Accounting for cross-linguistic variation in modification by depictives*

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1. Introduction

1.1 Depictives

- Depictives are constituents (typically APs) that describe a stage-level property of a participant of the situation described by the main verb.
- A depictive must not be a subconstituent of the DP that expresses the participant.
- I will use the term “host” for the participant modified by the depictive, and indicate the relationship between a depictive and its possible hosts by indices.

(1) a. Maryi ate the fishi raw#1/#j drunki/#j.
   b. Johni served Maryi coffee drunki/*j.

- Depictives have been the subject of a vast literature, see e.g. Himmelmann & Schultze-Berndt (2004), Rothstein (2017), Potsdam & Haddad (2017), and the references there.
- The semantics and, to some extent, the morphological marking of depictives, have been relatively extensively studied crosslinguistically, see, e.g. Schultze-Berndt & Himmelmann (2004); Himmelmann & Schultze-Berndt (2005); Schroeder et al. (2008), and Schultze-Berndt (2017).
- The variation in what can serve as a depictive host across languages has been studied much less.

1.2 Possible depictive hosts

- In English, only subjects and direct objects can serve as hosts1, Williams (1980).
- The same pattern obtains in several other well-studied languages, e.g. Spanish, Demonte (1987), Basque, Obria (2014) via Bárány (2018).
- But there are languages where it is not so, see e.g. Nichols 1978: (120-121) for Finnish (2), Marušič et al (2003; 2008) for Slovenian, and Irimia (2005) for Romanian and Albanian.

* The main bulk of the data for this work was collected during my fieldwork in North Ossetia in 2010-2013 in the city of Vladikavkaz and in the village of Lesken. I thank the Takazov family for their hospitality: Aslan Guriev, Elizaveta Kochieva, and Fedar Takazov for crucial help in organizing the work, and for all my consultants for their immensely generous and patient cooperation. I'm grateful to Arbilana Abaeva, Uruzmag Abaev, Tsara Dhanae, Elizaveta Kochieva, Andzhela Kudzoeva, and Fedar Takazov for some last-minute judgments. I thank Arzhaana Suryun for a discussion of the Tyvan data. Thanks go to Daniel Büring, Seth Cable, Kyle Johnson, Idan Landau, Tova Rapoport, and Rok Žaucer for their feedback and discussions at various stages of this research.

1 This generalization has apparent exceptions, see Maling (2001) and Demonte (1987) for examples, and Pylkkänen (2008) for a discussion.
There has been relatively little systematic cross-linguistic research on what constituents can be modified by depictives.

1.3 DepP

- I will use the notation DepP for the immediate constituent containing a depictive.
- At a first approximation, there is a large consensus in the literature about the internal structure of DepP.
- The nature of Dep⁰ and of its Spec depends on the specific proposal, more of that later.

The head Dep⁰ is assumed to be responsible for the idiosyncratic morphological marking that the adjective receives, e.g. the essive marking in Finnish (2), and for the depictive semantics.

2. Analyses in the literature

**Basic Questions:**
- How is the relation established between a depictive and its host?
- What is the syntactic position of the depictive?

**Main contenders in the literature** for this relation:
- Control
- Binding
- Semantic combination with arguments at the LF
- Grafting of DepP to the finite clause
- Merger of DepP (with the host DP as its subject) in the position of the host.

2.1 Control of PRO

- Spec DepP is taken to be occupied by PRO. (Chomsky (1981: ch. 2.6); Safir (1983: 735); Stowell (1983); Hornstein & Lightfoot (1987: 27); Franks & Hornstein

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Glosses and abbreviations: ADESS adessive; ABL ablative; ALL allative; ApPL applicative; CVB converb; DAT dative; ESS essive; GEN genitive; INS instrumental; LOC locative; PART partitive; POSS.1/2/3.PL/SG possessive proclitic; PRV preverb; REFL reflexive; SUP superessive;
(1992); Bowers (1993); Legendre (1997: 44); Zhang 2001; Szajbel-Keck (2015); and others)

2.2 Binding


- The restriction to subjects and direct objects was taken to be semantic by Rothstein (1983: 154).
- With the advent of a richer clause structure, specifically, with the introduction of vP and ApplP, this property has become to be deducible syntactically (more about this later).

