Predicative adverbs in Polish

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Abstract

This paper discusses Polish predicative items with a verbal (CP or InfP) subject. While predicative uses of nouns and adjectives are uncontroversial, this paper shows that – contrary to earlier claims – adverbs may also be used predicatively and offers an analysis of their syntax and semantics.

1 Introduction

It is sometimes claimed that adverbs cannot be predicative, e.g. Rothstein 2001: 129: "I assume that the absence of a predication relation is because adverbs are just not syntactic predicates. They never appear in a position in which they can be predicated of events, since even if the argument denotes an event, it cannot have an adverb predicated of it. The examples in [(1)–(3)] are all unacceptable with adverbial predicates, though the corresponding adjectives are all OK."

(1) The destruction of the city was *brutally/brutal.
(2) The reading of the verdict was *slowly/slow.
(3) John considered [the running *slowly/slow].

While this claim might be true for English, this paper argues that this is not the case in Polish,[1] where an adverbial predicative complement may be successfully used when its subject is verbal, namely a subordinate clause (CP) or an infinitive (InfP).

This paper is structured as follows: §2 presents evidence that in Polish a predicative noun or adjective can have a verbal (CP or InfP) subject, §3 argues for the existence of predicative adverbs in Polish, §4 presents the syntactic analysis, §5 offers the semantic analysis, and §6 concludes the paper.

[1]Except for (6), (14)–(15), (18)–(19), (22)–(23), (28)–(29), (36) and (44), all Polish examples come from the National Corpus of Polish (NKJP, `http://nkjp.pl`, Przepiórkowski *et al.* 2011, 2012).

2 Predicative nouns and adjectives

The aim of this section is to demonstrate that in Polish predicative items such as nouns and adjectives may be predicated of a CP or an InfP.

Consider (4)–(5), where the predicative noun occurs in the instrumental case, as usual in Polish, and the subject of predication (shown in square brackets) is verbal: a CP in (4) and an InfP in (5).

(4) Ciekawostką jest, [że w akumulatorach
curio.INST is.3SG that in batteries
jako paliwo używany będzie alkohol].
as fuel used will alcohol
'An interesting fact is that in batteries alcohol will be used as fuel.'
(5) Grzechem jest [oglądać ten film].
sin.INST is.3SG watch.INF this film
'To watch this film is a sin.'

Polish is a free word order language, so the fact that the (heavy) subject occurs postverbally is not surprising. Also, the lack of subject–verb agreement is expected: as noted by Dziwirek 1990, non-canonical (i.e., non-nominative) subjects in Polish trigger 'default' agreement: third person, singular number and – in past tense forms – neuter gender. In a fully analogous construction involving a nominative subject, as in (6), full agreement may be observed (here in singular feminine).

(6) Grzechem była [projekcja
sin.INST was.3SG.F screening.NOM.SG.F
tego filmu].
this film
'The screening of this film was a sin.'

Verbal subjects also occur in predicative constructions involving WYDAWAĆ SIĘ 'seem':

(7) Najbardziej rozsądnym przypuszczeniem
most reasonable presumpation.INST
wydaje się, [że miał zostać zabity].
seems.3SG REFL that had become killed
'The most reasonable presumption seems to be that he was to be killed.'

Apart from instrumental nominal predicates, BYĆ 'be' and WYDAWAĆ SIĘ 'seem' may also occur with predicative adjectives, again allowing for InfP and CP subjects:

(8) Ciekawe jest [odpowiadać na znane sobie pytania]?
interesting.NOM.SG.N is.3SG answer.INF on known self questions
'Is answering questions known to oneself interesting?'

(9) Wdowie wydawało się, [że nabyła prawo].
widow.DAT logical.NOM.SG.N seemed.3SG.N REFL that gained right
'It seemed logical to the widow that she had gained the right.'

In Polish, when the copula is in present tense, it may be omitted, yielding zero-copula predicative constructions. This is also possible with verbal subjects, both with predicative adjectives, (10), and with predicative nouns, (11):[2]

(10) Najważniejsze, [że dojedzie się do celu].
important.NOM that reaches REFL to aim
'That one will reach the destination [is] the most important.'

(11) Skandal [tak olewać własny naród].
scandal.NOM so ignore.INF own nation
'It is a scandal to so disregard your nation.'

CPs and InfPs may also occur in 'small clause' predicative constructions, where they are surface objects of verbs such as UWAŻAĆ 'consider':[3]

(12) Koledzy z klubu uważali za dyshonor [przegrywać z kobietą].
colleagues.NOM from club considered.3PL as dishonour.ACC lose.INF with woman
'Colleagues from the club considered it a dishonour to lose against a woman.'

