Long Distance Genitive of Negation in Polish*

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Abstract. The aim of this article is to provide a formal analysis of non-local Genitive of Negation in Polish, a phenomenon occurring in so-called 'clause union' environments and consisting in the genitive case being assigned to an object of a lower verb when a higher verb is negated, instead of the expected accusative. In particular, I examine two aspects of such non-local Genitive of Negation, occasionally noted in the traditional literature, but ignored in formal or generative linguistics, namely, its optionality and its potential multiplicity. I show that the main characteristics of non-local Genitive of Negation follow in a straightforward manner from the interaction of two independently motivated analyses, namely, an analysis of 'clause union' environments as involving optional raising, and a local non-configurational analysis of syntactic case assignment. Both analyses are couched within Head-driven Phrase Structure Grammar. I argue that the resulting account is superior to previous analyses of non-local Genitive of Negation in Polish on empirical, formal and conceptual grounds.

0. Introduction

Just as case assignment is one of the most conspicuous features of many Slavic languages, including Polish, the so-called *Genitive of Negation* (GoN) is one of the most widely discussed phenomena in Slavic linguistics. Somewhat surprisingly, though, there are aspects of the Genitive of Negation that have not been successfully analyzed, or even noticed, so far. This article is devoted to one such aspect, namely, to the 'non-local' Genitive of Negation, henceforth referred to as *Long Distance Genitive of Negation* (LD GoN), and, especially, to its optionality and potential multiplicity.

Section 1 briefly recalls the well known facts about the (Long Distance) Genitive of Negation in Polish, while section 2 introduces two much less known aspects of LD GoN, namely, its optionality and potential multiplicity. Section 3 presents a formal analysis of Polish LD GoN; although the basic intuitions behind the analysis are formalizable within many contemporary syntactic theories, the analysis presented here is formulated within the Head-driven Phrase Structure Grammar (HPSG; Pollard and Sag 1994),

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a comprehensive formal linguistic theory with sound logical foundations. Finally, section 4 briefly compares the account proposed here with other approaches to LD GoN found in the literature.

1. Basics

This section presents basic generalizations concerning GoN in Polish, as well as various background assumptions made in this article.

1.1. Genitive of Negation (GoN)

The so-called Genitive of Negation (GoN) is a phenomenon consisting in the genitive case being assigned in the presence of verbal negation, instead of the accusative.[1] As the contrast between (1) on one hand, and (2)–(3) on the other shows, only otherwise accusative arguments occur in the genitive when the governing verb is negated (NM = negative marker *nie*).

(1) a. Lubię Marię.
like$_{1st,sg}$ Mary$_{acc}$
'I like Mary.'

b. Nie lubię Marii / *Marię.
NM like$_{1st,sg}$ Mary$_{gen}$ / Mary$_{acc}$
'I don't like Mary.'

(2) a. Pomogłem Jankowi.
helped$_{1st,sg,masc}$ John$_{dat}$
'I helped John.'

b. Nie pomogłem *Janka / Jankowi.
NM helped$_{1st,sg,masc}$ John$_{gen}$ / John$_{dat}$
'I didn't helped John.'

(3) a. Kieruję firmą.
manage$_{1st,sg}$ company$_{ins}$
'I run (a/the) company.'

b. Nie kieruję *firmy / firmą.
NM manage$_{1st,sg}$ company$_{gen}$ / company$_{ins}$
'I don't run (a/the) company.'

[1] I do not consider here the nominative-to-genitive shift in the case of the existantial/locative copula *być*, which I take to be a lexical idiosyncrasy. See Witkoś 2000, however, for a different view.

I adopt the usual distinction between *structural* and *inherent/lexical*[2] cases, where an argument is assumed to bear a structural case if the particular morphological realization of this case depends on syntactic context. For example, the complement of *lubić* 'like' in (1) bears structural case, which is realized as accusative when the verb is not negated, and as genitive when the verb is negated. On the other hand, the dative case on the complement of *pomóc* 'help' in (2) and the instrumental case on the complement of *kierować* 'manage' in (3) are stable, so they are inherent cases.[3,4]

Example (4) below shows that it is not only objects of finite forms that are affected by negation, but also objects of non-finite (infinitival, *-no/-to*, active adjectival participial, and present and past adverbial participial) forms.

(4) a. lubić / lubiono / lubiący / lubiąc / polubiwszy Marię.
like$_{inf}$ / like$_{-no/-to}$ / like$_{adjp}$ / like$_{advp}$ / like$_{advp}$ Mary$_{acc}$

b. nie {lubić / lubiono / lubiący / lubiąc / polubiwszy} Marii / NM like$_{inf}$ / like$_{-no/-to}$ / like$_{adjp}$ / like$_{advp}$ / like$_{advp}$ Mary$_{gen}$ / *Marię.
Mary$_{acc}$

In Polish, unlike in, e.g., Russian, GoN is said to be fully grammaticalized, i.e., structural complements[5] of verbs are often assumed to obligatorily occur in the genitive under negation, regardless of extra-syntactic (i.e., pragmatic, semantic or idiosyncratically lexical) factors.[6]

Finally, as extensively discussed in Przepiórkowski and Kupść 1999, GoN is triggered by the morphosyntactic features of the negative marker *nie* (as opposed to its

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[2] Throughout the paper, I use the terms *inherent case* and *lexical case* interchangeably.

[3] Another syntactic context in which structural cases are realized as genitive, while inherent cases retain their morphological form, is nominalization. See Przepiórkowski 1999a, §5.1, for a more careful approach to the structural/inherent dichotomy, and for other tests for the structural/inherent status of case marking on a given argument.

[4] Note that I do not follow here the assumption often made within GB/Minimalism, namely, that inherent cases, but not structural cases, reflect θ-marking. This assumption is controversial in view of minimal pairs such as (2a) above vs. (i) below, where both complements bear the role 'benefactive', but only the complement of *pomóc* 'help' is marked with an inherent case, while the complement of *wspierać* 'support' bears structural case (realized as accusative in (i) and as genitive under negation or in the process of nominalization).

(i) Wspierałem Marię.
supported$_{1st,sg,masc}$ Mary$_{acc}$
'I supported Mary.'

[5] By 'a structural X' (X = complement, argument, NP, etc.), I mean 'an X bearing structural case'.

[6] There are, however, exceptions noted in traditional Polish linguistics (e.g., Buttler et al. 1971, p. 307, Buttler 1976, p. 112, and Holvoet 1991, pp. 94–97) but ignored in generative and formal linguistics. As the examples below show, the accusative complement of the lexeme *boleć* 'ache' changes its case to genitive under negation only optionally.

(i) a. Marię boli głowa.
Mary$_{acc}$ aches head$_{nom}$

semantic properties) and, as argued at length in Kupść and Przepiórkowski 1997, the negative marker *nie* is a verbal (inflectional) prefix, rather than a syntactic item.[7] On both claims, see also Witkoś 1998.

1.2. Long Distance Genitive of Negation (LD GoN)

In Long Distance Genitive of Negation, it is an (otherwise accusative) argument of a **lower** verb that occurs in the genitive when a **higher** verb is negated. This is illustrated by (6), involving an object control environment, by (7), involving a subject control environment, and by (8), involving a (subject-to-subject) raising environment.[8] As illustrated in (5), the complement of the verb *pisać* cannot occur in the genitive case in the absence of negation.

(5) Piszę listy / *listów.
write$_{1st,sg}$ letters$_{acc}$ / letters$_{gen}$
'I am writing letters.'

(6) Nie kazałem Marii pisać listów.
NM order$_{1st,sg,masc}$ Mary$_{dat}$ write$_{inf}$ letters$_{gen}$
'I didn't order/ask Mary to write letters.'

(7) Nie chciałem pisać listów.
NM wanted$_{1st,sg,masc}$ write$_{inf}$ letters$_{gen}$
'I didn't want to write letters.'

(8) Nie wydawał się pisać listów.
NM seem$_{3rd,sg,masc}$ RM write$_{inf}$ letters$_{gen}$
'He didn't seem to be writing letters.'

The contrast between (9a) and (9b) shows that LD GoN does not depend on the negation being placed on the matrix (personal) verb; negated embedded (infinitival) verbs also trigger LD GoN.

'Mary's head is aching.'

b. Marię / Marii już nie boli głowa.
Mary$_{acc/gen}$ already NM aches head$_{nom}$
'Mary's head isn't aching any more.'

Similar examples can be provided for accusative complements of verbs *stać* 'afford' and *kosztować* 'cost'. I take such examples as (weak) evidence for the marginal presence of *inherent* accusative in Polish, apart from the usual *structural* accusative, and I analyze the verbs above as subcategorizing optionally either for a structural object or for an inherent accusative object.

[7] The negative marker *nie* should be carefully distinguished from the constituent negation *nie*. See Kupść and Przepiórkowski 1997 on various properties of the former which distinguish it from the latter.

[8] 'RM' in (8) stands for 'reflexive marker' (*się*).

(9) a. Mogę chcieć to / *tego napisać.
may$_{1st,sg}$ want$_{inf}$ this$_{acc}$ / this$_{gen}$ write$_{inf}$
'I might want to write this.'

b. Mogę nie chcieć tego napisać.
may$_{1st,sg}$ NM want$_{inf}$ this$_{gen}$ write$_{inf}$
'I may not want to write this.'

Moreover, as (10)–(11) show, LD GoN phenomenon is in principle unbounded:

(10) Nie chcę kazać mu zamiatać pokoju.
NM want$_{1st,sg}$ order$_{inf}$ him$_{dat}$ sweep$_{inf}$ room$_{gen}$
'I don't want to order him to sweep the room.'

(11) Nie musisz zamierzać przestać studiować algebry.
NM must$_{2nd,sg}$ intend$_{inf}$ stop$_{inf}$ study$_{inf}$ algebra$_{gen}$
'You don't have to intend to stop studying algebra.'

In (10), GoN extends over 3 verbs, while in (11) it crosses 4 verbs (including the host of negation and the verb subcategorizing for the structural complement). Thus, LD GoN is apparently a truly 'long-distance' phenomenon.

However, there are locality barriers to LD GoN, the most conspicuous being clauses introduced by a complementizer or a *wh*-phrase; compare (7) above with (12)–(14) below.

(12) Nie chciałem, żeby pisać listy / *listów.
NM wanted$_{1st,sg,masc}$ Comp write letters$_{acc}$ / letters$_{gen}$
'I didn't want for us/one to write letters.'

(13) Nie mówiłem, że pisałem listy / *listów.
NM said$_{1st,sg,masc}$ Comp wrote$_{1st,sg,masc}$ letters$_{acc}$ / letters$_{gen}$
'I wasn't saying that I was writing letters.'

(14) Nie pytałem, kto pisał listy / *listów.
NM asked$_{1st,sg,masc}$ who wrote letters$_{acc}$ / letters$_{gen}$
'I didn't ask who wrote letters.'

2. Beyond Basics

There are two phenomena concerning LD GoN, which have so far gone largely unnoticed. One is the optionality of LD GoN, cf. §2.1, the other is the possibility of one expression of negation triggering many accusative-to-genitive shifts, cf. §2.2.

2.1. Optionality

All analyses of Genitive of Negation so far have assumed that LD GoN is obligatory, just as local GoN; this is the position of, e.g., Tajsner (1990), Dziwirek (1994), Witkoś (1996a, 1998), Przepiórkowski and Kupść (1997a,b) and Przepiórkowski and Świdziński (1997). Curiously, negative examples supporting this assumption have hardly ever been given, although Przepiórkowski and Świdziński (1997, p. 20) adduce (15) and Saloni and Świdziński (1998, p. 157) cite (16).

(15) *Piotrek nie chciał widzieć Marię.
Peter NM wanted see_{inf} $Mary_{acc}$
'Peter didn't want to see Mary.' (intended)

(16) *Musisz nie zamierzać przestać studiować algebrę.
must NM $intend_{inf}$ $stop_{inf}$ $study_{inf}$ $algebra_{acc}$
'You cannot intend to stop studying algebra.' (intended)

While examples (15)–(16) are clearly much less acceptable than the corresponding sentences with the genitive, many counterexamples to the claim that LD GoN is always obligatory can be found in non-generative literature. Some of these examples are cited below. The numbers at the end of each sentence indicate the percentage of speakers **preferring** the accusative to the genitive, on the basis of a small survey conducted among 18 (adult and educated) native speakers of Polish.[9]

Buttler et al. 1971, p. 307:

(17) Handlarka nie uważała za stosowne trzymać język za zębami.
$dealer_{fem}$ NM consider as appropriate $keep_{inf}$ $tongue_{acc}$ behind teeth (83%)
'The dealer didn't consider it appropriate to keep quiet (lit.: keep her tongue behind her teeth).'

(18) Polak nie ma obowiązku znać język francuski. (22%)
Pole NM has obligation $konw_{inf}$ $tongue_{acc}$ French
'A Pole shouldn't be obliged to know the French language.'

Saloni and Świdziński 1985, p. 142:[10]

(19) Nie mógłbyś przestać studiować algebrę? (22%)
NM $could_{2nd,sg}$ $stop_{inf}$ $study_{inf}$ $algebra_{acc}$
'Couldn't you stop studying algebra?'

[9] A survey I conducted in November 1999 among students of final years of Polish Philology at the University of Warsaw and academic staff at the Institute of Computer Science, Polish Academy of Sciences.
[10] This example disappears in Saloni and Świdziński 1998.

