forms

So far we have said nothing about the structure of clauses headed by secondary periphrastic forms. As is seen from the table in section 6, the auxiliary e / a forms a cluster with the non-finite part of the auxiliary xas and the non-finite part of it forms VP with the object NP. Diachronically, this obviously results from insertion of the primary periphrastic form of the verb xas as the head of the structure on Fig. 16. The inflected verb xas itself, when realized periphrastically, has the same structure (except that no object NP generated).

However, there is evidence (we will not go into details here, since this requires further study) that when the whole primary periphrastic form is inserted as the head of a secondary periphrastic form, (i) the hierarchy of functional heads, and (ii) the difference between two heads T and State are lost, so that the internal structure of the head is almost flat (though infinitive stands apart again). Observed syntactic behaviour together with diachronic considerations gives a preliminary general structure of secondary periphrastic forms on Fig. 25, while Figure 26 is the syntactic representation of Durative Present.
Figure 25. General structure of secondary periphrastic forms.

```
StateP
   NP       State'
      FactP
           AsnP     Fact
                   Asp    Fact
                       X
                     NP
                       Asp
                  PART
                    Mod
                      T
                    CONV
```

Figure 26. Durative Present.

```
StateP
   NP       State'
      gada-ji
        [boy-ERG]
        AsnP
            Asp
                   X
                     NP
                       Asp
                  ruž-a-j
                    x-a-j
                      a
                    [book] [read-IPF-CONV] [become-IPF-CONV] [(IN)be:PRS]
```

References