2.3 Semantic combination with arguments at LF

Pylkkänen (2008):

- A specific proposal about the semantics of Dep and Appl (based on Geuder 2000).
- Applicatives can be “high” and “low”, that is, they can be higher or lower than V^0.
- The semantics of high and low applicatives are different.
- DepP can only adjoin to vP (VoiceP in her notation) and VP (for type matching reasons)
- DepP cannot combine with low applicatives (for semantic reasons) but can do so with high applicatives.
- Apparently, her analysis massively over-generates.
- Some of Russian indirect objects are demonstrably high applicatives, Boneh & Nash (2017), but they are still unable to be modified by depictives.
- Bruening (2010, 2018a, 2018b) effectively argues against the low-applicative analysis of ditransitives in English.
- If Bruening’s reasoning is correct, Pylkkänen’s analysis is inapplicable even to English.

2.4 Grafting

- Rapoport (1999) for English; You (2016) for Spanish; Rapoport & Irimia (2018)
- DepP and the rest of the clause are derived separately.
- Then, a multidominant structure is created.

(4) Spanish, You (2016: 723-725)
  a. Juan comió la carne cruda
     J. ate DEF.F meat raw.F.SG
     ‘Juan ate the meat raw.’
Rapoport (1999) and Irimia & Rapoport (2018) implement grafting differently. It is unclear how such systems account for restrictions on the type of a host.

2.5 Merger of DepP in lieu of the host DP: Marušič et al (2003, 2008) for Slovenian

- In Slovenian, no restrictions are reported to obtain on DPs that host depictives.
- Proposal: The host DP is the subject of a small clause whose predicate is the depictive. The respective small clause is merged wherever the respective DP could be merged.

(5) Slovenian, Marušič et al. (2008)

a. Včeraj smo na Vidaškočesto pjanego, naleteli na Prešercu
yesterday AUX.1PLonto Vid. ACC still completely drunk ran on Prešeren. square ‘Yesterday we ran into Vid at Prešeren square, and he was still completely drunk.’

b. PP

P DepP

DP Dep0 AP

- It’s not fully clear how to modify this proposal to make it sensitive to differences between hosts.

Table 1. Proposed analyses and their predictions

<table>
<thead>
<tr>
<th>Type of Proposal</th>
<th>Languages it’s been proposed for</th>
<th>Predicted restrictions on the host</th>
</tr>
</thead>
<tbody>
<tr>
<td>Binding</td>
<td>English, Eastern Slavic</td>
<td>to be explored</td>
</tr>
<tr>
<td>Control</td>
<td>English, Polish</td>
<td>to be explored</td>
</tr>
<tr>
<td>Merger of DepP in lieu of the host DP</td>
<td>Slovenian</td>
<td>no restrictions on the host</td>
</tr>
<tr>
<td>Composition on LF</td>
<td>proposed to be universal</td>
<td>S, DO, High applicatives in Low applicatives out</td>
</tr>
<tr>
<td>Grafting &amp; Multidominance</td>
<td>English, Spanish</td>
<td>no obvious restrictions</td>
</tr>
</tbody>
</table>
• Out of these, the grafting-based approach and that of Pylkkänen (2008; 2010) can be rejected out of hand.
• The main contenders for depictives sensitive to the type of a host are binding and control.

My proposal:

• Spec DepP is occupied by a null anaphor.
• The relationship between a host and a depictive is that of anaphoric binding.
• As standardly assumed in binding-based approaches, different readings correspond to different base positions of the DepP.
• Across languages, DepP can adjoin to VP, AppIP, and vP.
• I conjecture that the binding-based approach (with varying adjunction sites) can account for the entire range of cross-linguistic variation.

The argument briefly

• I first look at one case study, that of Ossetic, with a pattern of depictive hosting very different from the “Standard Average European”
• “Depictive control” in Ossetic is very different from the “normal” adjunct control. Only subjects and direct objects may control non-finite adjuncts.
• On the other hand, the relationship between a depictive and its host is reducible to binding under c-command (with some additional assumptions).
• The arguments are of the same type that are standardly marshalled to tell apart control and binding, Landau (2013: 57-58).

3. Case Study: Depictives in Ossetic
3.1 Background on Ossetic

• Ossetic: Two closely related Iranian languages, Iron Ossetic and Digor Ossetic, spoken in the Central Caucasus, Erschler (2018; to appear).
• Predominantly head final, with a moderately large case system, for a recent nanosyntactic analysis of case in Ossetic, see Caha (2019).
• The case is marked on the right edge of DP.
• The DP is rigidly ordered and unsplittable; it shows no overt agreement, either in case or in number, (6).

