CONTROL INTO SELECTED CONJUNCTS

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Abstract

This paper proposes an analysis of coordination of unlike categories, where some of the conjuncts are controlled and others are not. It shows that the most straightforward analysis, using defining off-path constraints, is a solution for theoretical LFG, but currently does not work in grammars implemented in XLE. For this reason, an alternative working analysis introducing a new attribute on all conjuncts, CONTROLLER, is offered.

1 Introduction

Two problems arise when categories corresponding to grammatical functions which prototypically differ with respect to the closed/open classification are coordinated, as in (1), an example from Polish where the first conjunct is an infinitive (*pić* 'drink'), while the other is a nominal (*papierosa* 'cigarette'):

(1) Chcę pić i papierosa.
want drink.INF and cigarette.ACC
'I want to drink and (I want) a cigarette.' (Kallas 1993: 123, ex. (102))

Arguments from case transmission given in Przepiórkowski 2004 show that functional control – not anaphoric control – is involved in Polish subject control.[1] The relevant examples are (2)–(3), where the form of the predicative adjective MIŁY 'nice' must agree in case with the controlling subject.[2]

(2) Janek chce być miły.
Janek.NOM.SG.M1 wants be.INF nice.NOM.SG.M1
'Janek wants to be nice.'

(3) Pięć dziewcząt chce być miłe / miłych.
five.ACC.PL.N girls.GEN.PL.N wants be.INF nice.ACC.PL.N nice.GEN.PL.N
'Five girls want to be nice.'

While in (2) both the subject *Janek* and the predicative adjective *miły* are marked for nominative case, in (3) the predicative adjective can either be marked for accusative case (*miłe*) or genitive case (*miłych*). This variation is attributable to the fact that the subject in (3) is a numeral phrase (*Pięć dziewcząt*) and the predicative adjective can either agree with the accusative[3] numeral head (*Pięć*) or its genitive nominal object (*dziewcząt*).

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[1]Also in Czech, see Przepiórkowski and Rosen 2005, and possibly in other Slavic languages.

[2]As indicated in glosses in (2)–(3), Polish predicative adjectives obligatorily agree with their controller in number and gender.

[3]In Polish non-agreeing numeral subjects (those which require the nominal to appear in genitive case) are marked for accusative case, not nominative. See Przepiórkowski and Patejuk 2012b for discussion.

It follows that, without coordination, the infinitival conjunct in (1) by itself would be a prototypical instance of XCOMP, an open grammatical function; this is shown in the f-structure in (5), which corresponds to sentence (4). By contrast, the nominal conjunct in (1) would typically be classified as an OBJ, a closed grammatical function – see the f-structure (7) for example (6).

(4) Chcę pić.
want drink.INF
'I want to drink.'

(6) Chcę papierosa.
want cigarette.ACC
'I want a cigarette.'

(5)
$$\begin{bmatrix} \text{PRED} & \text{`WANT}\langle \boxed{1}, \boxed{2} \rangle\text{'} \\ \text{SUBJ} & \boxed{1}\begin{bmatrix} \text{PRED} & \text{`I'} \end{bmatrix} \\ \text{XCOMP} & \boxed{2}\begin{bmatrix} \text{PRED} & \text{`DRINK}\langle \boxed{1} \rangle\text{'} \\ \text{SUBJ} & \boxed{1} \end{bmatrix} \end{bmatrix}$$

(7)
$$\begin{bmatrix} \text{PRED} & \text{`WANT}\langle \boxed{1}, \boxed{2} \rangle\text{'} \\ \text{SUBJ} & \boxed{1}\begin{bmatrix} \text{PRED} & \text{`I'} \end{bmatrix} \\ \text{OBJ} & \boxed{2}\begin{bmatrix} \text{PRED} & \text{`CIGARETTE'} \end{bmatrix} \end{bmatrix}$$

The first issue with coordinate "unlike control" phrases such as that in (1) is their grammatical function: does the coordinated argument bear the grammatical function of the closed conjunct (OBJ), of the open conjunct (XCOMP), or some entirely different function? The second issue is how to establish the control relations appropriately – the nominal conjunct cannot be controlled (there is nothing to be controlled), while the infinitival conjunct must be controlled (more specifically its subject). The two following sections, §2 and §3, deal with these two issues in turn. Then, §4 shows how to account for structural case assignment into selected conjuncts under unlike category coordination. Finally, §5 concludes this paper.