Very reliable data of the same kind are provided by Rybicka-Nowacka (1990), who cites the results of a survey conducted on a sample of 227 students of last grades of secondary school and students of the 4th year of Polish Philology.[11]

(20) Czy nie można by sklepy (37%) / sklepów (63%) zaopatrzyć w artykuły
Q NM may Cond shops$_{acc}$ / shops$_{gen}$ supply with articles
chemiczne? (24%)
chemical
'Couldn't one supply shops with chemical articles?'

(21) Jan nie uważał za stosowne kupować samochód (29%) /
John NM considered as appropriate buy$_{inf}$ car$_{acc}$ /
samochodu (71%). (44%)
car$_{gen}$
'John didn't consider it appropriate to buy a car.'

(22) Nie uważał sobie za ujmę zamienić z nią kilka słów (45%) /
NM considered Self$_{dat}$ as dishonour exchange$_{inf}$ with her a couple$_{acc}$ words /
kilku słów (55%). (61%)
a couple$_{gen}$ words
'He didn't think it was below him to exchange a couple of words with her.'

(23) Nie sposób sprawdzić im bilety (37%) / biletów (63%). (50%)
NM possible check$_{inf}$ them$_{dat}$ tickets$_{acc}$ / tickets$_{gen}$.
'It's impossible to check their tickets.'

If cases of optional LD GoN have been ignored in the formal linguistic literature so far, it is probably because they have been perceived as stemming from some kind of processing difficulty. The data adduced above show that this explanation is invalid. First of all, the acceptability judgements above are based on a survey conducted among conscious speakers of Polish, rather than being based on naturally occurring instances of spontaneous error-infested speech. Second, many speakers prefer the accusative even when the noun is linearly close to the negated verb, as in (20), and in the case of very simple sentences, as in (23). This contradicts the assumption that short term memory failures might be involved in processing of such sentences. Finally, the numbers reported seem to be too high and too consistent to be interpreted as occasional slips of the tongue. For these reasons, I conclude that the optionality of LD GoN belongs to the sphere of linguistic competence, rather than linguistic performance.

On the other hand, it is not clear exactly what factors contribute to many native speakers' preference for the accusative in (17)–(23) above as opposed to the clear preference for the genitive in (15)–(16). As noted by Ewa Willim (p.c.), one such factor may be

[11] The numbers immediately after the accusative and genitive NPs indicate the percentage of speakers preferring the given form. Again, the numbers at the end of each sentence correspond to the number of speakers preferring the accusative according to a much smaller survey conducted by the author.

whether the verbs 'on the path' of the LD GoN are parts of idiomatic expressions. Thus, in (17) and (22), where both the negated matrix verb and the lower infinitival verb are used idiomatically, the preference for the accusative is very high (83% and 45/61%, respectively), while in (18) and (21), where only the matrix verb is used idiomatically, the preference for the accusative, while still relatively high, is lower (22% and 29/44%, respectively).

Another such factor seems to be the positive presupposition or rhetorical character of a negated *yes/no* question, as in (19) and (20) above; in both cases a positive reply is expected.

The third factor which may tentatively be identified on the basis of the data in §§2.2–2.3 below is the number of arguments within a single sentence which may in principle occur in the genitive under negation: in case there are three such arguments, native speakers expect at least one of the two lower arguments to retain the accusative case.

Finally, it seems that the accusative is more felicitous for many speakers when the matrix negated predicate is not a garden-variety verb, but either a quasi-verb (Polish: *czasownik niewłaściwy*, i.e., a verb which does not take a nominative subject, and whose inflectional paradigm is restricted to the conditional and the periphrastic past and future; Saloni and Świdziński 1985, p. 90), e.g., *żal* 'sorry' or *szkoda* 'pity', or predicates whose exact morphosyntactic category is even less clear, such as *sposób* 'possible', as in (23).[12]

Clearly, much more research is needed to establish all factors influencing native speakers' preference for the genitive or the accusative under non-local negation. For the purpose of this study, I assume that, in core syntax, LD GoN is in principle **always optional**, and that additional pragmatic, lexical, etc., factors may influence the actual preference for the accusative or the genitive in various ways.

2.2. Multiplicity

Another, albeit more trivial, quirk of LD GoN that usually remains unnoticed is the possibility of **multiple** GoN, as in (24b), the negated counterpart of (24a).

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[12] Note that, although it is controversial whether such predicates should be considered verbs at all, it does not seem controversial that they are negated via the same Negative Marker *nie* that is used in clear cases of verbal negation; as (i)–(ii) below show, *nie* cannot be separated from such a predicate, not even by the vulgar expletive *kurwa* 'fucking', lit. 'whore', and it forms a prosodic unit with the quasi-verb for the purpose of stress assignment (see Kupść and Przepiórkowski 1997 and references therin).

(i) Nie (*kurwa) sposób / żal to/tego zrobić.
NM whore possible / sorry this$_{acc/gen}$ do$_{inf}$
'It isn't (fucking) possible to do this.'
'One is not / should not be (fucking) sorry to do this.'

(ii) {Nié żal} / *{Nie żál} to/tego zrobić.
NM sorry / NM sorry this$_{acc/gen}$ do$_{inf}$
'One is not / should not be sorry to do this.'

(24) a. Janek uczył Marię lepić garnki.
John taught Mary$_{acc}$ mold$_{inf}$ pots$_{acc}$
'John taught Mary how to make pottery.'

b. Janek nie uczył Marii lepić garnków.
John NM taught Mary$_{gen}$ mold$_{inf}$ pots$_{gen}$
'John didn't teach Mary how to make pottery.'

The verb *uczyć* 'teach' seems to be the only object control verb in Polish taking an accusative object and an infinitival complement. However, there is a family of subject control constructions, apparently unnoticed in this context so far, which involve an accusative NP and an infinitival complement, namely periphrastic verbal constructions headed by the light verb *mieć* (lit.: 'have'), e.g., *mieć zamiar* 'intend' (lit.: 'have intention'), *mieć obowiązek* 'have obligation', *mieć ochotę* 'like, want' (lit.: 'have liking'), etc.:

(25) Mam zamiar napisać list.
have$_{1st,sg}$ intention$_{acc}$ write$_{inf}$ letter$_{acc}$
'I intend to write a letter.'

(26) Mam obowiązek poinformować ją o tym.
have$_{1st,sg}$ obligation$_{acc}$ inform$_{inf}$ her$_{acc}$ about it
'I have the obligation to inform her about it.'

As might be expected, such *mieć* + accusative contentive NP constructions also give rise to multiple GoN:

(27) Nie mam zamiaru pisać listu.
NM have$_{1st,sg}$ intention$_{gen}$ write$_{inf}$ letter$_{gen}$
'I don't intend to write a letter.'

(28) Nie mam obowiązku informować jej o tym.
NM have$_{1st,sg}$ obligation$_{gen}$ inform$_{inf}$ her$_{gen}$ about it
'I don't have any obligation to inform her about it.'

(29) Nie mam ochoty uczyć Marii lepić garnków.
NM have$_{1st,sg}$ liking$_{gen}$ teach$_{inf}$ Mary$_{gen}$ mold$_{inf}$ pots$_{gen}$
'I don't feel like teaching Mary how to make pottery.'

2.3. Optionality and Multiplicity

Finally, it is interesting to briefly look at the interaction of the optionality of LD GoN with its possible multiplicity. Let us consider the three structural NPs in (29) and check which of them may occur in the accusative case. As (30) below shows, the highest NP must occur in the genitive case, regardless of the case of the two lower NPs. This is because local GoN, unlike its long distance counterpart, is obligatory.

(30) *Nie mam ochotę uczyć Marię/Marii lepić garnki/garnków.
NM have$_{1st,sg}$ liking$_{acc}$ teach$_{inf}$ Mary$_{acc/gen}$ mold$_{inf}$ pots$_{acc/gen}$

On the other hand, both the genitive / genitive / accusative pattern (cf. (31)) and the genitive / accusative / accusative pattern (cf. (32)) are readily accepted by native speakers, with a slight tilt towards the latter possibility.[13]

(31) Nie mam ochoty uczyć Marii lepić garnki.
NM have$_{1st,sg}$ liking$_{gen}$ teach$_{inf}$ Mary$_{gen}$ mold$_{inf}$ pots$_{acc}$

(32) Nie mam ochoty uczyć Marię lepić garnki.
NM have$_{1st,sg}$ liking$_{gen}$ teach$_{inf}$ Mary$_{acc}$ mold$_{inf}$ pots$_{acc}$

Finally, as far as the genitive / accusative / genitive pattern is concerned, speakers give the whole range of acceptability judgements: while most of them find (33) unacceptable, some (myself included) consider it grammatical and even prefer it to (31)–(32).

(33) ???Nie mam ochoty uczyć Marię lepić garnków.
NM have$_{1st,sg}$ liking$_{gen}$ teach$_{inf}$ Mary$_{acc}$ mold$_{inf}$ pots$_{gen}$

Below, I will first present an analysis which rejects sentences such as (33), but I will also suggest a straightforward parameterization of this analysis which accounts for those idiolects that do accept (33).

3. Analysis

This section presents an analysis of LD GoN which considerably improves on other analyses of this phenomenon in at least two respects: First, the present analysis, unlike previous analyses, correctly deals with both the optionality and the multiplicity of LD GoN. Second, the analysis presented below is fully explicit and formal; the account is formalized in Head-driven Phrase Structure Grammar (HPSG; Pollard and Sag 1994), a generative linguistic theory stemming from the Generalized Phrase Structure Grammar (GPSG), and developed in relation to (and borrowing from) the Government-Binding Theory (GB), the Lexical-Functional Grammar (LFG), and the Categorial Grammar (CG), among others.

In the subsections below, I will first present the relatively pre-theoretical intuitions behind the analysis, cf. §3.1, and then I will make various theoretical assumptions explicit in §3.2 and present the actual HPSG analysis of LD GoN in §3.3. This analysis will be slightly extended in §3.4.

[13] In fact, none of my informants preferred the genitive / genitive / genitive pattern, with the great majority of them preferring either genitive / accusative / accusative or genitive / genitive / accusative.

3.1. Pre-theoretical Intuitions

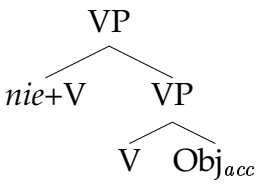
The intuitions behind the analysis of the data presented in §2 are very simple.

First of all, the account presented below seeks to retain the overwhelming generalization concerning case assignment, namely, that case assignment is an essentially local phenomenon, i.e., a relationship between a head and its syntactic dependent(s).[14] Thus, the same local case assignment mechanism will be responsible for both LD GoN and local GoN.

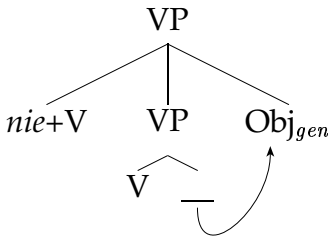
Second, if case assignment in LD GoN is local, then some other module of the grammar must be responsible for the apparent non-locality of Long Distance GoN. I assume that the long distance behavior is the result of raising of embedded arguments to higher verbs, within appropriate ('clause union') environments. Once a lower structural argument is raised to a negated verb, it becomes the negated verb's syntactic argument and receives the genitive case locally.

Third, the optionality of LD GoN results from the optionality of this raising process. If a structural argument of a non-negated verb stays downstairs, as in (34), it is (locally) assigned the accusative case. If it raises to a negated verb, as in (35), it is (again locally) assigned the genitive case.[15]

(34)



(35)



Fourth, the possible multiplicity of GoN stems from the fact that a negated verb may have a structural argument of its own and also attract structural arguments of lower verbs, as in (36). For the purpose of case assignment, all these arguments are treated alike, i.e., they all receive the genitive case.

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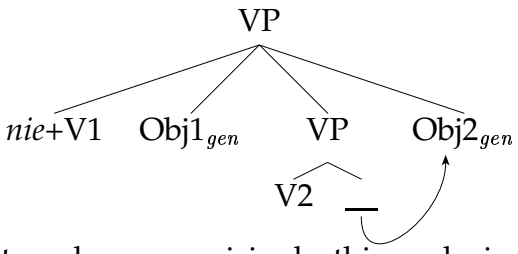
[14] This generalization is often assumed in the literature, e.g., "Case is a system of marking dependent nouns for the type of relationship they bear to their heads" (Blake 1994, p. 1).

[15] For reasons of consistency with the actual analysis presented below, I assume here flat tree structures, rather than strictly binary tree structures common in contemporary transformational approaches. Nothing hinges on this choice.

(36)



Note that, perhaps surprisingly, this analysis of LD GoN does not involve any stipulations, i.e., all assumptions made above are independently necessary. Thus, the actual case assignment mechanism responsible for LD GoN is exactly the same mechanism that is responsible for all local structural case assignment. Moreover, the optional raising analysis of 'clause union' environments, i.e., environments introduced by control and raising verbs subcategorizing for infinitival complements, is independently justified by optional clitic climbing (Dziwirek 1994, 1998; Witkoś 1996a,b, 1998; Kupść 1999a, 2000) and optional haplology of the reflexive marker *się* (Kupść 1999b).[16]

For example, Witkoś (1998, §3.4) analyzes (within the Minimalist approach) examples (37b–c) as involving (optional) raising of the pronominal clitic *go* from the base position indicated in (37a) to higher verbal (functional) projections.

(37) a. Jan chciał obudzić go o szóstej.
John wanted wake up him$_{cl}$ at six
'John wanted to wake him up at six.'

b. Jan chciał go obudzić o szóstej.
John wanted him$_{cl}$ wake up at six

c. Jan go chciał obudzić o szóstej.
John him$_{cl}$ wanted wake up at six

Also Kupść (1999a, 2000) provides an (HPSG) analysis of clitic climbing in Polish as involving optional raising of clitics to argument positions of higher verbs.