(6) a. aʧi ustur wors beχ Digor Ossetic
    this big white horse
    ‘this big white horse’

b. aʧi-∅ ustur-∅ wors-∅ beχ-t-en Digor Ossetic
    this big white horse-PL-DAT
    ‘for these big white horses’

• The constituent order in a finite clause is relatively flexible (see Kudzoeva (2003) and Erschler (2012) for a discussion of restrictions it is subject to).
3.2 Depictives in Ossetic

3.2.1 Marking and Meaning of Depictives

- Depictives are obligatorily marked with the ablative, (7a), no matter what the case of the host DP is. They do not agree with the host in number (7 b).

(7) a. soslan <tuzmeg-*ej> ratsudej <tuzmeg-*ej> Digor
   S. angry-ABL s/he.left
   ‘Soslan left angry.’

   b. inne-tæ=ba eguppeg-ej baduntse
      other-PL=CTR silent-ABL sit.PRS.3PL
      ‘Others are sitting silent.’ Ik’atı 2011: 23

- In other instances of non-verbal predication, the ablative marking does not arise.

(8) a. copular clauses
   je=der kedzos adtej Digor
   it.NOM=too clean.NOM was
   ‘It (air) was clean too.’ (from a recorded narrative)

   b. ‘become X’
      se=tsard=der tsubur issej Digor
      their=life.NOM=too short.NOM became
      ‘Even their life became short.’ (from a recorded narrative)

- Conclusion: Depictives are a separate class of predicates in Ossetic, cf the argument of Matushansky’s (2019) against a one-serves-all PredP.
- I assume that the ablative is assigned to the AP by Dep^0.

3.2.3 Depictive hosts: Arguments vs. Adjuncts

- Any verb argument in Ossetic, no matter which morphological case marks it (except the Iron comitative), can host a depictive.

(9) a. Subject; Direct object
   ëzine ervong-eji soslan-i pro fejjidton Digor
   yesterday sober-ABL S-ACC I.saw
   ‘Yesterday, I saw Soslan (when I/Soslan was) sober.’

   Idiosyncratically marked second argument

   c. Ablative ‘to fear X-ABL’
      soslan xeteg-eji rasug-eji tersuj Digor
      S Kh-ABL drunk-ABL fears
      ‘Soslan fears Khetag drunk.’
d. Superessive ‘to trust X-SUP’
   soslan, yeteg-bel, rasug-εi/j, ewwendoj  Digor
   S  X-SUP  drunk-ABL  trusts
   ‘Soslan trusts Khetag drunk.’

e. Ditransitives
   dative marked host
   soslan, yeteg-enj, majin-i, dinkel-te, rasug-εi/j, ravardta  Digor
   S  Kh-DAT  car-GEN  key-PL  drunk-ABL  gave
   ‘Soslan gave Khetag the car keys when he εi/j was drunk.’

f. ablative marked host (Iron Ossetic)
   soslan, yeteg-εj, majin-o, dinkel-te, rafag-εi/j, rajfa  Digor
   S  Kh-ABL  car-GEN  key-PL  drunk-ABL  took
   ‘Soslan took the car keys from Khetag when he εi/j was drunk.’

- On the other hand, for the majority of consultants, adjuncts are never able to be modified by depictives. The subject wins out even when the resulting interpretation is pragmatically odd, like in (10a).

(10) a. Case-marked adjunct
   tikisi, soslan-bel, rasug-εi/j, χussuj  Digor
   cat  S-SUP  drunk-ABL  sleeps
   ‘The cat sleeps on Soslan (when it/*Soslan is) drunk.’

b. PP adjunct
   soslan alan-i, razi, rasug-ej, lewuj  Digor
   S  A-GEN  in.front.of  drunk-ABL  stands
   ‘Soslan stands in front of Alan drunk’

- The contrast between the superessive NPs in (9d), where it’s an argument, and in (10a), where it’s an adjunct, show that it is not the case marking, but indeed the argument/adjunct status that is responsible for the ability of NPs to control depictives in Ossetic.
- Possessors cannot host depictives.

(11) [soslan-i, χedzarej, basuddej, rasug-εi/j]
    Soslan-gen  house  burned  drunk-ABL
    ‘Soslan’s house burned drunk.’  Digor

4. Towards an analysis
4.1 Against control

- The behavior of control clauses is very different from that of depictives.
- We are interested primarily in control into adjuncts, because Deps are adjuncts, but control into complements behaves in the same manner.
- Converb clauses can only be controlled by subjects or direct objects, see also Belyaev & Vydrin (2011: 123-124) for Iron Ossetic.
(12) Subject control
a. soslanje=nsuver-ej [PROi/*] χod-ge-j] raledzuj
Soslan POSS.3SG=brother-ABL laugh-CVB-ABL runs.away
‘Soslan is running away from his brother laughing.’ Digor

b. Object control
soslan medin-iʃe fissidta [PROi zar-ge-(j)]
Soslan Madina-ACC see.PST.3SG sing-CVB-ABL
‘Soslan saw Madina sing.’ Digor

• Other arguments cannot control converbial clauses, although we have seen that they can serve as depictive hosts.
• This is illustrated for a dative-marked IO in (13a). The sentence with a depictive in (13b) serves as a minimal pair.