(13) Uważam za prawdopodobne, [że wirus ten może się rozprzestrzenić].
consider.1SG as probable.ACC that virus this may REFL spread
'I consider it probable that virus may spread.'

Just as in the case of nominal objects, such verbal objects are realised as subjects in the passive (and, again, trigger 'default' agreement):

(14) [Przegrywać z kobietą] było uważane za dyshonor.
lose.INF with woman was.3SG.N considered.NOM.SG.N as dishonour.ACC
'To lose against a woman was considered a dishonour.'

(15) Jest uważane za prawdopodobne, [że wirus ten może się rozprzestrzenić].
is.3SG considered.NOM.SG.N as probable.ACC.SG.N that virus this may REFL spread
'It is considered probable that virus may spread.'

So passivisation provides strong evidence for the claim that CPs and InfPs may act as grammatical subjects in predicative constructions.

3 Predicative adverbs

The result of the previous section is that, in Polish, CPs and InfPs may be subjects in predicative constructions. This section argues that not only adjectives and nouns but also adverbs may act as the predicate in such constructions.

Consider the following examples:

(16) Dobrze jest, [że czują respekt].
good.ADV is.3SG that feel respect
'It is good that they feel respect.'

(17) Najłatwiej i najtaniej było [upłynnić ziarno czy ziemniaki].
easy.ADV.SUP and cheap.ADV.SUP was.3SG.N sell.INF grain or potatoes
'It was easiest and cheapest to sell grain or potatoes.'

These examples are parallel to those discussed in the previous section: they involve verbal (CP in (16) and InfP in (17)) subjects triggering 'default' agreement on the copula. What is different is that the predicates are uncontroversial adverbs. However, as shown in (18)–(19) below, adverbs in (16)–(17) may be replaced with predicative adjectives or predicative nouns, resulting in the same (in the case of adjectives) or similar (in the case of nouns) meaning.

(18) {*Dobre*.ADJ 'good' | *Rezultatem* 'result'} jest, [że czują respekt].

(19) {*Najłatwiejsze*.ADJ *i najtańsze*.ADJ 'easiest and cheapest' | *Rozwiązaniem* 'solution'} było [upłynnić ziarno czy ziemniaki].

It is important to stress that forms marked in (16)–(17) as ADV, though derivationally related to the corresponding adjectives, cannot themselves be analysed as adjectives (despite their adjecti-

[2] While CP+NP and InfP+AP variants are also attested, examples were not provided due to limited space available.

[3] Again, InfP+AP and CP+NP variants are also attested.

val English translations): they are not syncretic with any forms in the inflectional paradigms of corresponding adjectives, they cannot be used ad-nominally, and they can be used ad-verbally. Moreover, since the adverbs in (17) are superlative forms, it is not feasible to analyse them as defective verbs, e.g., as 'quasi-verbs' – a class of predicates sometimes distinguished in Polish linguistics (cf. Saloni 1974, as well as Bańko 2001 and references therein) as those lexemes which may only inflect analytically for tense.

Predicative adverbs with verbal subjects occur not only in copular constructions, but also with verbs such as WYDAWAĆ SIĘ 'seem' – again paralleling predicative nouns and adjectives (recall (7) and (9) above):

(20) Praktyczniej wydaje się
practical.ADV.COM seem.3SG REFL
[mieć ją na oku w koalicji].
have.INF her on eye in coalition
'It seems more practical to keep an eye on her in coalition.'

(21) Bezpieczniej wydaje mi się
safe.ADV.COM seem.3SG I.DAT REFL
[pisać "Żyd"].
write.INF Jew
'It seems safer to me to write "Jew".'

As with BYĆ 'be', the predicative adverb may be replaced with a predicative adjective (without any change in meaning) or a predicative noun:

(22) {*Praktyczniejsze*.ADJ 'more practical' | *Rozwiązaniem* 'solution'} wydaje się [mieć ją na oku w koalicji].

(23) {*Bezpieczniejsze*.ADJ 'safer' | *Rozwiązaniem* 'solution'} wydaje mi się [pisać "Żyd"].

Furthermore, just like predicative nouns and adjectives (recall (10)–(11)), predicative adverbs may be used without the copula:

(24) Najtrudniej [pogodzić się z
difficult.ADV.SUP reconcile.INF REFL with
tym] ludziom młodym.
this people.DAT young.DAT
'To come to terms with this [is] most difficult for young people.'

(25) Przykro, [że nie udało się uratować
sad.ADV that NEG managed REFL save
sosen].
pines
'That we did not manage to save the pines [is] sad.'

However, unlike predicative nouns and adjectives, adverbs cannot occur in predicative constructions with verbs such UWAŻAĆ 'consider' (recall (12)–(13)), because the predicate is introduced there by the preposition ZA 'for, as', and – apart from some idiomatic expressions (Czerepowicka 2005) – prepositions cannot take adverbs as arguments in Polish.