2 What Grammatical Function?

It was suggested during the OBJ vs. COMP debate (Dalrymple and Lødrup 2000, Alsina et al. 2005, Forst 2006, Berman 2007, Börjars and Vincent 2008) that it may be reasonable to get rid of the COMP grammatical function, as it distorts the distinction between f-structure and c-structure: COMP is defined categorially, as the grammatical function assigned to closed clausal complements. Moreover, since clausal complements can be coordinated with uncontroversial nominal objects (see (8)), they should – at least in some cases – also bear the grammatical function OBJ, and their clausal categorial status should be ensured by other constraints.

(8) Pat remembered [the appointment] and [that it was important to be on time].
(Dalrymple and Lødrup 2000: ex. (5) = Sag et al. 1985: ex. (123a))

While Dalrymple and Lødrup 2000 maintain the COMP vs. OBJ distinction, treating only some clausal arguments as OBJ, Alsina et al. 2005 get rid of COMP altogether. Further arguments against the mixed approach of Dalrymple and Lødrup 2000 are provided by Forst (2006), who also shows the grammar engineering advantages of

getting rid of COMP; other work (Berman 2007, Börjars and Vincent 2008) also supports this move.[4]

Alsina et al. 2005: 41 go further, advancing the idea that the XCOMP should also be removed from the repertoire of grammatical functions: "If we abandon the function COMP in LFG, the obvious question is, what about the function XCOMP? Given that they are both clausal complements, and that XCOMP may be considered a special case of COMP, XCOMP should probably go the same way as COMP."

However, it is not so obvious whether XCOMP should be removed on the grounds that it is the same case as COMP since there are two approaches to what can correspond to this grammatical function. In theoretical LFG, XCOMP usually represents both infinitival and predicative complements. Though both can be classified as clausal complements, as in the above quote from Alsina et al. 2005, they may correspond to various c-structure categories (infinitival phrases, predicative nominals and adjectives), unlike COMP, which corresponds to CP, a subordinate clause introduced by a complementiser or an interrogative item. Hence, XCOMP is defined by c-structure categories to a much lesser extent than COMP, and the postulate to get rid of it is less justified. By contrast, implemented grammars such as those developed within the ParGram project (Butt et al. 2002) tend to use distinct grammatical functions for infinitival complements (XCOMP) and predicative complements (XCOMP-PRED). Under such a definition of XCOMP, it is indeed a special case of COMP, differing only in the fact that it is the grammatical function corresponding to infinitival clauses.

Regardless of which of these two definitions of XCOMP is adopted, coordination such as in (1) causes a problem under the standard LFG approach to coordination, where conjuncts in a coordinate phrase correspond to the same grammatical function. Even if the lexical entry of a verb has a disjunctive specification where particular disjuncts correspond to various valence schemata, one with XCOMP, the other with OBJ, as in the lexical entry of *Chcę* in (9), only one disjunct can be chosen. As a result, a multiclausal analysis where the first conjunct is a dependent of a verb taking an infinitival complement (see (10)), while the second conjunct is a dependent of the verb taking a nominal complement (as in (11)), is not possible.

(9) Chcę V [PRED-XCOMP ∨ PRED-OBJ]
(↑ SUBJ NUM)= SG
(↑ SUBJ PERS)= 1

(10) PRED-XCOMP ≡ (↑ PRED)='WANT<(↑ SUBJ)(↑ XCOMP)>'

(11) PRED-OBJ ≡ (↑ PRED)='WANT<(↑ SUBJ)(↑ OBJ)>'

These considerations provide some justification for adopting the assumption that the common grammatical function assigned to the coordinate phrase in (1) is OBJ.[5]

[4] But see Lødrup 2012 for a voice of dissent.