(13) a. fidɐi e=furt-ən dewelte
father.NOM POSS.3SG=son-DAT keys
[kust-me PROi/* ratşewu-ge-j] ravardta
work-ALL go.away-CVB-ABL give. PST.3SG
‘The father left the keys to his son when PROi/* leaving for the work’

b. soslan xeteg-ən maʃin-i dewel-te rasure ej iʃe
S Kh-DAT car-GEN key-PL drunk-ABL gave
‘Soslan gave Khetag the car keys when he was drunk’

CONCLUSION: The relationship in Ossetic between a DepP and its host is not that of control.

3.2 In favor of binding
3.2.1 What can bind anaphors

• Subjects and DOs can bind anaphors

(14) a. Subject
ez me=xe enamond ne=χon-un
I POSS.1SG=REFL unlucky NEG=call-PRS.1SG
‘I do not call myself unlucky.’ Aghuzarti A.

b. DO
soslan-i xe=xe xetstse ba-zonge kodton
S ACC POSS.3SG=SELF with PRV-known do.PST.1SG
‘I introduced Soslan to himself.’

• Arguments with lexical case marking can bind anaphors

(15) Iron Ossetic
‘to believe (in) X-SUP’
ʃoʃlan-əl me=mad ηwewendo je=χi fersə
Soslan-SUP POSS.3SG=mother believes POSS.3SG=REFL for.the.sake
‘Soslan’s mother believes in him for his own (lit. himself’s) sake.’
• IOs can bind anaphors

(16) a. soslan-me₁ ᵇ=χeᵢ/*j bavdistonDigor
S-ALL POSS.3SG=7elf I.showed
‘I have shown Soslan himself’

b. ᵇ=χeᵢ/*j soslan-i₁ bavdiston Digor Ossetic
POSS.3SG=7elf-ALL S-ACC I.showed
Idem

• As we have seen, all these entities can serve as depictive hosts.

3.2.2 What cannot bind anaphors

• Adjuncts cannot bind anaphors (17).

(17) χetɐgᵢ raʣoruj soslan-bɐl j ᵇ=χeʦ-ɐnDigor
Kh.NOM tells Soslan-SUP POSS.3SG=REFL-DAT
*‘Khetag is telling himself about Soslan.’

• Possessors and PP complements cannot bind anaphors

(18) a. Possessor
batradžᵢ warzuj[ᵦ=χe-belᵢ/*j] soslan-i₁ radʒør-te-merge
Batraz loves POSS.3SG=REFL-SUP Soslan-GEN story-PL-ALL
PRO₁ iəos-un]
listen-INF
‘Batraz loves to listen to Soslan’s stories about himself[i/*j],’ Digor

b. Postposition complement
*ᵦ=χe soslan-i χetstse ba-zonge kodton
POSS.3SG=7elf.ACC S-GEN with PRV-known do.PST.1SG
lit. ‘I made himself acquainted with Soslan,’ (intended) Digor

• As we have seen, adjuncts, possessors, and PP complements cannot serve as depictive hosts.

Conclusion: A full parallelism exists between hosting depictives and binding anaphors in Ossetic.

4. Proposal

To repeat, Basic Questions:

➢ How is the relation established between a depictive and its host?
➢ What is the syntactic position of the depictive?

4.1 Basic Answers

✓ The relation is that of anaphoric binding under the appropriately defined c-command relationship. Specifically, I assume that only maximal projections count for the purposes of c-command (m-command).
• DepP can adjoin to VP, ApplP, and vP.
  • I make fairly standard assumptions about the clause structure (19).
  • Nothing in the proposal depends on whether DO is generated as the complement of V°, as shown in (19), or as the specifier of a respective functional projection, as in Borer (2005); Ramchand (2008), Adger (2013), a.o.
  • Likewise, nothing hinges on whether idiosyncratically case-marked internal arguments (9 c-e) are Spec ApplPs or are the complements of the respective V°'s.
  
