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Verbal Proforms and the Complement–Adjunct Distinction in Polish

1. INTRODUCTION

It is surprising that the adjunct vs. complement dichotomy, one of the most conspicuous in linguistics, is at the same time also one of the least understood. In spite of this fact, linguistic theories (both transformational, e.g., Government and Binding (GB), and constraint-based, e.g., Head-driven Phrase Structure Grammar (HPSG)) do not hesitate to postulate clear-cut syntactic differences between the two classes of dependents.

The aim of this paper is to critically examine evidence for structural (syntactic) distinction between verbal complements and adjuncts in Polish. We concentrate here on the famous *do so* test (Lakoff and Ross 1976), which is the most explicit, and also the most famous, test for such a structural distinction.[1] We show both on the empirical and on the conceptual grounds that the analogous verbal proforms in Polish fail to distinguish between syntactic positions occupied by complements and adjuncts. We tentatively conclude that it is neither necessary nor really useful to posit such a structural dichotomy and that the distinction should be modelled by the (lexico-)semantic component of the grammar.

The layout of this paper is as follows. In the rest of this section we recall various pretheoretical ways of understanding the adjunct vs. complement dichotomy concentrating on the single universally accepted criterion, which we call *functional criterion*. In sec.2, the main section of this paper, we introduce the *do so* test and examine how it fares with respect to the dichotomy at hand. We show that this test fails to distinguish between configurational positions of complements and adjuncts both for empirical and for conceptual reasons. Moreover, we will see that also the original *do so* test is unreliable. Then, in sec.3, we sketch an alternative analysis of the verbal proform facts in Polish, and we present conclusions in sec.4.

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[1] That this test might be relevant also for Polish was suggested to us by Tadeusz Zabrocki (p.c.). We are grateful to him, as well as the audiences of Workshop on Slavic Languages in HPSG, Poznań, May 1997 and the 2nd Conference on Formal Description of Slavic Languages, Potsdam, November 1997 for comments.

1.1 Functional Criterion

If there is a generally excepted criterion for the complement–adjunct dichotomy, it is what is sometimes called a *functional criterion* (e.g., Vater 1978): **a dependent which cannot be eliminated is a complement**. This is only a half-test: obligatory dependents are unambiguously complements, but optional dependents can be either complements or adjuncts. Sometimes a bidirectional (but more blurred) version of this criterion is given (dating back to Tesniere 1959): **complements, but not adjuncts, are indispensable to complete the meaning of the verb**.

This is the single generally accepted criterion. It is cited in linguistic textbooks cross-theoretically, e.g., Lyons 1976, Radford 1988, Büntig 1989, Borsley 1991, Haegeman 1994, in linguistic dictionaries, e.g., Bußmann 1990, Polański 1994, Crystal 1997, and in newer Polish grammars, e.g., Bąk 1984, Saloni and Świdziński 1985, Nagórko 1996, Świdziński 1997). It is also the most prominent criterion in explicit discussions of verbal valence, e.g., Vater 1978, Pollard and Sag 1987, Sawicki 1988.

Despite the great syntactic importance attributed to the functional criterion in the contemporary linguistics, we suggest below that it plays little—if, indeed, any—rôle in Polish syntax.

1.2 Other Criteria

Three other popular criteria for distinguishing complement and adjuncts are *iterability criterion*, *predictability criterion*, and *semantic criterion*. We will recall them in turn below.

1.2.1 Iterability Criterion

According to this test, **two or more instances of the same adjunct type can combine with the same head, but this is impossible for complements**. This test is the basis for distinguishing complements from adjuncts in Lexical-Functional Grammar (LFG; Kaplan and Bresnan 1982), but it is also given, e.g., by Pollard and Sag 1987, Sgall *et al.* 1986 and Polański 1993.

1.2.2 Predictability Criterion

Adjuncts are predictable and have constant semantic interpretation, while complements are unpredictable and their meaning depends on particular verbs they combine with. This test is cited, e.g., by Pollard and Sag 1987, Borsley 1991, Polański 1993 and Labocha 1996.