[5] This is the decision for the particular instance of coordination in (1). Note that it does not imply that OBJ should be used as the common grammatical function for all instances of unlike category

Moreover, following Arka and Simpson (1998), who convincingly argue for the possibility of control into SUBJ in Balinese, we assume that control into OBJ is also allowed in principle.

3 Establishing Control Appropriately

3.1 First Attempt (Failed)

In order to account for (1), the (pro-dropped) matrix subject must control the subject of the infinitival. Usually control is expressed via equations such as (12).

(12) (↑ SUBJ) = (↑ OBJ SUBJ)

The grammatical function OBJ is used in (12) instead of XCOMP, because OBJ was chosen as the common grammatical function of the coordinated argument in (1).

However, the control equation in (12) will not work in case of the coordinated object in (1). The difficulty stems from the fact that grammatical functions are distributive: "[G]overnable grammatical functions like OBJ are *distributive features*" (Dalrymple 2001: 365). This assumption is the basis of the analysis of coordination of heads which share arguments, as in (13), and for the explanation of the contrast – provided by Hall (1965: 66) – between (14) and (15); see Dalrymple 2001: 363–366.

(13) Chris selected and hired David.

(14) John washes and polishes his car in the garage.

(15) *John washes and keeps his car in the garage.

A control equation such as (12) will not yield the desired result under coordination of unlike categories such as in (1) because it would also distribute to the nominal conjunct, resulting in the violation of the coherence condition in this conjunct. This is illustrated in (16), where 3 is the f-structure fragment corresponding to *papierosa* 'cigarette', where incoherence occurs – according to its PRED attribute, *papierosa* takes no arguments, yet a SUBJ attribute is introduced to its f-structure as the result of (12).

(16) *
$$\begin{bmatrix} \text{PRED} & \text{'WANT}\langle \boxed{1}, \boxed{2} \rangle\text{'} \\ \text{SUBJ} & \boxed{1}\begin{bmatrix} \text{PRED} & \text{'I'} \end{bmatrix} \\ \text{OBJ} & \boxed{2}\left[\left\{ \begin{bmatrix} \text{PRED} & \text{'DRINK}\langle \boxed{1} \rangle\text{'} \\ \text{SUBJ} & \boxed{1} \end{bmatrix}, \boxed{3}\begin{bmatrix} \text{PRED} & \text{'CIGARETTE'} \\ \text{SUBJ} & \boxed{1} \end{bmatrix} \right\} \right] \end{bmatrix}$$

Unfortunately, using a disjunction such as in (17) to restrict the application of the control equation to the infinitival conjunct will not work either:[6]

coordination. This issue is outside of the scope of this paper as it is not concerned with the repertoire of LFG grammatical functions and how they are or should be defined.

[6]This analysis uses the CAT attribute to store information about the part of speech of the head.

(17) $[(\uparrow \textsc{obj cat}) =_c \textsc{inf} \wedge (\uparrow \textsc{subj}) = (\uparrow \textsc{obj subj})] \vee (\uparrow \textsc{obj cat}) \neq \textsc{inf}$

This is because the disjunction in (17) is interpreted too early: while the intended meaning of (17) is that each conjunct should independently satisfy either the first disjunct (the conjunct is an infinitive, the control equation in (12) is introduced) or the second one (the conjunct is not an infinitive), its current LFG interpretation is that all conjuncts must satisfy its first disjunct or all must consistently satisfy the other one. This is how this contrast may be formalised[7] (A stands for the first disjunct of (17), "$[(\uparrow \textsc{obj cat}) =_c \textsc{inf} \wedge (\uparrow \textsc{subj}) = (\uparrow \textsc{obj subj})]$", B for the second one, "$(\uparrow \textsc{obj cat}) \neq \textsc{inf}$", and GF for OBJ):