Similarly, simplifying a little, Kupść (1999b) analyzes the optionality of haplology in (38) as resulting from the optionality of raising of *się*. In (38a) the reflexive marker (RM) *się* which is an argument of the lower verb *spóźniać* is realized downstairs, while in (38b), it is raised to the higher verb *starać się*, a reflexive verb itself, where *się* is realized just once.

(38) a. Jan stara się mniej spóźniać się do pracy.
John tries RM less be late$_{inf}$ RM to work
'John tries to be less late to work.'

b. Jan stara się mniej spóźniać do pracy.

[16] Apart from clitic climbing, Dziwirek (1994, 1998) and Witkoś (1998) mention also Negative Concord (NC), binding, and scrambling/extraction as characteristic of 'clause union' environements, but—as discussed in Przepiórkowski 1999a, pp. 158ff.—the locality constraints on these phenomena are much more relaxed than those constraining clitic climbing and haplology of *się*, so it cannot be the case that one mechanism is responsible for locality constraints on all these phenomena. For this reason, I ignore NC, binding and scrambling/extraction facts here.

The analysis adduced below simply generalizes these accounts by proposing that, in principle, any arguments of lower verbs may raise to higher verbs within such 'clause union' environments.

3.2. Theoretical Assumptions

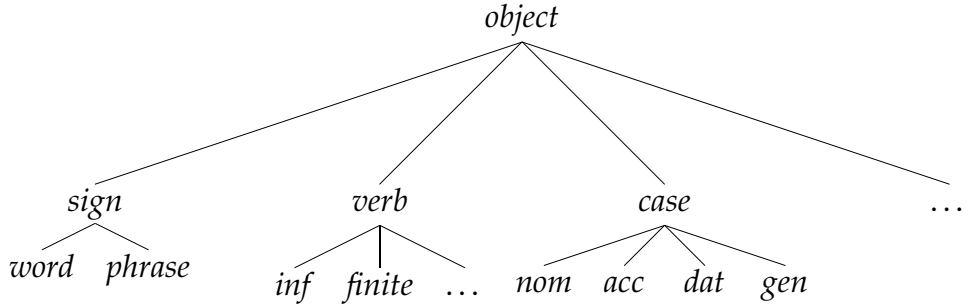
For space reasons, I cannot fully introduce the host formalizm of the analysis presented here,[17] but I will attempt to make various theoretical assumptions clear, especially those assumptions which may be confusing for readers coming from other linguistic traditions. This section may be skipped by anybody already exposed to recent versions of HPSG.

3.2.1. Types and Features

Head-driven Phrase Structure Grammar is a **non-derivational constraint-based** theory of language. This means that a linguistic expression is grammatical by virtue of simultaneously satisfying all grammatical principles (constraints), not because it is derived in a sequence of well-defined transformations, as in transformational frameworks such as the Government and Binding theory or the Minimalism.

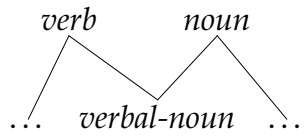
All linguistic objects, such as words, phrases, nouns, verbs, cases, etc., are ordered in a **type hierarchy**. For example, the type *word* and the type *phrase* are both subtypes of the type *sign*, the types *infinitive* (abbreviated to *inf*) and *finite* are among the subtypes of the type *verb*, and the type *case* may have, e.g., *nom*, *acc*, *dat* and *gen* as its subtypes. All of these types are subtypes of *object*, the most general linguistic type.

(39)



Type hierarchies as assumed in HPSG are in principle of the **multiple inheritance** sort: a type may be a subtype of two (or more) different types and inherit properties of both types. For example, in HPSG it makes sense to think of verbal nouns (e.g., of the *-nie/-cie* class in Polish) as simultaneously being of type *verb* and type *noun*; cf. the partial type hierarchy in (40).

(40)



[17] See Przepiórkowski 2000b for an introduction to HPSG aimed at the Slavic audience.

Various types have various **features** associated with them. For example, the type *noun* may have features such as CASE, NUMBER and GENDER.

(41) $\begin{bmatrix} \textit{noun} \\ \text{CASE } \ldots \\ \text{NUMBER } \ldots \\ \text{GENDER } \ldots \end{bmatrix}$, e.g., for *stół* 'table': $\begin{bmatrix} \textit{noun} \\ \text{CASE } \textit{nom} \\ \text{NUMBER } \textit{sg} \\ \text{GENDER } \textit{masc} \end{bmatrix}$

Since all objects have a type, values of these features also have a type, which may in turn introduce other features, etc. For this reason, HPSG objects may have a very complex structure. For example, each *sign* object (*word* or *phrase*) has roughly the structure in (42), where *phonology* (abbreviated to *phon*), *category*, *content* and *context* are types of (complex) objects corresponding to this object's phonological structure, syntactic category, semantic content and pragmatic effect.[18]

(42) $\begin{bmatrix} \textit{sign} \\ \text{PHON } \textit{phon} \\ \text{SYNSEM} \begin{bmatrix} \textit{synsem} \\ \text{CATEGORY } \textit{category} \\ \text{CONTENT } \textit{content} \\ \text{CONTEXT } \textit{context} \end{bmatrix} \end{bmatrix}$

Since *word* and *phrase* are both subtypes of *sign*, objects of these two types must minimally have the structure in (42). In general, subtypes inherit all features of their supertypes, but may additionally have their own features. For example, *phrase*s, apart from having features PHON and SYNSEM, also have the feature DAUGHTERS (with values of type *headed-structure*), whose values correspond to constituency structures of these *phrase*s.

(43) $\begin{bmatrix} \textit{sign} \\ \text{PHON } \textit{phon} \\ \text{SYNSEM} \begin{bmatrix} \textit{synsem} \\ \text{CATEGORY } \textit{category} \\ \text{CONTENT } \textit{content} \\ \text{CONTEXT } \textit{context} \end{bmatrix} \\ \text{DUGHTERS } \textit{headed-structure} \end{bmatrix}$

In the following section, we will look closer at objects of type *category*.

3.2.2. Argument Structure vs. Valence

The type *category* introduces three new features, namely, HEAD, VALENCE and ARG-ST. The values of HEAD reflect the morphosyntactic category of the *sign*, e.g., *noun*, *verb*, etc.

[18] For the purpose of this paper, I will ignore features LOCAL and NONLOCAL. The reader should not be confused by the common HPSG practice of giving the same name to a feature and to the type of the value of this feature—they are distinguished typographically, with feature name written in SMALL CAPITALS and type name in *italics*.

(44)
$$\begin{bmatrix} \textit{category} \\ \text{HEAD}\ \textit{head} \\ \text{VALENCE} \begin{bmatrix} \textit{valence} \\ \text{SUBJ}\ \textit{list} \\ \text{COMPS}\ \textit{list} \end{bmatrix} \\ \text{ARG-ST}\ \textit{list} \end{bmatrix}$$

The other two features reflect the HPSG-theoretic distinction between argument structure, which is relevant only for words, and valence, representing the combinatory potential of the item and relevant for all nodes in a syntactic tree, words and phrases alike. In brief, the value of ARG-ST on a *word* is a list of all syntactic arguments of this *word*, regardless of their mode of realization. On the other hand, the two valence lists which are the values of SUBJ and COMPS contain information about those arguments of a *sign* which must be overtly realized as syntactic constituents.

In the default case, the elements of a *word*'s ARG-ST are exactly the same as the elements of this *word*'s VALENCE lists, but there are exceptions which justify separating the two notions. One of them concerns the so-called *pro-drop*, as in (45), where the subject is not overtly realized, but it nevertheless participates in various syntactic processes, such as binding.

(45) Zobaczył siebie w lustrze.
saw Self in mirror

'He saw himself in a mirror.'

In HPSG, such cases are assumed to involve an element of ARG-ST which is absent from VALENCE: since this element is present on ARG-ST, it may bind anaphors (in HPSG, binding is analyzed in terms of ARG-ST), but since it is absent from VALENCE, it is never realized as a constituent. This analysis avoids positing empty syntactic constituents, common in the transformational tradition.

Another similar discrepancy concerns French pronominal clitics, which, as Miller and Sag (1997) argue at length, should be analyzed as inflectional affixes, and hence not constituents in their own right. Again, they are assumed to be present on the governing verb's ARG-ST, but not on its VALENCE attributes. Other dissasociations between ARG-ST and VALENCE are discussed by Manning and Sag (1998, 1999) and Bouma et al. (2000), among others.

Such discrepancies notwithstanding, for the purpose of this article I will assume that a *word*'s ARG-ST is simply equal to the concatenation of this *word*'s VALENCE features. Formally, I assume the following principle:

(46)
$$\textit{word} \rightarrow \begin{bmatrix} \text{SYNSEM}|\text{CATEGORY} \begin{bmatrix} \textit{category} \\ \text{VALENCE} \begin{bmatrix} \text{SUBJ}\ \boxed{1} \\ \text{COMPS}\ \boxed{2} \end{bmatrix} \\ \text{ARG-ST}\ \boxed{1} \oplus \boxed{2} \end{bmatrix} \end{bmatrix}$$

This principle, like all HPSG principles, is a constraint, in this case, an implicational constraint: any object described by the left hand side of the implication '$\rightarrow$' must be as specified by the right hand side of the implication. In case of (46), for each *word*, the value of ARG-ST (cf. $\boxed{1}\oplus\boxed{2}$) of this *word* must be the concatenation of the values of SUBJect (cf. $\boxed{1}$) and COMPlementS (cf. $\boxed{2}$).[19] This, together with an independent constraint to the effect the SUBJ value is a list of (maximal) length one, ensures that the first element of ARG-ST is mapped into SUBJ, and all other elements are mapped into COMPS.

For example, assuming that *dać* 'give' is lexically specified as taking three NP arguments (the subject, the direct object and the indirect object), as illustrated in (47), the principle (46) will ensure that the first argument is realized as the subject, while the other two arguments are realized as complements, as illustrated in (48).[20]

(47)
$$\left[\begin{array}{ll} \textit{word} & \\ \text{PHON} & \text{dać} \\ \text{SYNSEM}|\text{CATEGORY} & \left[\begin{array}{ll} \textit{category} & \\ \text{HEAD} & \textit{inf} \\ \text{ARG-ST} & \langle \text{NP}, \text{NP}, \text{NP} \rangle \end{array}\right] \end{array}\right]$$

(48)
$$\left[\begin{array}{ll} \textit{word} & \\ \text{PHON} & \text{dać} \\ \text{SYNSEM}|\text{CATEGORY} & \left[\begin{array}{ll} \textit{category} & \\ \text{HEAD} & \textit{inf} \\ \text{VALENCE} & \left[\begin{array}{ll} \text{SUBJ} & \langle \boxed{1}\text{NP} \rangle \\ \text{COMPS} & \langle \boxed{2}\text{NP}, \boxed{3}\text{NP} \rangle \end{array}\right] \\ \text{ARG-ST} & \langle \boxed{1}, \boxed{2}, \boxed{3} \rangle \end{array}\right] \end{array}\right]$$

3.2.3. Argument Structure vs. Semantic Arguments

All information contained in the *category* part of a *sign* pertains to this *sign*'s syntactic and morphosyntactic characteristics. This is true also about values of ARG-ST and VALENCE, which are purely syntactic features. This in particular means that ARG-ST is a **syntactic argument structure**.

Information about the number and kind of **semantic arguments** of a predicate is contained in values of the feature CONTENT, e.g., for *dać* 'give':[21]

---

[19] $\boxed{1}$, $\boxed{2}$, etc., so-called *tags*, are simply variables.

[20] There are some notational conventions used in (47)–(48) which should be mentioned. First, the type *inf* (see the value of HEAD) is a subtype of the type *verb*. Second, NPs in (47)–(48) are really abbreviations for *synsem* structures corresponding to nominal phrases. Third, values of PHON are very complex (cf. Höhle 1999), and they are abbreviated by the orthography here. Finally, note that, in (46), the variables $\boxed{1}$ and $\boxed{2}$ stand for lists, while in (48), $\boxed{1}$, $\boxed{2}$ and $\boxed{3}$ stand for elements of lists.

[21] $\boxed{1'}$ stands for the semantic content of $\boxed{1}$, etc.

(49)
$$\begin{bmatrix} \textit{word} \\ \text{PHON}\ \text{dać} \\ \text{SYNSEM} \begin{bmatrix} \textit{synsem} \\ \text{CATEGORY} \begin{bmatrix} \textit{category} \\ \text{HEAD}\ \textit{inf} \\ \text{VALENCE} \begin{bmatrix} \text{SUBJ}\ \langle \boxed{1}\text{NP} \rangle \\ \text{COMPS}\ \langle \boxed{2}\text{NP}, \boxed{3}\text{NP} \rangle \end{bmatrix} \\ \text{ARG-ST}\ \langle \boxed{1}, \boxed{2}, \boxed{3} \rangle \end{bmatrix} \\ \text{CONTENT} \begin{bmatrix} \textit{give-relation} \\ \text{GIVER}\ \boxed{1'} \\ \text{RECIPIENT}\ \boxed{2'} \\ \text{GIVEN}\ \boxed{3'} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

In simple cases, including (49), semantic arguments in CONTENT correspond directly to syntactic arguments in ARG-ST. However, there is a class of exceptions which is very important in the context of this article, namely, raising constructions. Such constructions are assumed to involve raising of a syntactic argument from the ARG-ST of a lower verb to the ARG-ST of a higher verb, but—crucially—they do not involve any operations on semantic arguments.