1.2.3 Semantic Criterion

Finally, the so-called semantic criterion is assumed in much of traditional Slavic linguistics: **complements (*dopełnienia*) are those dependents which refer to entities, while adjuncts (*okoliczniki*) refer to various circumstances in which the actions and states are placed** (cf. Szober 1953, Gołąb *et al.* 1968, Jodłowski 1976, Bąk 1984, Jaworski 1986, Bartnicka and Satkiewicz 1990).

It is interesting to note that the importance of the semantic criterion has been re-discovered within GB on the basis of extraction facts. Compare the passage below from Rizzi 1990, pp.85–86, to Szober's view above: "Some selected elements refer to participants in the event described by the verb (John, apples, books, etc.); other selected elements do not refer to participants but rather qualify the event…".[2]

2. THE PROFORM TEST IN POLISH

In this section we will investigate how the complement vs. adjunct dichotomy, as reflected by the above criteria (esp., the functional criterion), squares with the verbal proform test in Polish.

2.1 The *do so* test

The *do so* test for configurational complement–adjunct distinction was introduced by Lakoff and Ross 1976, and it quickly made it to linguistic textbooks, e.g., Baker 1978, Radford 1988, Borsley 1991, Haegeman 1994.

The assumption behind this test is that *do so* is a verbal proform, more precisely, that it replaces a V' (in terms of X-bar theory). Thus, under the standard X-bar theory assumption that complements are sisters to the verb and constitute together the minimal V', while adjuncts adjoin to a V' creating thus another V', *do so* replaces the verb with all its complements (the minimal V'), and perhaps some adjuncts (higher V's). This is supposed to explain the following grammaticality contrast (from Borsley 1991):

(1)   Stefan will wash his socks in the bathroom and Ben will *do so* in the kitchen.

(2)   * Stefan will put his socks in the bathroom and Ben will *do so* in the kitchen.
Assuming that the verb *wash* takes only one complement and that *put* takes two complements, examples (1)–(2) involve the following structures:

(1')   [$_{V'}$ [$_{V'}$ wash his socks] in the bathroom]

(2')   [$_{V'}$ put his socks in the bathroom]

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[2] Note, however, that what Rizzi (1990) divides into referential and non-referential classes are just the selected elements (i.e., complements). See Przepiórkowski 1998c for some criticisms.

Thus, the crucial difference between (1) and (2) is that in the latter there is no V'
corresponding to *put his socks*, so *do so* cannot replace this sequence of words
alone.

These considerations lead to the following test: In a sequence involving a
verb and its dependents D_1, ..., D_n, if *do so* can replace the verb and dependents D_1,
..., D_m, then all the dependents D_{m+1}, ..., D_n are adjuncts. Otherwise, there is at
least one complement among D_{m+1}, ..., D_n.

2.2 Verbal Proforms in Polish

The first question we have to answer is what could the Polish equivalent of *do so* be.
The most plausible candidates seem to be *zrobić to, zrobić tak, uczynić to, uczynić
tak*. Of the *zrobić / uczynić* pair, the latter verb is very restricted in the neutral
register; it is usually perceived as dated or formal. Moreover, the *zrobić tak /
uczynić tak* pair does not seem to behave like verbal proforms at all:

(3) ?* Janek odrobił pracę domową w domu, a Tomek *zrobił/uczynił tak* dopiero
     w szkole.

     'J. did his homework at home, and T. did so only at school.'

(4) ?* Janek poszedł do kina wczoraj, a Tomek *zrobi/uczyni tak* jutro.

     'J. went to the cinema yesterday, and T. will do so tomorrow.'

On the other hand, *zrobić to* is fully acceptable in the contexts above:

(3') Janek odrobił pracę domową w domu, a Tomek *zrobił to* dopiero w szkole.

(4') Janek poszedł do kina wczoraj, a Tomek *zrobi to* jutro.

Moreover, *zrobić to* behaves as expected in Polish equivalents of English (1)–(2):

(1'') Stefan upierze skarpetki w łazience, a Ben *zrobi to* w kuchni.

(2'') * Stefan położy skarpetki w łazience, a Ben *zrobi to* w kuchni.