(18) a. $\forall x \in (\uparrow \textsc{gf})[A(x) \vee B(x)]$ (intended)

b. $\forall x \in (\uparrow \textsc{gf})A(x) \vee \forall x \in (\uparrow \textsc{gf})B(x)$ (actual)

In other words, the effect of the constraint provided in (17), formalised in (18b), is equivalent to having two separate lexical entries for the given verb: one which introduces the control equation if the complement is an infinitive (resulting in incoherence with the nominal conjunct of (1)), the other which checks that the complement is not an infinitive (causing incompleteness in the infinitival conjunct of (1) as its SUBJ attribute is not filled). By contrast, the desired interpretation of (17) is the one provided in (18a) – it is satisfied under coordination if each element of the given structure satisfies any of the two constraints.

The cause of this issue is that, in LFG, what is distributive is features, not statements; this problem is discussed in Przepiórkowski and Patejuk 2012a in the context of unlike category coordination in Polish subjects. The solution to this problem proposed there is to treat statements, rather than features, as distributive. If this modification were adopted, the statement in (17) would be able to handle control into selected conjuncts in sentences such as (1).

3.2 Second Attempt (Failed in XLE)

Another idea is to use off-path constraints to distribute the disjunction checking the category of the conjuncts and using the relevant control equation only with infinitival conjuncts – (19) below is an off-path version of (17):

(19) $(\uparrow \textsc{obj} \quad \textsc{pred} \quad)$
$[(\leftarrow \textsc{cat}) =_c \textsc{inf} \wedge (\leftarrow \textsc{subj}) = ((\textsc{obj} \leftarrow) \textsc{subj})]$
$\vee$
$(\leftarrow \textsc{cat}) \neq \textsc{inf}$

The off-path constraint is attached to the PRED attribute of the OBJ grammatical function (which corresponds to the coordinate phrase in (1)) – the fact that PRED is a distributive feature ensures that the off-path constraint is distributed to all elements of the relevant f-structure. The first off-path disjunct of (19), $[(\leftarrow \textsc{cat}) =_c \textsc{inf} \wedge$

[7] Thanks are due to Ron Kaplan for discussing this issue and proposing the formalisation in (18).

($\leftarrow$ SUBJ) = (($\leftarrow$ OBJ) SUBJ)], checks whether the given element (conjunct) of the OBJ f-structure is an infinitive (($\leftarrow$ CAT) $=_c$ INF) and establishes control between the subject of this element (of OBJ f-structure) and the subject of the verb WANT: ($\leftarrow$ SUBJ) = (($\leftarrow$ OBJ) SUBJ). A complex path is used for this purpose: (($\leftarrow$ OBJ) SUBJ) where ($\leftarrow$ OBJ) is an inside-out path pointing to the structure which contains OBJ and then to the SUBJ of this structure. This control equation is an off-path equivalent of the plain (non-off-path) control equation provided in (12). The second off-path disjunct in (19), ($\leftarrow$ CAT) $\neq$ INF, ensures that the relevant element of OBJ f-structure is not an infinitive. For the f-structure to be well-formed, every element of OBJ f-structure must satisfy one of the disjuncts in the off-path constraint in (19).

Unfortunately, this solution will not work in implemented grammars since off-path constraints are non-constructive in the XLE system (Crouch et al. 2011) implementing LFG – they cannot introduce new attribute-value pairs to the f-structure, they can only act as constraining equations. By contrast, control equations must take the form of a defining equation to be effective: structure-sharing of the subject of WANT with the subject of its infinitival complement requires assignment rather than checking of identity – checking will not provide a value of the subject of the infinitive. This is shown in the plain control equation in (12): it uses the assignment operator "=", not the checking operator "$=_c$". While both operators are available in XLE in plain constraints, the former is not available in off-path constraints. For this reason, the constraint provided in (19) is not effective – it uses the assignment operator which is not available in this type of constraints in XLE.