For example, in case of standard subject-to-object raising constructions (often called Exceptional Case Marking constructions), the subject of the lower verb (cf. $\boxed{2}$ below) is present on the ARG-ST of the higher verb as shown below (again, $\boxed{1'}$ stands for the semantic content of $\boxed{1}$, etc.):

(50)
$$\begin{bmatrix} \textit{word} \\ \text{PHON}\ \text{believe} \\ \text{SYNSEM} \begin{bmatrix} \textit{synsem} \\ \text{CATEGORY} \begin{bmatrix} \textit{category} \\ \text{HEAD}\ \textit{verb} \\ \text{VALENCE} \begin{bmatrix} \textit{valence} \\ \text{SUBJ}\ \langle \boxed{1}\text{NP} \rangle \\ \text{COMPS}\ \langle \boxed{2}, \boxed{3}\text{VP}[\ldots \text{SUBJ}\ \langle \boxed{2} \rangle] \rangle \end{bmatrix} \\ \text{ARG-ST}\ \langle \boxed{1}, \boxed{2}, \boxed{3} \rangle \\ \text{CONTENT} \begin{bmatrix} \textit{believe-relation} \\ \text{BELIEVER}\ \boxed{1'} \\ \text{BELIEVED}\ \boxed{3'} \end{bmatrix} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

Although there are three syntactic arguments in (50), namely, the subject, the raised object and an (infinitival) VP, *believe* has only two semantic arguments, i.e., the semantic content of the subject and the semantic content of the infinitival VP, roughly, the proposition expressed by this VP.

Although CONTENT values will not be mentioned in the remainder of this article, it should be borne in mind that the analysis of §3.3 below involves analogous mismatches between syntactic argument structure ARG-ST and semantic argument structure CONTENT.

3.2.4. VALENCE and Syntactic Realization

As mentioned above, VALENCE features represent the combinatory potential of a *sign*, i.e., the *sign*'s subcategorization frame, and contain syntactic arguments earmarked for overt realization as syntactic constituents. The relevant HPSG principles, especially the Valence Principle and so-called ID-Schemata (Pollard and Sag 1994), remove the already realized arguments from VALENCE features and thus ensure that all elements subcategorized for by a *sign* are realized only once. For example, the constituency tree of the sentence in (51) may be as schematically represented in Figure 1.

(51) Janek dał Marysi kwiaty.
John$_{nom}$ gave Mary$_{dat}$ flowers$_{acc}$
'John gave Mary flowers.'

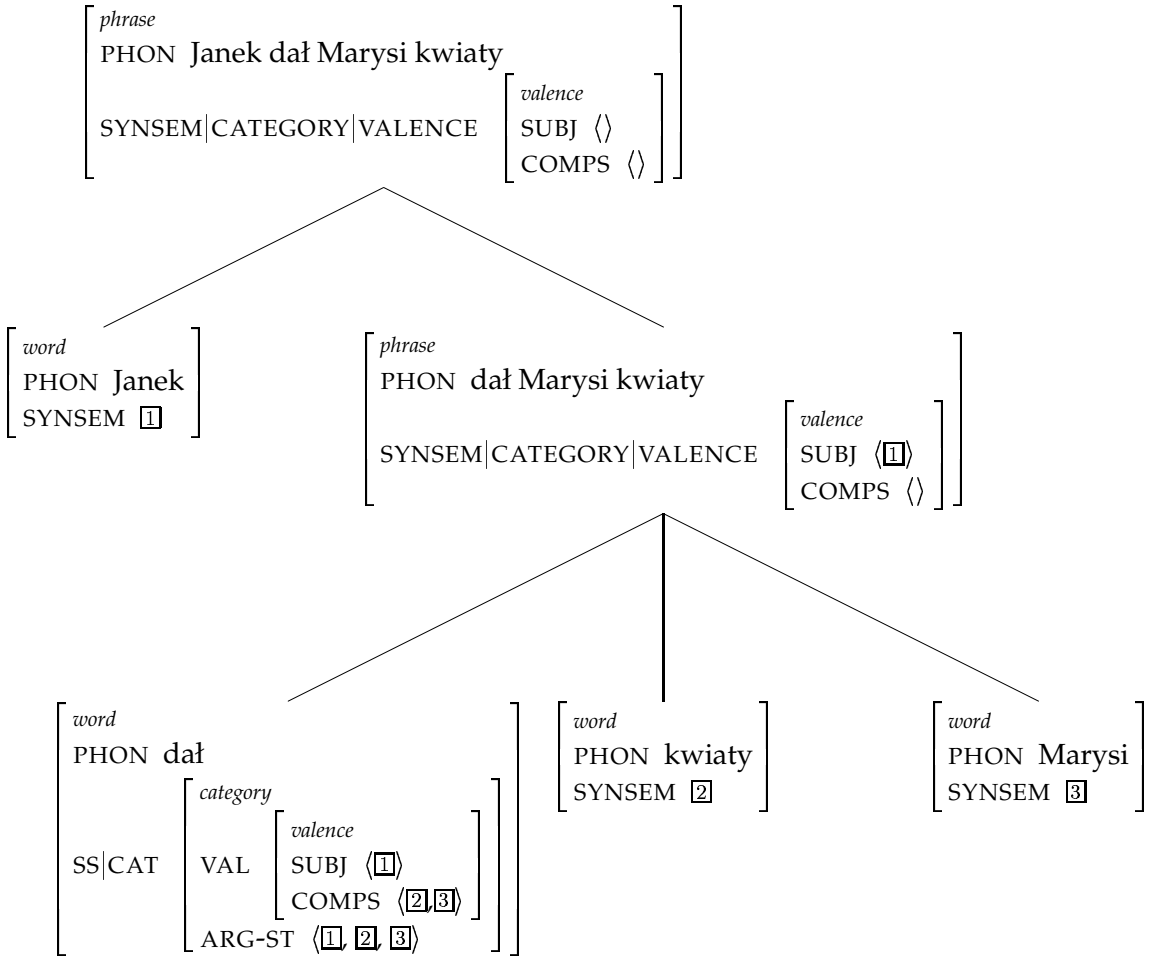


Figure 1: Constituency tree of (51)

There is a number of things to note about the tree in Figure 1 which are important for understanding the HPSG account below. First, since—as mentioned above—ARG-ST is assumed here to be present on *word*s but not on *phrase*s, it is present in the structure corresponding to *dał*, but not in the structures corresponding to *dał Marysi kwiaty* or *Janek dał Marysi kwiaty*.

Second, the elements of VALENCE features on a *sign* which correspond to constituents realized in the local tree do not appear in VALENCE features of the mother of that *sign*. For example, since the two complements of *dał* are realized in the lower subtree, they do not appear in the COMPS list of the root of that subtree (i.e., the node corresponding to *dał Marysi kwiaty*). On the other hand, since the subject of *dał* is not realized in the lower tree, it does remain on the SUBJ list of the intermediate node. Thus, VALENCE features of any *sign* reflect this *sign*'s **remaining combinatory potential**.

Third, although the PHON value of a mother node is usually (and roughly) the concatenation of PHON values of the daughters, the order of this concatenation does not necessarily correspond to the other of the daughter nodes in the tree. For example, the PHON value of the intermediate node is *dał Marysi kwiaty*, and not *dał kwiaty Marysi*, as could be expected if left-to-right concatenation of PHON values of terminal leaves were assumed. In general, there is a separate grammatical module in HPSG taking care of word order (see Kathol 2000 and references therein).

3.3. An HPSG Account

The previous section (§3.2) laid out certain standard HPSG assumptions, mainly those concerning the status of ARG-ST in the grammar. This section presents an HPSG formalization of the analysis sketched in §3.1, in which the feature ARG-ST plays a central role. First, in §3.3.1, I will present an account of 'clause union' environments in Polish as involving optional raising or 'argument composition'—as noted in §3.1, such optional argument raising in Polish is independently motivated by optional clitic climbing and optional haplology facts. Then, in §3.3.2, I will outline an HPSG analysis of syntactic case assignment in Polish, necessary to account for local case assignment. Finally, in §3.3.3, I will show how these two independently motivated analyses conspire to account for optional and multiple LD GoN.

3.3.1. Optional Raising in 'Clause Union' Environments

There is a standard HPSG account of 'clause union' environments in various languages which I will adapt to Polish, namely, via the mechanism of argument raising (or argument composition, as it is often called), adopted in HPSG from Categorial Grammar by Hinrichs and Nakazawa (1990). The general idea behind this mechanism is that verbs triggering 'clause union' may combine either with phrases, the standard case, or with words. In the latter case, the 'clause union' verb takes over the unrealized arguments of the word it combines with and adds them to its own argument structure.

To take a concrete example, the (subject-to-subject) raising verb *wydawać się* 'seem' will be lexically specified as in (52),[22] i.e., as taking an unspecified argument (cf. 0), an infinitival argument, whose SUBJect is the same as that first argument (cf. 0 again), and an unspecified list of arguments (cf. 1), which, however, is the same as the COMPS value of the infinitival argument (cf. 1 again).

(52)
$$\left[\begin{array}{l} \textit{word} \\ \text{PHON}\ \text{wydawać się} \\ \ldots|\text{CATEGORY}\ \left[\begin{array}{l} \textit{category} \\ \text{HEAD}\ \textit{inf} \\ \text{ARG-ST}\ \langle \boxed{0}, \left[\begin{array}{l} \ldots|\text{HEAD}\ \textit{inf} \\ \ldots|\text{VALENCE}\ \left[\begin{array}{l} \text{SUBJECT}\ \langle \boxed{0} \rangle \\ \text{COMPS}\ \boxed{1} \end{array}\right] \end{array}\right] \rangle \oplus \boxed{1} \end{array}\right] \end{array}\right]$$

This means that *wydawać się*, as analyzed here, is a raising verb in two senses: its subject, 0, is raised from (structure-shared with, in the HPSG parlance) the subject of its infinitival complement (this is the traditional sense of 'raising'), and possibly other arguments are raised from the COMPS list of the infinitival complement (this is the 'argument composition' sense of raising), cf. 1.

Note that, according to the constraint (46), the raised complements are present on the COMPS list of the control/raising verb, as illustrated in (53).

(53)
$$\left[\begin{array}{l} \textit{word} \\ \text{PHON}\ \text{wydawać się} \\ \ldots|\text{CATEGORY}\ \left[\begin{array}{l} \textit{category} \\ \text{HEAD}\ \textit{inf} \\ \text{VALENCE}\ \left[\begin{array}{l} \text{SUBJ}\ \langle \boxed{0} \rangle \\ \text{COMPS}\ \langle \boxed{2} \rangle \oplus \boxed{1} \end{array}\right] \\ \text{ARG-ST}\ \langle \boxed{0}, \boxed{2}\left[\begin{array}{l} \ldots|\text{HEAD}\ \textit{inf} \\ \ldots|\text{VALENCE}\ \left[\begin{array}{l} \text{SUBJECT}\ \langle \boxed{0} \rangle \\ \text{COMPS}\ \boxed{1} \end{array}\right] \end{array}\right] \rangle \oplus \boxed{1} \end{array}\right] \end{array}\right]$$

An important thing to note about the lexical entry (52) of *wydawać się* is that it does not specify whether the infinitival argument is a *word* or a *phrase*; it only says that this argument must be [HEAD *inf*], must have an unrealized subject (0) and must have a list of complements (0), but this list may happen to be empty.

This means that (54) below may be analyzed twofold: First, the matrix verb *wydawać się* may combine with the whole phrase *lubić Marię*—in this case, the COMPS list 1 in (52)–(53) is the empty list. Second, the matrix verb may combine with the verb *lubić*, raise the complement of this verb to its own ARG-ST (by appending the 1-element list 1), and combine with *Marię* in the same local tree. These two analyses are schematically illustrated in Figures 2 and 3, respectively.

[22] I ignore here the problem of the proper representation of the reflexive marker *się*; see Kupść 1999b, 2000 for some considerations.

(54) Janek wydawał się lubić Marię.
John$_{nom}$ seemed RM like$_{inf}$ Mary$_{acc}$
'John seemed to like Mary.'

The main difference between Figure 2 and Figure 3 is that the ARG-ST of *wydawać się* contains 2 syntactic arguments in Figure 2, i.e., the (raised) subject and the infinitival VP, and 3 syntactic arguments in Figure 3, i.e., the (raised) subject, the infinitival verb, and this infinitival verb's object.

Technically, I assume that all Polish raising and control verbs (i.e., verbs introducing 'clause union' effects) have the structure analogous to that of *wydawać się*, i.e., that they all satisfy the following general pattern.

(55)
$$\left[\begin{array}{l} \textit{word} \\ \ldots|\textsc{arg-st}\ \langle \ldots, \left[\begin{array}{l} \ldots|\textsc{head}\ \textit{inf} \\ \ldots|\textsc{valence}|\textsc{comps}\ \boxed{1} \end{array}\right]\rangle \oplus \boxed{1} \end{array}\right]$$

Since it is only raising and control verbs taking a non-finite argument that allow argument composition of this kind, only environments triggered by such verbs (i.e., only 'clause union' environments) will allow for Long Distance GoN according to the analysis of case assignment presented below. This will correctly account for 'locality barriers' to LD GoN, as in (12)–(14) above.