In the rest of this paper we will concentrate on the proform properties of *zrobić to*.[3]

2.3 Problems with the Proform Test in Polish

Let us assume that *zrobić to* can distinguish between complements and adjuncts in
Polish the same way *do so* can in English. What are, then, the predictions of this
test? We saw above (cf. (3')–(4')) that it predicts locative and temporal adverbials

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[3] Other candidates we reject without discussion are *zachować się tak, postąpić tak* ('behave so'). We
   also do not consider VP ellipsis here, as it is hard to distinguish instances of VPE from gapping in
   Polish:

(i)   Janek poszedł do kina wczoraj, a Tomek przedwczoraj.
      'J. went to the cinema yesterday, and T. did on the day before.'

(ii) Janek spotkał Marysię, a Tomek Ewę.
      'J. met M., and T. — E.'

to be adjuncts, in unison with our expectations. However, it also rules that **instrumental NP[ins] adverbials are adjuncts**:

(6)   Janek wbił gwóźdź młotkiem$_{ins}$, a Tomek *zrobił to* siekierą$_{ins}$.
        'J. drove the nail with a hammer, and T. did so with an axe.'

This is in accordance with the functional criterion, which we treat as the most important one here, but against the other three criteria, most notably against the iterability test.[4]

On the other hand, **NP[ins] adverbials of means are complements**:

(7)   ?* Janek pojechał na konferencję pociągiem$_{ins}$, a Maria *zrobiła to* samolotem$_{ins}$.
        'J. went to the conference by train, and M. did so by plane.'

(8)   ?* Janek przesłał zaproszenie pocztą$_{ins}$, a Tomek *zrobił to* gońcem$_{ins}$.
        'J. sent the invitation by post, and T. did so by messenger.'

This is rather unexpected as in neither of the two examples above is the NP[ins] obligatory and, additionally, at least in (7), the adverbial is clearly not indispensable to complete the meaning of the verb. Thus, the test blatantly contradicts our expectations here.

Another interesting mismatch, involving purpose clauses, is shown below:

(9)   Janek poszedł do sklepu, żeby kupić chleb, a Tomek *zrobił to*, żeby kupić wódkę.
        'J. went to the shop in order to buy some bread, while T. did so to buy vodka.'

(10)   * Janek poszedł do sklepu kupić chleb, a Tomek *zrobił to* kupić wódkę.
        'J. went to the shop to buy some bread, while T. did so to buy vodka.'

According to the proform test, purpose clauses with complementizer *żeby* are adjuncts, while the infinitival purpose clauses are complements. This may be in accordance with the predictability criterion, but it starkly violates both the semantic criterion and, more importantly, the functional criterion, which predict both kinds of purpose clauses to be adjuncts.

The final empirical problem with the *zrobić to* test that we would like to point out here concerns malefactives and benefactives. The strong linguistic intuition is that both the malefactive in (11) and the benefactive in (12) are adjuncts. This is not so according to our test:

(11)   Janek spalił mamie$_{dat}$ dom, a Marysia *zrobiła to* ojcu$_{dat}$.
        'J. burnt his mother's house, and Mary did so to his father.'

(12)   ?* Janek poszedł mamie$_{dat}$ po papierosy, a Marysia *zrobiła to* ojcu$_{dat}$.

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[4] Note that, on the basis of the iterability test, instrumentals are treated as complements in LFG.

'J. went to buy his mother cigarettes, and M. did so to her father.'
We are not aware of any theory which would want to treat the dative NPs in the two examples above differently with respect to their complement/adjunct status.

2.4 *Zrobić To* is a Pragmatic Anaphor

We showed in the previous section that the results of the *zrobić to* test do not conform to the linguistic intuitions about the complement–adjunct dichotomy. In this section we argue that this test cannot tell us anything about the syntax of complements and adjuncts because *zrobić to* is a clear case of pragmatic anaphora, i.e., it refers to pragmatic rather than syntactic objects.