However, it must be mentioned that this difficulty does not necessarily affect theoretical LFG analyses. There exist works which use off-path constraints in a constructive way, introducing new attribute-value pairs: these include Ash Asudeh's talk on *Reflexives in the Correspondence Architecture*.[8] More importantly, the currently prepared new edition of Dalrymple 2001 explicitly mentions that there are various types of off-path constraints: „Using the f-structure variables $\leftarrow$ and $\rightarrow$, any kind of constraint can be written as an off-path constraint; defining equations, constraining equations, existential constraints, and other kinds of f-descriptions may be specified." Similarly, the draft of the new edition of Bresnan 2000 also discusses the contrast between defining and constraining equality in the context of off-path constraints.[9]

Nevertheless, if a solution can be found which is implementable in XLE, it should perhaps be preferred to the one sketched in this subsection.

[8] We are grateful to Dag Haug for bringing this talk to our attention. The slides are available at `http://users.ox.ac.uk/~cpgl0036/slides/asudeh-iceland09-reflexives.pdf` (accessed on 6 October 2014); see the "Drip" on slide 51.

[9] „The off-path constraint in (66) is a defining equation, so even if no other part of the functional description for the f-structure had specified the feature [TENSE PAST], the off-path constraint would result in an f-structure that contains the feature. In contrast, if the equality in the off-path equation had been the constraining equality, $=_c$, the off-path constraint would only be satisfied if the f-structure independently contained the feature, as is the case with f-structure (65)."

3.3 Third Attempt (Successful)

A working solution is available[10] which takes a slightly different approach to control – instead of a control equation such as in (12), subject control verbs are annotated with its modified version in (20), which uses a new attribute – CONTROLLER:

(20) (↑ SUBJ) = (↑ OBJ CONTROLLER)

Placed in the lexical entry of the controlling verb, (20) introduces the attribute CONTROLLER – whose value is the f-structure of SUBJ of this verb – into the f-structure of OBJ of this verb. As a result, the f-structure of the subject of the main verb is available in the f-structure of the object of this verb. If needed, this information can be used for establishing control.

In order to account for (1), c-structure rules like those in (21)–(23) are needed, apart from rules (24)–(25), which handle non-coordinated objects:

(21) VP → V OBJ-ARG
↑=↓ (↑ OBJ) = ↓

(22) OBJ-ARG → { OBJ-ARG$_{unlike}$ | OBJ-ARG$_{infp}$ | OBJ-ARG$_{np}$ }

(23) OBJ-ARG$_{unlike}$ ≡ INFP Conj NP
↓∈↑ ↓∈↑
(↓ CONTROLLER) = (↓ SUBJ)

(24) OBJ-ARG$_{infp}$ ≡ INFP
↓=↑
(↓ CONTROLLER) = (↓ SUBJ)

(25) OBJ-ARG$_{np}$ ≡ NP
↓=↑

Rule (21) assigns the grammatical function OBJ to the single argument in the VP, OBJ-ARG. Rule (22) rewrites OBJ-ARG to a disjunction of three rules whose left-hand side is not shown in the tree because ≡ is used instead of → as the rewrite operator in (23)–(25).[11] Rule (23) handles the coordination of unlike categories where an infinitival phrase (INFP) is coordinated with a nominal phrase (NP):[12] as in the standard analysis of coordination, conjuncts are added to a set. The non-standard element is the equation "(↓ CONTROLLER) = (↓ SUBJ)", which structure-shares the controller of INFP with the subject of INFP. Since this annotation is

[10] This is a modified version of a solution suggested by Mary Dalrymple after our presentation of this problem at the ParGram meeting in 2013.

[11] This formal device is used in order to make OBJ-ARG more readable as well as to make it easier to refer to its particular disjuncts. The result is equivalent to having OBJ-ARG rewrite directly to respective right-hand sides of (23)–(25).