3.3.2. Structural Case Assignment in HPSG

I assume here the HPSG approach to syntactic case assignment developed in Przepiórkowski 1996, 1999a and subsequently applied to languages such as Polish (Kupść 1999b; Przepiórkowski 1999a, 2000a), French (Calcagno and Pollard 1997), German (Meurers 1999a,b), English (Calcagno 1999), Korean (Chung 1998), Finnish (Przepiórkowski 1999b) and Martuthunira (an Australian language) (Malouf 2000). This approach consists of three parts:

First, there is an explicit division of cases into structural, assigned by general grammatical principles, and lexical/inherent, assigned directly within lexical entries. In particular, I assume the *case* type hierarchy for Polish given in Figure 4.[23]

What this type hierarchy says is that, any *case* object (see the top of the hierarchy) must actually be one of the bottom (so-called maximal) types, i.e., either *snom* (*s*tructural *nom*inative), or *sacc* (*s*tructural *acc*usative), or..., or *lloc* (*l*exical (= inherent) *loc*ative).[24] Further, it says that there are six morphological cases in Polish (I ignore the vocative here), i.e., *nom*inative, ..., *loc*ative, and two types of cases from the syntactic point of

[23] Within HPSG, such a type hierarchy for *case* values was first proposed by Heinz and Matiasek (1994), on the basis of German facts. The structural/inherent case dichotomy dates back to early work within the Government and Binding theory by Jean-Roger Vergnaud (Rouveret and Vergnaud 1980; Vergnaud 1982), Noam Chomsky (Chomsky 1980, 1981) and, apparently independently, Leonard Babby (Babby 1980b,a).

[24] The dotted lines leading to *lacc* are not part of the official notation, but rather reflect the weakness of the evidence for the existence of the *l*exical *acc*usative in Polish; cf. fn. 6.

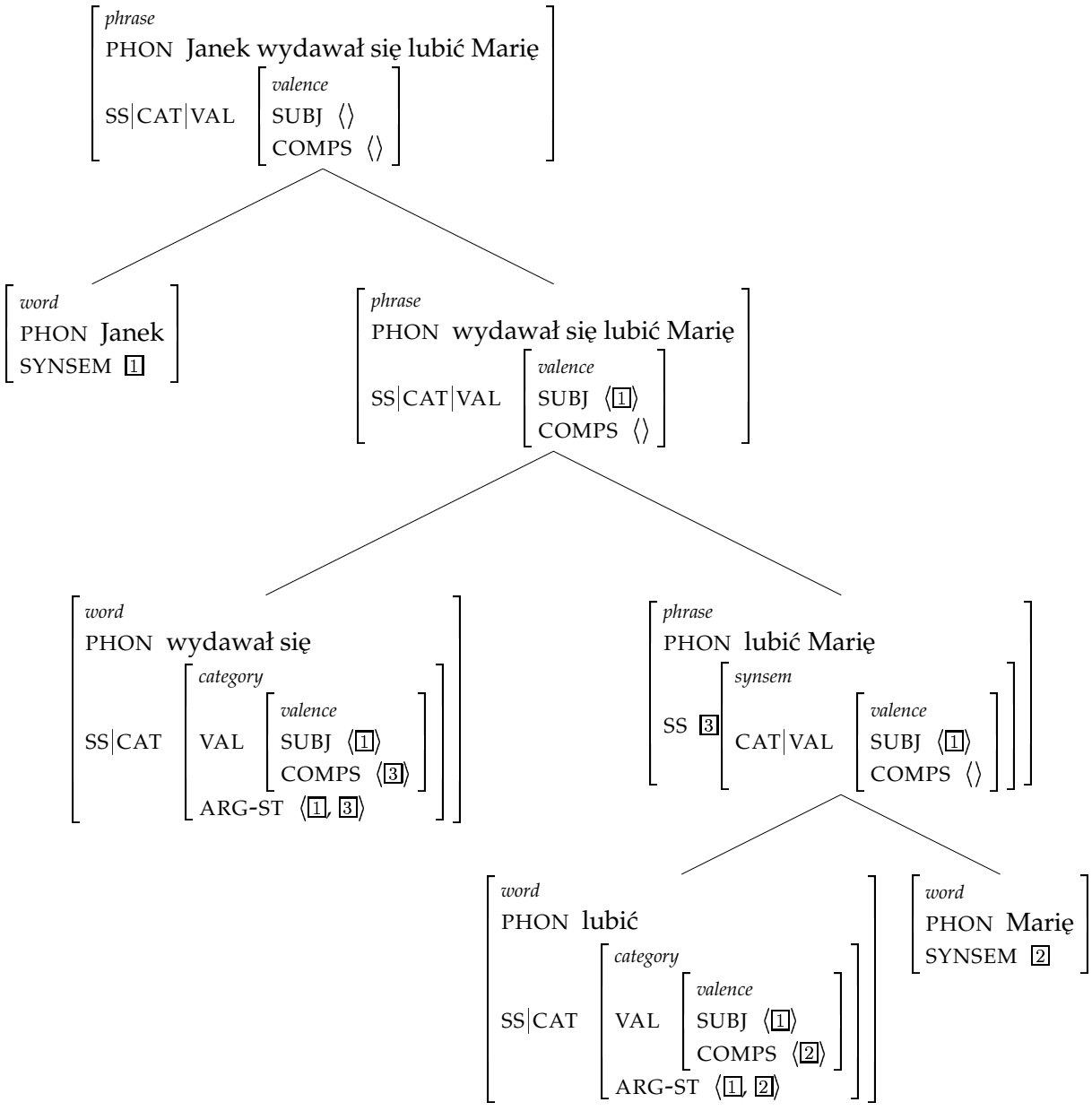


Figure 2: Non-argument composition analysis of (54)

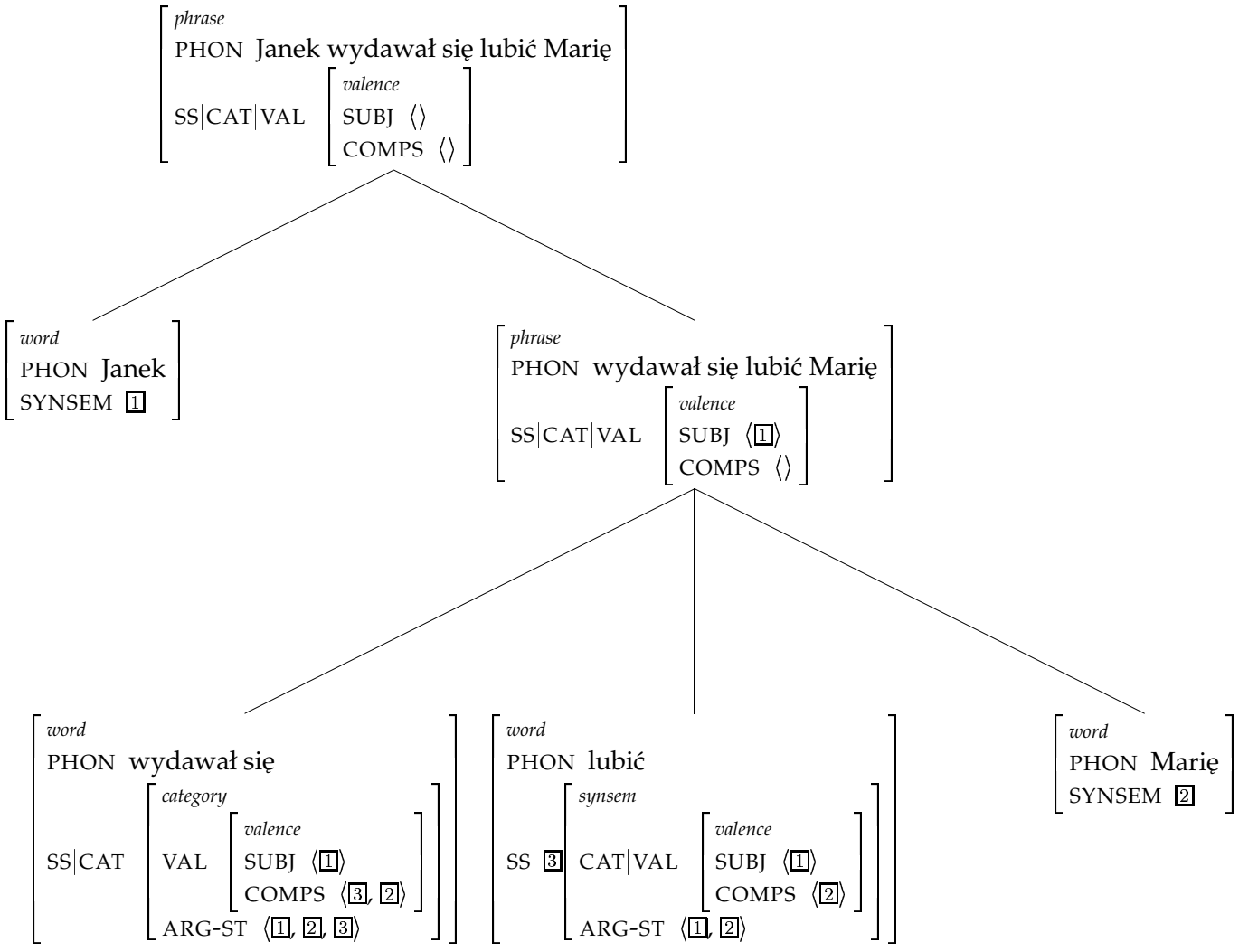


Figure 3: Argument composition analysis of (54)

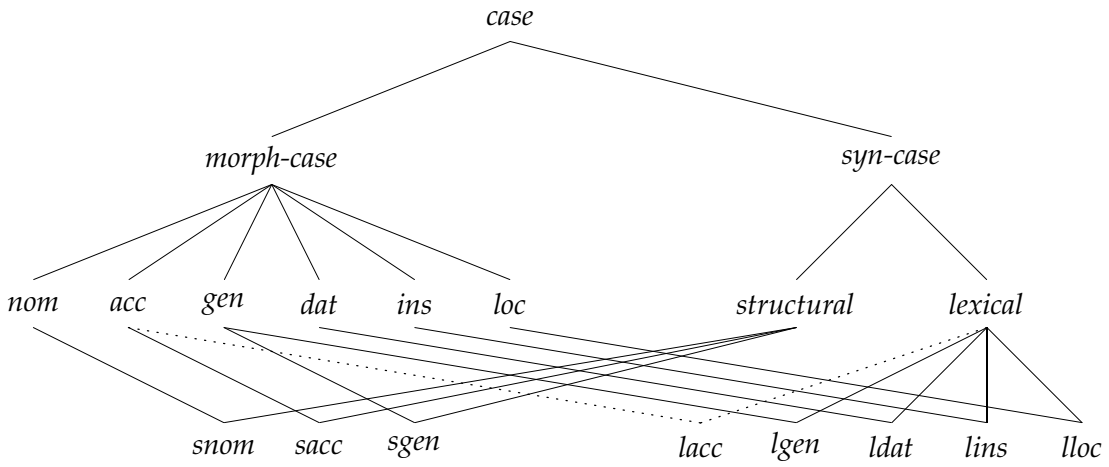


Figure 4: Case type hierarchy for Polish

view, i.e., *structural* and *lexical* (= inherent). Finally, it says that, e.g., *sgen*, being a subtype of both *gen* and *structural*, is a *gen*itive case from the morphological point of view, just like *lgen*, but it also is *str*uctural from the syntactic point of view, unlike *lgen*, etc.

Second, lexical entries of predicates (verbs, nouns, etc.) are assumed to distinguish between *str*uctural arguments and *lex*ical arguments: only the latter, not the former, are morphologically specified in such lexical entries. For example, the verbs *pomagać* 'help' and *wspierać* 'support' are assumed to have following ARG-ST specifications, on the basis of criteria mentioned in §1.1:

(56) a. *pomagać*: [ARG-ST ⟨NP[*str*], NP[*ldat*]⟩]

b. *wspierać*: [ARG-ST ⟨NP[*str*], NP[*str*]⟩]

Third, *str*uctural case is resolved to particular morphological case by general grammatical constraints such as (57)–(58) below.[25]

(57) $$\begin{bmatrix} \textit{category} \\ \text{HEAD} \begin{bmatrix} \textit{verbal} \\ \text{NEG} \ - \end{bmatrix} \\ \text{ARG-ST} \ \boxed{1}_{\textit{nelist}} \oplus \langle [\text{CASE } \textit{str}] \rangle \oplus \boxed{2}_{\textit{list}} \end{bmatrix} \rightarrow \begin{bmatrix} \text{ARG-ST} \ \boxed{1} \oplus \langle [\text{CASE } \textit{sacc}] \rangle \oplus \boxed{2} \end{bmatrix}$$

[25] I ignore here other principles resolving *str*uctural cases in Polish, such as 'assign nominative to *str* subjects of verbs', 'assign genitive to *str* arguments of nouns', and possibly 'assign accusative to *str* complements of prepositions'.

(58)
$$\begin{bmatrix} \textit{category} \\ \text{HEAD} \begin{bmatrix} \textit{verbal} \\ \text{NEG} \ + \end{bmatrix} \\ \text{ARG-ST} \ \boxed{1}_{\textit{nelist}} \oplus \langle [\text{CASE } \textit{str}] \rangle \oplus \boxed{2}_{\textit{list}} \end{bmatrix} \rightarrow \begin{bmatrix} \text{ARG-ST} \ \boxed{1} \oplus \langle [\text{CASE } \textit{sgen}] \rangle \oplus \boxed{2} \end{bmatrix}$$

Both principles are expressed as implicational constraints, i.e., any object satisfying the left hand side of the constraint must also satisfy the right hand side. Thus, (57) says that, for any *verbal*[26] *category* which does not involve morphosyntactic negation (cf. [NEG −]), if the value of the feature ARG-ST is the concatenation (cf. ⊕) of some non-empty list (cf. *nelist*) with a 1-element list whose sole element bears the *str*uctural case (cf. ⟨[CASE *str*]⟩), and with some other *list* (possibly empty), then the value of this ARG-ST must be the concatenation of the original non-empty list (cf. 1), with a 1-element list whose sole element bears the *s*tructural *acc*usative case (cf. ⟨[CASE *sacc*]⟩), and with the original tail list (cf. 2). In other words, any non-initial structural argument of a non-negated verb must bear the accusative case. The 'non-initialness' condition is required in order to exclude from the scope of this principle subjects, which are supposed to be the initial elements on verbs' ARG-ST.