Hankamer and Sag (1976) and Sag and Hankamer (1984) convincingly argue that all anaphoric processes should be divided into syntactic (which they call *surface anaphora*; e.g., VP ellipsis) and pragmatic (called *deep anaphora*; e.g., *do it*). The main two tests distinguishing these classes are the possibility of deixis (exemplified in (13) from Hankamer and Sag 1976) and the possibility of referring to antecedents which are not syntactically parallel (exemplified by (14)): pragmatic anaphors pass both tests, syntactic anaphors pass neither.[5]

(13)   [Hankamer attempts to stuff a 9-inch ball through a 6-inch hoop. Sag says:]
   # It's not clear that you'll be able to.   (VPE)
      It's not clear that you'll be able to do it.   (*do it*)

(14)   The oats had to be taken down to the bin,
   * …so Bill did.   (VPE)
      …so Bill did it.   (*do it*)

According to these tests, *zrobić to* is unambiguously a pragmatic anaphor:

(15)   [Context as in (13):]
      Nie sądzę, żeby ci się udało *to zrobić*.
      'I don't think you can do that.'

(16)   Owies musiał być zaniesiony do piwnicy i, jak zwykle, *zrobił to* Bill.
      'The oats had to be taken down to the cellar and, as usual, Bill did it.'

Since pragmatic anaphors refer to object in the discourse model (as explicitly argued by Sag and Hankamer 1984), rather than syntactic entities, *zrobić to* cannot provide any insight into the syntactic nature of the complement–adjunct distinction.[6]

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[5] The cross-hatch (#) indicates that the sentence is incompatible with the context.
[6] The classification into syntactic and pragmatic anaphora devised by Hankamer and Sag 1976 and Sag and Hankamer 1984 is revised by Chao 1987, who argues that the main criterion for the classification of anaphora should be the presence vs. absence of elements not overtly governed by a head (cf. the difference between VP ellipsis and gapping). Under his analysis, verbal proforms

2.5 Some Problems with the *Do So* Test

It might seem accidental that Polish does not have a verbal proform syntactically distinguishing between complements and adjuncts. In other words, it might seem a lexical accident that there is no *do so* in Polish. This view, however, presupposes that *do so* does what is expected of it.

We show in detail elsewhere (Przepiórkowski 1998b, in progress) that *do so* is, in fact, a pragmatic anaphor and, thus, cannot be used to motivate the syntactic complement–adjunct distinction. We will only very briefly defend this position here.

The first, empirical, problem with the *do so* test is that, as shown by Miller 1990, 1992, in some cases it makes obviously wrong predictions. For example, according to the judgements below (from Miller 1992), the complements of *kick* and *speak to* are predicted to be adjuncts.

(17)   John kicked Mary and Peter *did so* to Ann.

(18)   John spoke to Mary and Peter *did so* to Ann.

(19)   John spoke to Mary and Peter *did so* with Ann.

Moreover, although *do so* does not allow deictical use, it should nevertheless be classified as pragmatic anaphora.[7] There are two arguments for this stance. Firstly, as the (naturally occurring) example below shows, *do so* does not require syntactic parallelism with its antecedents.[8]

(20)   Eventually a Czechoslovak-German treaty will be signed --- since it is
         in both countries' interest to *do so*.

Secondly, *do so* may refer to meanings of obviously pragmatic origin. A telling example is (21) (from the COBUILD corpus).

(21)   Created a life peer by Harold Wilson in December 1964, he had earlier that
         year been elected chairman of the TUC and, as a Labour peer, presided
         over the 1965 Brighton Congress, the first member of the House of Lords
         ever to *do so*.

In this example, the meaning of *do so* is 'preside over a TUC congress'. However, there is no V' (or VP) in the preceding text with this meaning. The closest, i.e.,

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such as *do it* and *do so*, and thus also Polish *zrobić to*, are clear instances of discourse oriented anaphora. This confirms our conclusion.

[7] Hankamer and Sag 1976 and Sag and Hankamer 1984 actually classify *do so* as a syntactic anaphor.

[8] Contrary to Hankamer and Sag 1976 and Sag and Hankamer 1984, *do so* takes passive antecedents quite robustly. See Przepiórkowski 1998b and in progress for a long list of examples collected from corpora and other sources.

'preside over the 1965 Brighton Congress' is clearly not the intended (and understood) interpretation of *do so*.[9]

In summary, we conclude that Polish is not handicapped in not having at its disposal a verbal proform distinguishing structurally between complements and adjuncts: *do so* does not seem to fulfil this function either.

3. AN ALTERNATIVE ANALYSIS OF *ZROBIĆ TO*

In this section we will outline an alternative analysis of the *zrobić to* facts.