[12] To handle examples with different ordering of conjuncts or a different number of conjuncts than in (1), the rule in (23) must be modified accordingly.

attached to INFP exclusively, the f-structure of the other conjunct, NP, is unaffected – it is not controlled, hence the coherence condition is satisfied.

The f-structure corresponding to (1) according to this analysis is provided in (26) below. It is produced by rules (21)–(23) in conjunction with the annotation (20) placed in the lexical entries of forms of the verb CHCIEĆ ('want').

(26)
$$\begin{bmatrix} \text{PRED} & \text{'WANT}\langle\boxed{1},\boxed{2}\rangle\text{'} \\ \text{SUBJ} & \boxed{1}\begin{bmatrix}\text{PRED} & \text{'I'}\end{bmatrix} \\ \text{OBJ} & \boxed{2}\left\{\begin{bmatrix}\text{PRED} & \text{'DRINK}\langle\boxed{1}\rangle\text{'} \\ \text{SUBJ} & \boxed{1} \\ \text{CONTROLLER} & \boxed{1}\end{bmatrix}, \begin{bmatrix}\text{PRED} & \text{'CIGARETTE'} \\ \text{CONTROLLER} & \boxed{1}\end{bmatrix}\right\} \end{bmatrix}$$

3.4 Support from English

There are also English examples which seem to involve object control into selected conjuncts, as in the following attested sentence:

(27) My uncle said to hell with that and taught me karate, and to fire weapons.
(Google)

Following Asudeh 2005: §9, we assume that object control in English also involves functional – not anaphoric – control. In the case of TEACH, the relevant control equation is (28). Given this equation, example (27) can be handled using rules similar to the ones provided above, with the ordering of conjuncts switched in (23), and OBJ-TH used instead of OBJ as the common grammatical function in (21).

(28) (↑ OBJ) = (↑ OBJ-TH CONTROLLER)

The f-structure in (29) results for *Uncle taught me karate, and to fire weapons*, a shorter version of (27):

(29)
$$\begin{bmatrix} \text{PRED} & \text{'TEACH}\langle\boxed{1},\boxed{2},\boxed{3}\rangle\text{'} \\ \text{SUBJ} & \boxed{1}\begin{bmatrix}\text{PRED} & \text{'UNCLE'}\end{bmatrix} \\ \text{OBJ} & \boxed{2}\begin{bmatrix}\text{PRED} & \text{'I'}\end{bmatrix} \\ \text{OBJ-TH} & \boxed{3}\left\{\begin{bmatrix}\text{PRED} & \text{'KARATE'} \\ \text{CONTROLLER} & \boxed{2}\end{bmatrix}, \begin{bmatrix}\text{PRED} & \text{'FIRE}\langle\boxed{2},\boxed{4}\rangle\text{'} \\ \text{SUBJ} & \boxed{2} \\ \text{OBJ} & \boxed{4}\begin{bmatrix}\text{PRED} & \text{'WEAPON'}\end{bmatrix} \\ \text{CONTROLLER} & \boxed{2}\end{bmatrix}\right\} \end{bmatrix}$$

4 Interaction with Case Assignment

A problem similar to control into selected conjuncts is case assignment to selected conjuncts. Consider the examples below:

(30) Nie chciał pić ani kanapki.
NEG wanted drink.INF nor sandwich.GEN
'He didn't want to drink nor (did he want) a sandwich.'
(Kallas 1993: 92, ex. (49))

(31) Chciał pić i kanapkę.
wanted drink.INF and sandwich.ACC
'He wanted to drink and (he wanted) a sandwich.'

As explained in technical detail in Patejuk and Przepiórkowski 2014 (see also Przepiórkowski and Patejuk 2012a), some arguments are assigned[13] case structurally in Polish, via rules such as (simplifying considerably):

- assign genitive to the object of a negated verb (cf. (30)),
- assign accusative to the object of a non-negated verb (cf. (31)).