Similarly, what (58) says is that any non-subject structural argument of a negated (cf. [NEG +]) verb must actually be genitive (an instance of Genitive of Negation). Principles (57) and (58) are local in the sense that they access only information about a head and its immediate arguments.

The following sections show how the approaches to argument raising and to case assignment sketched above interact in accounting for LD GoN (§3.3.3), and point out certain important properties (and adduce extensions) of the syntactic case assignment as construed here.

3.3.3. An Example

Let us see how the analysis given above accounts for the optionality of LD GoN in (59).

(59) Janek nie wydawał się lubić Marię / Marii.
John$_{nom}$ NM seem RM like$_{inf}$ Mary$_{acc/gen}$

'John didn't seem to like Mary.'

Let us assume that *lubić* 'like' takes two structural arguments (the subject and the object), i.e., that it can be characterized as in (60) (after applying the constraint (46)).

[26] For the purpose of this analysis, I assume that *verbal* is a type of finite, infinitival, *-no/-to* and other impersonal verbs, as well as as adjectival and adverbial participles, cf. Przepiórkowski 1999a, p. 420. This way all data in (4) are taken care of.

(60)
$$\begin{bmatrix} \textit{word} \\ \text{PHON}\ \text{lubić} \\ \text{SYNSEM}|\text{CATEGORY} \begin{bmatrix} \textit{category} \\ \text{HEAD} \begin{bmatrix} \textit{inf} \\ \text{NEG}\ - \end{bmatrix} \\ \text{VALENCE} \begin{bmatrix} \text{SUBJ}\ \langle \boxed{0}\text{NP}[\textit{str}] \rangle \\ \text{COMPS}\ \langle \boxed{3}\text{NP}[\textit{str}] \rangle \end{bmatrix} \\ \text{ARG-ST}\ \langle \boxed{0}, \boxed{3} \rangle \end{bmatrix} \end{bmatrix}$$

I will also assume that *nie wydawał się* 'did not seem' is lexically specified in a way analogous to (52)–(53) above, but marked as [NEG +] (i.e., as inflectionally negated):

(61)
$$\begin{bmatrix} \textit{word} \\ \text{PHON}\ \text{nie wydawał się} \\ \text{SYNSEM}|\text{CATEGORY} \begin{bmatrix} \textit{category} \\ \text{HEAD} \begin{bmatrix} \textit{verb} \\ \text{NEG}\ + \end{bmatrix} \\ \text{VALENCE} \begin{bmatrix} \text{SUBJ}\ \langle \boxed{0} \rangle \\ \text{COMPS}\ \langle \boxed{2} \rangle \oplus \boxed{1} \end{bmatrix} \\ \text{ARG-ST}\ \langle \boxed{0}, \boxed{2} \begin{bmatrix} \ldots|\text{HEAD}\ \textit{inf} \\ \ldots|\text{VALENCE} \begin{bmatrix} \text{SUBJECT}\ \langle \boxed{0} \rangle \\ \text{COMPS}\ \boxed{1} \end{bmatrix} \end{bmatrix} \rangle \oplus \boxed{1} \end{bmatrix} \end{bmatrix}$$

Now, according to (61), *nie wydawać się* takes an infinitival complement, but does not specify whether this complement is a word or a phrase. This means that *nie wydawał się* may combine either with the word *lubić* (cf. (60)), or with the phrase *lubić Marię* (cf. (62)).

(62)
$$\begin{bmatrix} \textit{phrase} \\ \text{PHON}\ \text{lubić Marię} \\ \text{SYNSEM}|\text{CATEGORY} \begin{bmatrix} \textit{category} \\ \text{HEAD} \begin{bmatrix} \textit{inf} \\ \text{NEG}\ - \end{bmatrix} \\ \text{VALENCE} \begin{bmatrix} \text{SUBJ}\ \langle \boxed{0}\text{NP}[\textit{str}] \rangle \\ \text{COMPS}\ \langle\rangle \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

Assuming first the latter case, i.e., that *nie wydawał się* combines with the phrase *lubić Marię*, (61) becomes (63) (2 corresponds to the phrase *lubić Marię*), while the whole phrase *nie wydawał się lubić Marię* is as described in (64).

(63)
$$\left[\begin{array}{l} \textit{word} \\ \textsc{phon}\ \text{nie wydawał się} \\ \textsc{synsem}|\textsc{category}\ \left[\begin{array}{l} \textit{category} \\ \textsc{head}\ \left[\begin{array}{l}\textit{verb}\\ \textsc{neg}\ +\end{array}\right] \\ \textsc{valence}\ \left[\begin{array}{l}\textsc{subj}\ \langle \boxed{0} \rangle \\ \textsc{comps}\ \langle \boxed{2} \rangle\end{array}\right] \\ \textsc{arg-st}\ \langle \boxed{0}, \boxed{2}\left[\begin{array}{l}\ldots|\textsc{head}\ \textit{inf} \\ \ldots|\textsc{valence}\ \left[\begin{array}{l}\textsc{subj}\ \langle \boxed{0}\textsc{np}[\textit{str}] \rangle \\ \textsc{comps}\ \langle\rangle\end{array}\right]\end{array}\right]\rangle \end{array}\right] \end{array}\right]$$

(64)
$$\left[\begin{array}{l} \textit{phrase} \\ \textsc{phon}\ \text{nie wydawał się lubić Marię} \\ \textsc{synsem}|\textsc{category}\ \left[\begin{array}{l} \textit{category} \\ \textsc{head}\ \left[\begin{array}{l}\textit{verb}\\ \textsc{neg}\ +\end{array}\right] \\ \textsc{valence}\ \left[\begin{array}{l}\textsc{subj}\ \langle \boxed{0}\textsc{np}[\textit{str}] \rangle \\ \textsc{comps}\ \langle\rangle\end{array}\right] \end{array}\right] \end{array}\right]$$

Since, in this case, the NP *Marię* is only present on the ARG-ST of the verb *lubić*, which is a non-negated (i.e., [NEG −] verb), the case assignment principle (57) applies and correctly resolves the case of this NP to the accusative. (Note that this NP is the second, i.e., non-initial element on the ARG-ST of *lubić*; cf. $\boxed{3}$ in (60).) The constituent structure of the whole sentence is as in Figure 2.

Now, assuming the former case, i.e., that *wydawał się* combines with the word *lubić*, (61) becomes (65) ($\boxed{2}$ corresponds now to the word *lubić*), while the whole phrase *nie wydawał się lubić* is described in (66).

(65)
$$\left[\begin{array}{l} \textit{word} \\ \textsc{phon}\ \text{nie wydawał się} \\ \textsc{synsem}|\textsc{category}\ \left[\begin{array}{l} \textit{category} \\ \textsc{head}\ \left[\begin{array}{l}\textit{verb}\\ \textsc{neg}\ +\end{array}\right] \\ \textsc{valence}\ \left[\begin{array}{l}\textsc{subj}\ \langle \boxed{0} \rangle \\ \textsc{comps}\ \langle \boxed{2}, \boxed{3} \rangle\end{array}\right] \\ \textsc{arg-st}\ \langle \boxed{0}, \boxed{2}\left[\begin{array}{l}\ldots|\textsc{head}\ \textit{inf} \\ \ldots|\textsc{valence}\ \left[\begin{array}{l}\textsc{subj}\ \langle \boxed{0}\textsc{np}[\textit{str}] \rangle \\ \textsc{comps}\ \langle \boxed{3}\textsc{np}[\textit{str}] \rangle\end{array}\right]\end{array}\right], \boxed{3}\rangle \end{array}\right] \end{array}\right]$$

(66)
$$\begin{bmatrix} \textit{phrase} \\ \text{PHON}\ \text{nie wydawał się lubić} \\ \text{SYNSEM|CATEGORY} \begin{bmatrix} \textit{category} \\ \text{HEAD} \begin{bmatrix} \textit{verb} \\ \text{NEG}\ + \end{bmatrix} \\ \text{VALENCE} \begin{bmatrix} \text{SUBJ}\ \langle \boxed{0}\text{NP}[\textit{str}] \rangle \\ \text{COMPS}\ \langle \boxed{3}\text{NP}[\textit{str}] \rangle \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

In this case, the structural NP argument of *lubić* is also present on the ARG-ST of the higher negated verb, *nie wydawał się* (cf. [3] in (65)). This means that now principle (58) applies and resolves the case of this NP to the structural genitive. (Note that now this NP is the third element on the ARG-ST of *nie wydawał się*.) The structure of the whole sentence is as in Figure 3 above.

This way, the optionality of raising in 'clause union' environments, independently motivated by clitic climbing and *się*-haplology facts, is directly responsible for the optionality of LD GoN.

Before we conclude this subsection, a brief note on the possible multiplicity of negation is in order: how can a single expression of negation trigger multiple genitive case assignments, as in (29), repeated below?

(29) Nie mam ochoty uczyć Marii lepić garnków.
NM have$_{1st,sg}$ liking$_{gen}$ teach$_{inf}$ Mary$_{gen}$ mold$_{inf}$ pots$_{gen}$
'I don't feel like teaching Mary how to make pottery.'

The answer should be clear by now. Both *mam* and *uczyć* are 'clause union' verbs, i.e., they are both described by (46). Assuming that *garnków* is not realized locally to *lepić*, it is raised to the ARG-ST of *uczyć*. This way, there are two NP[*str*] elements on the ARG-ST of *uczyć*. Now, it is possible that none of them is realized locally to *uczyć*. If so, they are both raised to *mam*, which now has three NP[*str*] elements on its ARG-ST, namely, *ochoty*, *Marii*, and *garnków*. These arguments cannot be raised any higher, so—given that *nie mam* is a negated verb—principle (58) applies and resolves the cases of all three NP[*str*] arguments to (structural) genitive.

3.4. Comments, Extensions and Revisions

This final subsection briefly discusses certain properties of the analysis presented above, as well as revisions necessary to extend the empirical coverage and accuracy of this analysis.

3.4.1. 'Case Assigners' in HPSG

It is important to note that, on the approach to case assignment presented above, it does not make much sense to ask whether a verb is a 'case assigner' or 'how many cases it assigns'. Lexical entries of particular verbs (or predicates, in general) do specify which

of their original arguments bear lexical cases and which bear structural cases, but this original argument structure may be extended by arguments raised from lower verbs, in the manner described in §3.3.1 and illustrated in §3.3.3. Thus, it is perfectly possible that a predicate which does not itself subcategorize for any *str*uctural NPs raises such structural NP arguments from a lower verb. In fact, this is probably exactly the situation in (23), repeated below.

(23) Nie sposób sprawdzić im bilety / biletów.
NM possible check$_{inf}$ them$_{dat}$ tickets$_{acc\,/\,gen}$
'It's impossible to check their tickets.'

In (23), the matrix predicate *nie sposób* should probably be analyzed as taking only one semantic argument, i.e., content of the infinitival VP it subcategorizes for. However, since this predicate triggers 'clause union', its lexical entry must conform to the general pattern in (55), i.e., it must be as specified in (67).

(67)
$$\left[\begin{array}{l} \textit{word} \\ \text{PHON}\ \text{nie sposób} \\ \\ \text{SYNSEM}|\text{CATEGORY} \left[\begin{array}{l} \textit{category} \\ \text{HEAD}|\text{NEG}\ + \\ \text{ARG-ST}\ \langle \left[\begin{array}{l} \ldots|\text{HEAD}\ \textit{inf} \\ \ldots|\text{VALENCE}|\text{COMPS}\ \boxed{1} \end{array}\right] \rangle \oplus \boxed{1} \end{array}\right] \end{array}\right]$$

In case the COMPS list (1) of the infinitival complement is non-empty, the ARG-ST of *nie sposób* contains other elements apart from its original infinitival argument, some of them possibly specified as *str*uctural. If this is the case, then the syntactic case principle (58) above applies and resolves the case of this raised complement to the genitive (given that *nie sposób* is [NEG +]), as in the genitive version of (23). This, however, does not change the status of *nie sposób* from 'non-case-assigner' to 'case-assigner': whether it attracts *str*uctural arguments or not, it is the same verb given by the lexical entry in (67).

3.4.2. A Feature Clash?

The careful reader will notice that, in the case of the raising analysis of (59), as given by (60), (65) and (66), the complement of *lubić* is actually present on two ARG-ST lists, i.e., on the ARG-ST of *lubić* (cf. 3 in (60)) and on the ARG-ST of *nie wydawał się* (cf. 3 in (65)). This means that, as the analysis stands now, case assigning principles apply twice: at the level of *lubić* and at the level of *nie wydawał się*. But this should in turn result in a feature clash: since *lubić* is a non-negated verb, accusative is assigned via (57) at this level, but since *nie wydawał się* is a negated verb, genitive is assigned via (58) here.

In fact, the account of syntactic case assignment described above is a slight simplification of the original approach to case assignment developed (on the basis of case assignment facts in German, Icelandic and English) in Przepiórkowski 1996, 1999a. On that approach, *str*uctural case of an argument is resolved not just on any ARG-ST on

which this argument appears, but only on the highest such ARG-ST. This means that, in the case of (59) analyzed as in (60), (65) and (66), the case of the raised object will be resolved on the ARG-ST of *nie wydawał się*, and not on the ARG-ST of *lubić*, correctly assigning the genitive, and not the accusative.