(19)  
\[
\text{vP} \\
\text{Subject} \\
\text{v'} \\
\text{v} \\
\text{ApplP} \\
\text{DP} \\
\text{Appl'} \\
\text{Appl} \\
\text{VP} \\
\text{V° DO}
\]

• REMARK: The order DO>IO is also possible, see the binding facts in (16).
  • Accordingly, DepP may occupy the positions shown in (20).
  • In (20), DepP₁ is a subject-oriented depictive; DepP₂ is an applicative-oriented depictive; and DepP₃ is an object-oriented one.

(20)  
\[
\text{vP} \\
\text{Subject} \\
\text{vP} \\
\text{DepP₁} \\
\text{v'} \\
\text{v} \\
\text{ApplP} \\
\text{DP} \\
\text{ApplP} \\
\text{DepP₂} \\
\text{Appl'} \\
\text{Appl} \\
\text{VP} \\
\text{DepP₃} \\
\text{V'} \\
\text{V° DO}
\]

• The c-command relationship between a DP and a depictive that modifies it must hold at the base position. It doesn't need to hold on the surface.
4.2 Deriving the properties of Ossetic depictives

- **Ruling in arguments:** this follows immediately from the c-command condition.
- **Ruling out PP complements and regular possessors** (that is, possessors other than in idiomatic expressions): this again follows immediately from the(underlying) c-command condition.
- Possessors occupy Spec DP in Ossetic, Erschler (2019).

**Ruling out adjuncts**
- Adjunct bare DPs are introduced by null adpositions.
- Alternatively, we may just posit that adjuncts cannot bind in Ossetic.
- Either assumption is unfortunately stipulative, but at least it reduces restrictions on depictives to restrictions on anaphor binding.

4.3 What exactly is bound?

- Ossetic data do not allow us to decide whether Spec DepP is null (in which case the host binds Dep⁰ or DepP) or occupied by a dedicated anaphor.
- The locality domain for this anaphor in the Ossetic can be taken to be the minimal finite clause.

5. Cross-linguistic generalizations

- **Conjecture:** cross-linguistically, binding can account for the properties of the depictives.
- The variation comes from variation in the lexical properties of Dep⁰ and in the binding properties of the anaphor in Spec DepP.
- The lexical properties of Dep⁰ are responsible for possible adjunction sites of DepP.
- The size of the binding domain of the anaphor is its lexical property.

5.1 Why does the binding domain matter?

**Case study 1:** Russian instrumental-marked depictives

- Russian has object-oriented depictives, but lacks applicative-oriented ones.

(22) ja̱ zakoldoval maly̱sa̱ jevo deduḵ pjan-ym/j/*k
I. jinxed kid.ACC his grandfather.DAT drunk-INS.M
‘I jinxed the kid for his grandfather drunk.’ Boneh & Nash (2017: 926)³

- IOs are able to bind DOs in Russian (see e.g. Nash & Boneh 2017)

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³ The judgment that the depictive can be DO-oriented is mine.
- If the binding domain of depictives were the same as for regular anaphors, we would have predicted that applicatives would be able to bind depictives adjoined to VP.
- Proposal: the binding domain of the respective depictive anaphor is the category it adjoins to.
- Under this assumption, DepP adjoined to VP is not visible either the subject or any applicative.

**Case Study 2: Tyvan (Turkic)**

- Tyvan only has DO-depictives; subject depictives are expressed by converbial clauses, Nevskaya (2019).

(23) Tyvan, Nevskaya (2019)

\[\begin{align*}
a. & \quad \text{ol etti} \, \text{čig-ge či:r} \\
& \quad \text{he meat-ACC raw-DAT eats} \\
& \quad \text{‘He eats meat raw.’}
\end{align*}\]

\[\begin{align*}
b. & \quad \text{ol aniyaqtur-γaš čoq.apar-γan} \\
& \quad \text{s/he young stand.AUX-CVB die-PERF} \\
& \quad \text{‘S/he died young.’ (lit. ‘being young’)}
\end{align*}\]

**Proposal:** DepP only can adjoin to VP in Tyvan, and VP serves as its binding domain.

**Conjecture:** Depictive anaphors always have the narrow binding domain.

<table>
<thead>
<tr>
<th>Table 2. Cross-linguistic predictions</th>
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<tbody>
<tr>
<td>Adjunction site of DepP</td>
</tr>
<tr>
<td>DP</td>
</tr>
<tr>
<td>vP</td>
</tr>
<tr>
<td>VP</td>
</tr>
<tr>
<td>vP, VP</td>
</tr>
<tr>
<td>vP, VP, ApplP</td>
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</tbody>
</table>

6. Conclusion

- A binding-based account has enough flexibility to explain the cross-linguistic variation in the realm of depictives.
- Further typological research is needed to check whether languages exist where only subjects are able to host depictives.

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