First of all, we take *zrobić to* to refer to contextually salient predicate structures (PSs). Such PSs may be introduced textually or contextually, cf. sec.2.4. We also posit that, syntactically speaking, *zrobić to* is a saturated verbal projection, i.e., it does not take any complements. On the other hand, it may be combined with adjuncts but, like any other verbal projection, it is compatible only with a class of adjuncts. This is illustrated by the examples below (to be compared to (6)–(12) above), which show that this compatibility does not depend on the antecedents (i.e., on the interpretation) of *zrobić to*:

(22)	...*zrobił to* siekierą$_{ins}$/samolotem$_{ins}$/gońcem$_{ins}$	(only instrumental)
(23)	...*zrobił to*, żeby kupić wódkę	(purposive)
(24)	* ...*zrobił to* kupić wódkę	(purposive)
(25)	...*zrobił to* ojcu$_{dat}$	(only malefactive)

How can we explain in this set-up the asymmetry in (1'')–(2'') (repeated below for the reader's convenience)?

(1'')   Stefan upierze skarpetki w łazience, a Ben *zrobi to* w kuchni.

(2'') * Stefan położy skarpetki w łazience, a Ben *zrobi to* w kuchni.

This difference follows from our analysis under the assumption that the minimal predicate structure introduced by a verb contains the meanings of all the selected arguments (i.e., complements) of this verb, but not the meanings of adjuncts: combining a verbal projection with an adjunct amounts semantically to creating an extended PS, containing as its proper subpart the minimal PS introduced by the verb. If this is right, then there is only one PS in (2'') for *zrobił to* to refer to (i.e., 'put socks in the bathroom') and the ungrammaticality of this example stems from the attempt of *zrobił to* to refer to only a part of this minimal PS (i.e., 'put socks'). On the other hand, there are two PSs in (1''): the minimal PS 'wash socks', and the extended PS 'wash socks in the bathroom'. The parallelism between the coordinated clauses in (1'') suggests that the intended referent of *zrobił to* in this sentence is the

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[9] Note additionally that, in order to construct the intended meaning of *do so* in (21), world knowledge must be employed, i.e., the knowledge that the 1965 Brighton Congress was a gathering of the Trade Union Congress.

minimal PS ('wash socks'), although, in a slightly different context, *zrobił to* can also easily refer to the extended PS:

(26)   Stefan upierze skarpetki w łazience, a Ben już *to zrobił*.
           'Stefan will wash his socks in the bathroom, and Ben has already done it.'

Because of the strict space requirements, we cannot do here the full justice to the analysis just sketched. The reader is referred to Przepiórkowski in progress.

4. CONCLUSIONS

We showed above that verbal proforms cannot provide a test for configurational complement–adjunct distinction in Polish. In particular, we argued that the only candidate for the status of a V'-proform, i.e., *zrobić to*, is in fact a pragmatic anaphor and, hence, irrelevant for the syntactic status of the complement–adjunct dichotomy. Moreover, we saw that the predictions of the '*zrobić to* test' are in stark contrast with linguistic intuitions about the nature of the dichotomy. We also suggested that this is not an accidental feature of Polish *zrobić to*, but that the original *do so* test is seriously flawed as well.

It is natural to go back to the basics and ask what evidence, if indeed any, we have for positing such syntactic dichotomy. In Przepiórkowski 1998c, we examine a number of syntactic contexts claimed to distinguish between complements and adjuncts in various languages, and show that none of them does this job well in Polish. In particular, we argue that neither extraction of dependents, nor extraction from dependents distinguishes complements and adjuncts, that case assignment (genitive of negation and case assignment by deverbal nouns) is partial to the referentiality status of the dependent rather than to the dichotomy at hand, and that binding and negative concord, also sometimes claimed in the literature to reflect the complement–adjuncts dichotomy, fail to do so in Polish. The reader is referred to Przepiórkowski 1998c for details.

We view these results as providing additional support for those theories of valence which do not claim any configurational difference between complements and adjuncts and which instead leave the distinction to the lexico-semantic component of the grammar. Such an approach is gaining considerable prominence within HPSG, e.g., Miller 1992, van Noord and Bouma 1994, Manning *et al.* (1997c), and Przepiórkowski 1997, 1998a.

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