Technically, this is done by marking occurrences of arguments on particular ARG-STs as 'raised to a higher predicate' (typographically: XP^{+}) or 'not raised (any) higher' (XP^{-}), and modifying case assignment principles in such a way that they take into consideration only those arguments which are not raised any higher (XP^{-}). Thus, the case assignment principles (57)–(58) above should be slightly modified as follows:

(57′) $$\left[\begin{array}{l} \textit{category} \\ \text{HEAD} \left[\begin{array}{l} \textit{verbal} \\ \text{NEG} \ - \end{array}\right] \\ \text{ARG-ST} \ \boxed{1}_{\textit{nelist}} \oplus \langle [\text{CASE } \textit{str}]^{-} \rangle \oplus \boxed{2}_{\textit{list}} \end{array}\right] \rightarrow \left[\text{ARG-ST} \ \boxed{1} \oplus \langle [\text{CASE } \textit{sacc}] \rangle \oplus \boxed{2}\right]$$

(58′) $$\left[\begin{array}{l} \textit{category} \\ \text{HEAD} \left[\begin{array}{l} \textit{verbal} \\ \text{NEG} \ + \end{array}\right] \\ \text{ARG-ST} \ \boxed{1}_{\textit{nelist}} \oplus \langle [\text{CASE } \textit{str}]^{-} \rangle \oplus \boxed{2}_{\textit{list}} \end{array}\right] \rightarrow \left[\text{ARG-ST} \ \boxed{1} \oplus \langle [\text{CASE } \textit{sgen}] \rangle \oplus \boxed{2}\right]$$

Note that, according to this modification, *str*uctural case is still resolved strictly locally, on *category* objects, on the basis of HEAD and ARG-ST values.

See Przepiórkowski 1999a, ch. 4, for further technical details and extensive empirical justification.

3.4.3. No Raising Across Negation

If case assignment is sensitive to the highest occurrence of the NP, how do we stop the argument of the lower (negated) verb in (68) from being assigned the accusative case?

(68) Janek chciałby nie czytać tej książki / *tę książkę.
John would want NM read$_{inf}$ this$_{gen}$ book$_{gen}$ / this$_{acc}$ book$_{acc}$
'John would like not to read this book.'

The problem is that the current analysis predicts a similar accusative/genitive optionality as in the cases considered above: either the argument of *nie czytać* stays downstairs, in which case it is assigned the genitive, or it raises to the non-negated verb *chciałby* and is assigned the accusative.

A possible solution to this problem would be a ban on raising across negation. That is, arguments of a [NEG +] verb would not be allowed to raise to a higher verb. This constraint would correctly account for the fact that only the genitive is possible in (68), but the question arises, is there any independent motivation for such a ban? In fact, Witkoś (1998, p. 193) claims that intervening negation does **not** block clitic climbing and gives the following datum:

(69) Kapitan go mógł nie bić.
captain him$_{cl}$ could not beat
'The captain might not beat him.'

In Przepiórkowski 1999a, pp. 161ff., I argue that, despite (69), verbal negation should be analyzed as blocking raising. The evidence comes from the kind of test for raising discussed by Rappaport (1998) and Kupść (1999b): if an argument of a verb is raised to and realized on the higher verb, it should be possible to prepose the lower verb alone, without the argument, as in (70).

(70) a. Próbowałem wystraszyć go wczoraj.
tried$_{1st,sg,masc}$ frighten$_{inf}$ him$_{cl,acc}$ yesterday
'I tried to frighten him yesterday.'

b. Wystraszyć próbowałem go wczoraj.
frighten$_{inf}$ tried$_{1st,sg,masc}$ him$_{cl,acc}$ yesterday
'I tried to frighten him yesterday.'

Note that (70b) would be difficult to explain without the assumption that the clitic pronoun *go* raises to the higher verb *próbowałem*, as there is an otherwise robust generalization that pronominal clitic arguments of verbs cannot be separated from the head verb if they occur to the right of this verb; cf. the ungrammaticality of (71).

(71) *Próbowałem wystraszyć w domu go wczoraj.
tried$_{1st,sg,masc}$ frighten$_{inf}$ at home him$_{cl,acc}$ yesterday
'I tried to frighten him at home yesterday.' (intended)

Now, returning to negation, this test shows that raising across negation is prohibited: although grammaticality judgements are not as clear as one would wish, there is a very clear acceptability difference between (72b), which would have to be analyzed as involving raising of *go* over the negated verb *nie wystraszyć*, and (72a), involving no raising at all. Further, (72c) shows that the problem does not lie in the (im)possibility of preposing negated verbs: when the negated verb is preposed together with the clitic argument, the result is still much better than in (72b).

(72) a. Próbowałem nie wystraszyć go wczoraj.
tried$_{1st,sg,masc}$ NM frighten$_{inf}$ him$_{cl,gen}$ yesterday
'I tried not to frighten him yesterday.'

b. ?*Nie wystraszyć próbowałem go wczoraj.
NM frighten$_{inf}$ tried$_{1st,sg,masc}$ him$_{cl,gen}$ yesterday
'I tried not to frighten him yesterday.' (intended)

c. ?Nie wystraszyć go próbowałem wczoraj.
NM frighten$_{inf}$ him$_{cl,gen}$ tried$_{1st,sg,masc}$ yesterday
'I tried not to frighten him yesterday.'

These grammaticality contrasts show that raising across negation is infelicitous, and that examples such as (69) should be explained via a different mechanism than argument raising.[27] This justifies our analysis of (68) in terms of the ban on raising across negation.[28]

Technically, I assume the following principle in the grammar of Polish.

(73) $$\begin{bmatrix} \textit{category} \\ \text{HEAD} \begin{bmatrix} \textit{verb} \\ \text{NEG} \ + \end{bmatrix} \\ \text{ARG-ST} \ \langle \boxed{0} \rangle \oplus \boxed{1} \end{bmatrix} \rightarrow \boxed{1} = \text{list}(\text{XP}^{-})$$

According to this principle, all arguments of a negated verb apart from the first argument (the subject) must be marked with '$^{-}$', i.e., as 'not raised (any) higher' (cf. §3.4.2). The initial element of ARG-ST is exempt from this constraint because, as (74) below shows, subjects of lower negated verbs may raise to higher verbs (as is clear from agreement between *Janek* and *wydawał się*).

(74) Janek wydawał się nie spać.
John seemed$_{3rd,sg,masc}$ RM NM sleep
'John seemed not to be sleeping.'

It is not clear whether this principle follows from any more basic principles of the grammar of Polish.

3.4.4. Example (33)

Finally, let us return to the dubious example (33), repeated below.

(33) ???Nie mam ochoty uczyć Marię lepić garnków.
NM have$_{1st,sg}$ liking$_{gen}$ teach$_{inf}$ Mary$_{acc}$ mold$_{inf}$ pots$_{gen}$
'I don't feel like teaching Mary how to make pottery.'

As the analysis stands now, it does not accept sentences such as (33). This is because, for the lowest object, *garnków*, to occur in the genitive, this object must raise to the ARG-ST of the middle verb, *uczyć*, and subsequently to the ARG-ST of the matrix verb, *nie mam*, where it receives the genitive case in the manner described above. On the other hand, for the middle object, *Marię*, to receive the accusative, it cannot raise from the ARG-ST of *uczyć* to the ARG-ST of the matrix verb. This means that, for (33) to be grammatical, one syntactic argument of the middle verb, namely, *Marię*, must be realized locally, and another, namely, *garnków* (raised to *uczyć* from *lepić*), must raise to a higher ARG-ST.

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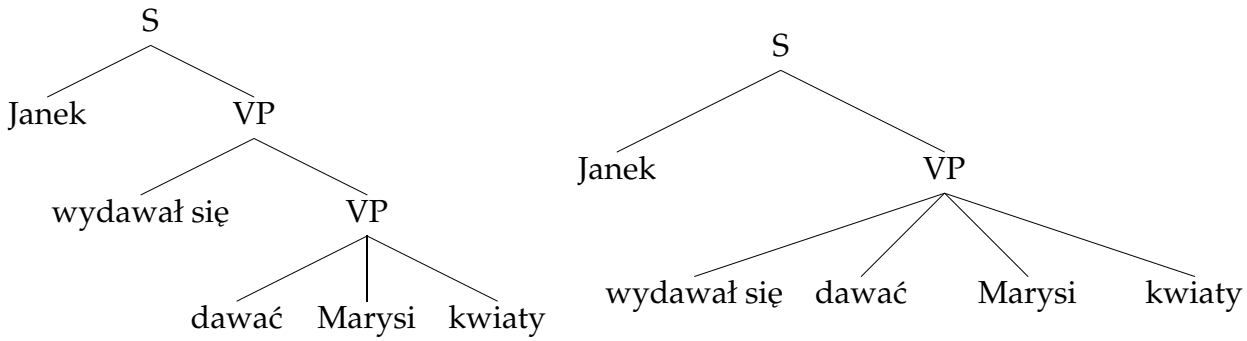
[27] Within HPSG, this mechanism would most probably be *order domains*. See Kathol 2000 and Penn 1999 for discussion, as well as Kupść 1999b, 2000 for an application of order domains to clitic placement in Polish.

[28] The presence of such a constraint in Polish should not be surprising given that a similar constraint is often assumed in other languages, especially, in Romance.

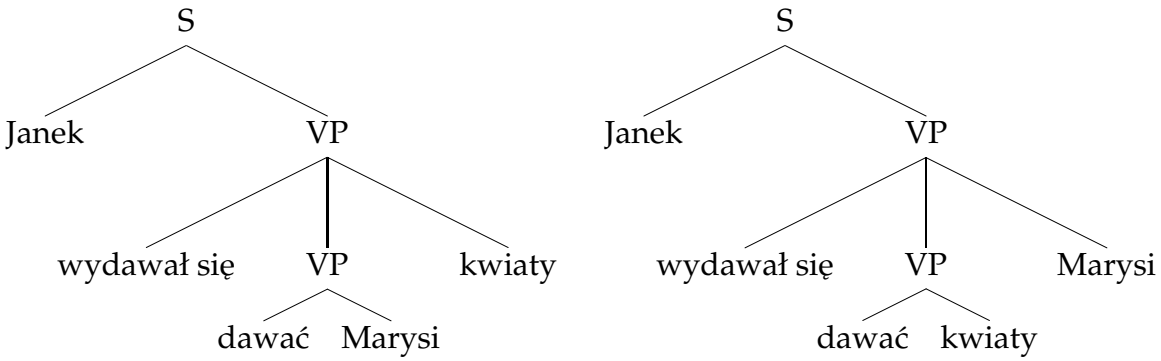
This is impossible according to the analysis above, which assumed that a clause union verb such as *nie mam* in (33) **either** combines with a phrase in which **all** complements have been realized locally, **or** with a word **none** of whose complements have been realized. By the same token, a sentence such as (75) below may only have constituent structures in (76), but not those in (77).

(75) Janek wydawał się dawać Marysi kwiaty.
John$_{nom}$ seemed$_{3rd,sg,masc}$ RM give Mary$_{dat}$ flowers$_{acc}$
'John seemed to be giving Mary flowers.'

(76)



(77)

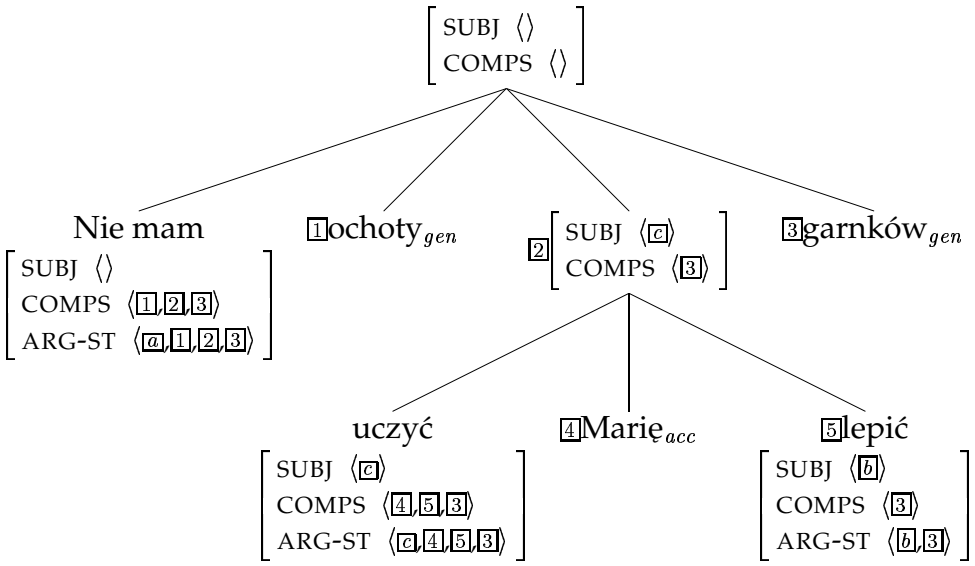


It turns out that a parameterization able to account for idiolects accepting (33) is relatively simple. The solution consists in allowing 'partial phrases', such as *dawać Marysi* and *dawać kwiaty* in (77), or, in more general terms, in allowing the local realization of any number (not just zero or all) of complements and letting other complements be raised to a higher ARG-ST. Technically, this can be achieved via a simple modification of the ID-Schema responsible for realization of complements (as well a slight modification of the standard Valence Principle). Since such a modification is straightforward but space-consuming, I will not formalize it here.