As explained in §3.1 when discussing (18) (see also Przepiórkowski and Patejuk 2012a), off-path constraints must be used in order to distribute disjunctive statements to particular elements of the coordinate structure so that they can be evaluated independently for each conjunct. (32) is a constraint containing an off-path constraint making it possible to account for sentences such as (30)–(31), where one conjunct is an infinitival (and does not require case), while the other is a nominal which must bear case appropriate in the given syntactic context:

(32) $(\uparrow \textsc{obj} \quad \textsc{pred} \quad)$
$[\neg((\textsc{obj} \leftarrow) \textsc{neg}) \wedge (\leftarrow \textsc{case}) =_c \textsc{acc}] \vee$
$[((\textsc{obj} \leftarrow) \textsc{neg}) =_c + \wedge (\leftarrow \textsc{case}) =_c \textsc{gen}] \vee$
$(\leftarrow \textsc{cat}) =_c \textsc{inf}$

The off-path constraint on the object is saying that (translating from LFG to English in a top-down manner):

- either there is no negated governor and the case of the object is accusative,
- or there is a negated governor and the case of the object is genitive,
- or the object is infinitival.

Facts – as always – are more complex (Przepiórkowski 2000): when a higher verb in a chain of infinitival (control or raising) verbs is negated, the lower object may – but does not have to – occur in the genitive. This means that an empirically more adequate equation should look as below (again, see Patejuk and Przepiórkowski 2014, this volume, for details and an alternative simpler formalisation):

[13] Though case assignment could be formalised equivalently using defining equations, a case checking approach is adopted in the current paper (hence, *case assignment* is a bit of a misnomer). Under this approach arguments must be specified for their morphological cases lexically.

(33) $(\uparrow \textsc{obj} \quad \textsc{pred} \quad)$
$[\neg((\textsc{xcomp}^* \textsc{obj} \leftarrow) \textsc{neg}) \wedge (\leftarrow \textsc{case}) =_c \textsc{acc}] \vee$
$[((\textsc{xcomp}^* \textsc{obj} \leftarrow) \textsc{neg}) =_c + \wedge$
$[[((\textsc{obj} \leftarrow) \textsc{neg}) =_c + \wedge (\leftarrow \textsc{case}) =_c \textsc{gen}] \vee$
$[\neg((\textsc{obj} \leftarrow) \textsc{neg}) \wedge (\leftarrow \textsc{case}) \in_c \{\textsc{acc}, \textsc{gen}\}]]] \vee$
$(\leftarrow \textsc{cat}) =_c \textsc{inf}$

This is saying that (again translating off-path constraints in a top-down fashion):

- either there is no negation within an appropriate domain (in the verb chain) and the object is in the accusative case,
- or there is a negation within an appropriate domain (in the verb chain) and:
  - either there is a negated direct (local) governor and the case of the object is genitive,
  - or there is no negated direct (local) governor and the case of the object is genitive or accusative,
- or the object is infinitival.

5 Conclusion

The analysis presented in §3.3 above successfully accounts for control into one of the conjuncts and its lack in the other (see the f-structures in (26) and (29)), though it has certain shortcomings. First, this solution requires the use of an extra attribute, CONTROLLER. Second, CONTROLLER is represented on all conjuncts, including the nominal conjunct where it is spurious. These might be sufficient reasons to give preference to the solution described in §3.2, which relies on the use of defining off-path constraints. Unfortunately, this solution cannot be used in grammars implemented in XLE, which treats off-path constraints as non-constructive. For this reason, the analysis presented in §3.3 is the only (both theoretically and implementationally) working account of control into selected conjuncts that we are aware of.

An alternative would be to – following the postulate advanced in Przepiórkowski and Patejuk 2012a – treat entire statements, not just features, as distributive. Introducing such a change in the LFG formalism would make it possible to use simple and intuitive solutions such as the one presented in §3.1, without the need to resort to special analyses to account for coordination phenomena.

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