With this adjustment in hand, (33) will have the following constituent structure and values of SUBJ, COMPS and ARG-ST:[29]

[29] [a], [b] and [c] in (78) represent subjects which are never realized, either because they are *pro*-dropped, as [a] in *nie mam*, or because they are controlled by a higher argument, as in case of [b] (controlled by [4]) or [c] (controlled by [a]). Note that the structure of *nie mam*, which involves *pro*-drop, is an exception to the principle (46) above.

(78)



4. Some Comparisons

The analysis presented above is preferable to previous analyses minimally on the following two grounds:

- **empirical**: unlike previous analyses, it accounts for optional and multiple GoN;
- **formal**: this analysis is completely explicit and formal (see Przepiórkowski (1999a), Appendix A, for an axiomatization of parts of this analysis).

A very brief comparison with two other prominent analyses of LD GoN, Dziwirek 1994, 1998 (within Relational Grammar) and Witkoś 1996a, 1998 (within GB/Minimalism), is offered below.

4.1. Dziwirek 1994, 1998

Dziwirek (1994, 1998), offering a comprehensive Relational Grammar account of 'clause union' environments in Polish, posits the following Condition on Genitive of Negation:

(79) Condition on Genitive of Negation (Dziwirek 1994, p. 268):

A nominal which is acting 2 is marked genitive when it heads an arc with the same tail as a Neg-arc.

In other words, an object ('acting 2') which is in the same clause as (verbal) negation (Neg-arc) must occur in the genitive case.

Moreover, in 'clause union' environments, objects of lower verbs are at the same time objects of higher verbs. In the RG parlance, such objects head two or more arcs, with tails shared with tails of all higher verbs in the 'clause union' environment.

This account is similar in spirit to the account presented above, but it is much less formal, it does not take into account the essential optionality of LD GoN, and it fails on examples such as (80).

(80) Jan uczył Marię / *Marii nie dłubać w nosie.
John tought Mary$_{acc}$ / Mary$_{gen}$ NM pick in nose
'John tought Mary not to pick her nose.'

According to that analysis, the object ('acting 2') of *uczył* is at the same time the subject of the lower verb, *nie dłubać*, so 'it heads an arc with the same tail as a Neg-arc', so—according to (79)—it should be in the genitive case, contrary to (80).

The HPSG analysis sketched above deals with such cases correctly.

4.2. Witkoś 1996a, 1998

According to the Minimalist analysis of Witkoś (1998) (an improvement on the earlier analysis in Witkoś 1996a), within 'clause union' environments, lower verbs obligatorily raise (are incorporated) to higher verbs in covert syntax:

> The process of incorporation is obligatory and involves infinitive/participle raising to the matrix verb at LF and formation of a complex verb which checks the case of the embedded object. (Witkoś 1998, p. 325)

Thus, this raising process extends the domain of case assignment (or case checking): the complex verb in the position of the highest verb may check the case of an *in situ* argument of the lowest verb.

There are at least three problems that this analysis faces, one conceptual, and two empirical.

First, the analysis contradicts the overwhelming generalization that case assignment is a **strictly local** phenomenon; according to this analysis, the matrix verb may assign case to the (arbitrarily deeply) embedded object; this is due to the extension of the notion of government in accordance with Baker's (1988) Government Transparency Corollary (cf. Witkoś 1998, p. 295).

Second, the analysis shares the problem posed by (80); if the lower negated verb is incorporated into the matrix verb, than **both** the matrix object and the embedded object should occur in the genitive case, contrary to facts.[30]

Third, Witkoś's (1998) analysis does not takie into account the optional character of the LD GoN.

The analysis presented in this article is free from these problems.

[30] This problem seems to be circumvented in a subsequent publication, i.e., in Witkoś 1999.

References

Babby, Leonard. (1980a) *Existential sentences and negation in Russian*. Ann Arbor: Karoma Publishers.

Babby, Leonard. (1980b) "The syntax of surface case marking". Wayne Harbert and Julia Herschensohn, eds. *Cornell working papers in linguistics*, volume 1. Department of Modern Languages and Linguistics, Cornell University, 1–32.

Baker, Mark C. (1988) *Incorporation: A theory of grammatical function changing*. Chicago, IL: University of Chicago Press.

Blake, Barry J. (1994) *Case*. Cambridge: Cambridge University Press.

Borsley, Robert D. and Adam Przepiórkowski, eds. (1999) *Slavic in Head-driven Phrase Structure Grammar*. Stanford, CA: CSLI Publications.

Bouma, Gosse, Rob Malouf, and Ivan Sag. (2000) "Satisfying constraints on extraction and adjunction". To appear in *Natural language and linguistic theory*.

Buttler, Danuta. (1976) *Innowacje składniowe współczesnej polszczyzny*. Warszawa: Państwowe Wydawnictwo Naukowe.

Buttler, Danuta, Halina Kurkowska, and Halina Satkiewicz. (1971) *Kultura języka polskiego: Zagadnienia poprawności gramatycznej*. Warszawa: Państwowe Wydawnictwo Naukowe.

Calcagno, Mike. (1999) "Some thoughts on tough movement". Valia Kordoni, ed. *Tübingen studies in Head-driven Phrase Structure Grammar*. Tübingen: Universität Tübingen, 198–230. (Arbeitspapiere des Sonderforschungsbereichs 340, Bericht Nr. 132.)

Calcagno, Mike and Carl Pollard. (1997) "Argument structure, structural case, and French causatives". Paper deliverd during the 4th International Conference on HPSG, 18–20 July 1997, Ithaca, New York.

Chomsky, Noam. (1980) "On binding". Linguistic inquiry 11(1): 1–46.

Chomsky, Noam. (1981) *Lectures on government and binding*. Dordrecht: Foris.

Chung, Chan. (1998) "Case, obliqueness, and linearization in Korean". Gosse Bouma, Geert-Jan M. Kruijff, and Richard T. Oehrle, eds. *Proceedings of the joint conference on Formal Grammar, Head-driven Phrase Structure Grammar, and Categorial Grammar, 14–16 August 1998, Saarbrücken*, 164–174.

Dziwirek, Katarzyna. (1994) *Polish subjects*. New York: Garland.

Dziwirek, Katarzyna. (1998) "Reduced construction in universal grammar: Evidence from the Polish object control construction". Natural language and linguistic theory 16: 53–99.

Heinz, Wolfgang and Johannes Matiasek. (1994) "Argument structure and case assignment in German". John Nerbonne, Klaus Netter, and Carl Pollard, eds. *German in Head-driven Phrase Structure Grammar*. Stanford, CA: CSLI Publications, 199–236. (CSLI Lecture Notes, 46.)

Hinrichs, Erhard and Tsuneko Nakazawa. (1990) "Subcategorization and VP structure in German". Shaun Hughes and Joe Salmons, eds. *Proceedings of the third symposium on Germanic linguistics*. Amsterdam: Benjamins.

Höhle, Tilman N. (1999) "An architecture for phonology". See Borsley and Przepiórkowski (1999), 61–90.

Holvoet, Axel. (1991) *Transitivity and clause structure in Polish: A study in case marking*. Warszawa: Slawistyczny Ośrodek Wydawniczy PAN. (Prace Slawistyczne, 95.)

Kathol, Andreas. (2000) *Linear syntax*. Oxford: Oxford University Press.

Kupść, Anna. (1999a) "Clitic climbing in Polish verb clusters: an HPSG approach". Geert-Jan M. Kruijff and Richard T. Oehrle, eds. *Proceedings of Formal Grammar 1999*. Utrecht, 75–82.

Kupść, Anna. (1999b) "Haplology of the Polish reflexive marker". See Borsley and Przepiórkowski (1999), 91–124.

Kupść, Anna. (2000) *An HPSG grammar of Polish clitics*. Ph. D. dissertation, Polish Academy of Sciences and Université Paris 7. In progress, preliminary title.

Kupść, Anna and Adam Przepiórkowski. (1997) "Morphological aspects of verbal negation in Polish". *Proceedings of the second European conference on Formal Description of Slavic Languages, Potsdam, Germany, November 20–22, 1997*. To appear.

Malouf, Robert. (2000) "A head-driven account of long-distance case assignment". Ms., available from: `http://odur.let.rug.nl/~malouf/papers/`.

Manning, Christopher D. and Ivan A. Sag. (1998) "Argument structure, valence, and binding". Nordic journal of linguistics 21(2): 107–144.

Manning, Christopher D. and Ivan A. Sag. (1999) "Dissociations between argument structure and grammatical relations". See Webelhuth et al. (1999), 63–78.

Meurers, Walt Detmar. (1999a) *Lexical generalizations in the syntax of German non-finite constructions*. Ph. D. dissertation, Universität Tübingen.

Meurers, Walt Detmar. (1999b) "Raising spirits (and assigning them case)". Ms., Universität Tübingen.

Miller, Philip H. and Ivan A. Sag. (1997) "French clitic movement without clitics or movement". Natural language and linguistic theory 15: 573–639.

Penn, Gerald. (1999) "Linearization and *WH*-extraction in HPSG: Evidence from Serbo-Croatian". See Borsley and Przepiórkowski (1999), 149–182.

Pollard, Carl and Ivan A. Sag. (1994) *Head-driven Phrase Structure Grammar*. Chicago, IL: Chicago University Press / CSLI Publications.

Przepiórkowski, Adam. (1996) "Non-configurational case assignment in HPSG". Paper delivered at the 3rd International Conference on HPSG, 20–22 May 1996, Marseille, France.

Przepiórkowski, Adam. (1999a) *Case assignment and the complement-adjunct dichotomy: A non-configurational constraint-based approach*. Ph. D. dissertation, Universität Tübingen. Available from: `http://www.ling.ohio-state.edu/~adamp/Dissertation/`.

Przepiórkowski, Adam. (1999b) "On case assignment and 'adjuncts as complements'". See Webelhuth et al. (1999), 231–245.

Przepiórkowski, Adam. (2000a) "Case agreement in Polish predicates". To appear in S. Franks, L. Gabriele and T. King, eds., *Annual workshop on Formal Approaches to Slavic*

Linguistics: The Bloomington Meeting 2000. Ann Arbor: Michigan Slavic Publications. Available from: `http://www.ling.ohio-state.edu/~adamp/Papers/2000-fasl/`.

Przepiórkowski, Adam. (2000b) "Slavic linguistics formally — HPSG". To appear in George Fowler, ed., *The future of Slavic linguistics*. Bloomington, IN: Slavica Publishers.

Przepiórkowski, Adam and Anna Kupść. (1997a) "Negative concord in Polish". Technical Report 828, Institute of Computer Science, Polish Academy of Sciences.

Przepiórkowski, Adam and Anna Kupść. (1997b) "Verbal negation and complex predicate formation in Polish". Ralph C. Blight and Michelle J. Moosally, eds. *Proceedings of the 1997 Texas Linguistics Society Conference on the syntax and semantics of predication*. Austin, TX, 247–261. (Texas Linguistic Forum, 38.)

Przepiórkowski, Adam and Anna Kupść. (1999) "Eventuality negation and negative concord in Polish and Italian". See Borsley and Przepiórkowski (1999), 211–246.

Przepiórkowski, Adam and Marek Świdziński. (1997) "Polish verbal negation revisited: A metamorphosis vs. HPSG account". Technical Report 829, Institute of Computer Science, Polish Academy of Sciences.

Rappaport, Gilbert C. (1998) "Clitics as features: A non-semiotic approach". Robert A. Maguire and Alan Timberlake, eds. *American contributions to the twelth international congress of Slavists*. Bloomington, IN: Slavica Publishers, 460–478.

Rouveret, Alain and Jean-Roger Vergnaud. (1980) "Specifying reference to the subject: French causatives and conditions on representations". Linguistic inquiry 11(1): 97–202.

Rybicka-Nowacka, Halina. (1990) "Przypadek dopełnienia w konstrukcjach zaprzeczonych we współczesnym języku polskim (norma a praktyka językowa)". Poradnik językowy 8: 572–577.

Saloni, Zygmunt and Marek Świdziński. (1985) *Składnia współczesnego języka polskiego*. Warszawa: Państwowe Wydawnictwo Naukowe, 2nd ed.

Saloni, Zygmunt and Marek Świdziński. (1998) *Składnia współczesnego języka polskiego*. Warszawa: Państwowe Wydawnictwo Naukowe, 4th (changed) ed.

Tajsner, Przemysław. (1990) *Case marking in English and Polish: A Government and Binding study*. Ph. D. dissertation, Uniwersytet im. Adama Mickiewicza.

Vergnaud, Jean-Roger. (1982) *Dépendances et niveaux de representation en syntaxe*. Ph. D. dissertation, Université de Paris VII.

Webelhuth, Gert, Jean-Pierre Koenig, and Andreas Kathol, eds. (1999) *Lexical and constructional aspects of linguistic explanation*. Stanford, CA: CSLI Publications.

Witkoś, Jacek. (1996a) "On NegP and the structure of the Polish clause". Papers and studies in contrastive linguistics XXXI: 65–96.

Witkoś, Jacek. (1996b) "Pronominal argument placement in Polish". Wiener linguistische gazette 57–59: 147–194.

Witkoś, Jacek. (1998) *The syntax of clitics: Steps towards a Minimalist account*. Poznań: motivex.

Witkoś, Jacek. (1999) "Clause union and non-local genitive of negation". Ms., Adam Mickiewicz University, Poznań.

Witkoś, Jacek. (2000) "Nominative-to-genitive shift and the negative copula *nie ma/not is*: implications for the checking theory and for the nature of the EPP in Polish". Ms., Adam Mickiewicz University, Poznań.

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