An interesting feature of predicative adverbs is that they may take a dative argument expressing the experiencer:

(26) Maciusiowi bardzo przyjemnie
Maciuś.DAT very pleasant.ADV
było, [że królewski poseł nie
was.3SG.N that royal envoy NEG
mówił w zagranicznym języku].
spoke in foreign language
'That the royal envoy did not speak in a foreign language was very pleasant to Maciuś.'

(27) Oczywiście autorowi najtrudniej
obviously author.DAT difficult.ADV.SUP
było [uzyskać szczegóły].
was.3SG.N get.INF details
'Obviously, to get the details was the most difficult for the author.'

While in (26) the experiencer is only an argument of the adverb *(bardzo) przyjemnie* '(very) pleasant.ADV', in (27) the dative dependent of the adverb *najtrudniej* 'most difficult.ADV' is at the same time the subject of the infinitival phrase headed by UZYSKAĆ 'gain'. We claim that this is an instance of obligatory control into subject: the subject of the infinitive subject in (27) must be understood as exactly the dative argument of the adverb – it cannot be understood as partially controlled, etc. While the existence of obligatory control into subject is controversial (cf., e.g., Landau 2013 and references therein), this claim will be justified in the full paper.

4 Syntax

The proposed analysis of predicative adverbs is couched in Lexical Functional Grammar (LFG; Bresnan 1982, Bresnan *et al.* 2015, Dalrymple *et al.* 2019). Consider the following constructed examples:

(28) Janowi (było) miło, [że Maria pływa].
Jan.DAT was nice.ADV that Maria swims
'It was nice for Jan that Maria swims.'

(29) Janowi (było) miło [pływać].
Jan.DAT was nice.ADV swim.INF
'It was nice for Jan to swim.'

The constituency structure of such examples does not differ from that of other copular constructions, so it will not be discussed here; the analysis concentrates on the functional structure.

Since the dative argument may occur with predicative adverbs even in the absence of the copula, and because predicative adverbs typically express attitudes or mental states, the dative experiencer is analysed as a direct argument of the adverb. (30) is the lexical entry of the predicative adverb *miło*:

(30) (↑ PRED)='NICE<(↑SUBJ),(↑OBJ$_\theta$)>'
(↑ OBJ$_\theta$ CASE)=$_c$ DAT
[[(↑ SUBJ COMP-FORM)] ∨
[(↑ SUBJ CAT)=$_c$ INF ∧ (↑ OBJ$_\theta$)=(↑ SUBJ SUBJ)]]

Line 1 specifies the PRED attribute, which corresponds to the so-called "semantic form". It contains the name of the predicate, NICE,[4] and a list containing its two arguments. The first, SUBJ (grammatical subject), is the item predicated of. The second, OBJ$_\theta$, is the experiencer – the dative case requirement is specified in line 2. Lines 3–4 are a disjunctive constraint on the subject of the predicative adverb. (This disjunctive specification is justified by the fact that some adverbs allow for just one of the two possibilities; cf. §5 below.) Line 3 allows subordinate clauses (having the COMP(LEMENTISER)-FORM attribute). Line 4 allows infinitival clauses (with the INF(INITIVE) value of the CAT(EGORY) attribute). Unlike line 3, line 4 contains the (↑ OBJ$_\theta$)=(↑ SUBJ SUBJ) constraint, which states that the dative argument of the predicative adverb (OBJ$_\theta$) is the subject of the infinitival subject of the predicative adverb (SUBJ SUBJ). This ensures appropriate syntactic control into subject in examples such as (29).

As mentioned above, the dative argument is analysed as a dependent of the predicative adverb regardless of the presence of the copula. This results in a unified representation of all uses of predicative adverbs. Another consequence is that the standard lexical entry of the copula assumed in LFG handles predicative adverbs in the same way as predicative nouns and adjectives.

F-structures provided below adopt the LFG analysis whereby the predicative element, adverb, is the main predicate and the copula, if present, is an auxiliary (co-head). As a result, the f-structure in (31) corresponds to both variants of (28), while (32) is a representation of both versions of (29).

[4]While the presented formalisation uses English free translations instead of Polish forms, in Polish the predicate would be MIŁO — an unambiguous adverb.

(31)
$$\begin{bmatrix} \text{PRED} & \text{'NICE<}\boxed{1}\text{,}\boxed{3}\text{>'} \\ \text{SUBJ} & \boxed{1}\begin{bmatrix} \text{PRED} & \text{'SWIM<}\boxed{3}\text{>'} \\ \text{SUBJ} & \boxed{3}\begin{bmatrix} \text{PRED} & \text{'MARIA'} \\ \text{CASE} & \text{NOM} \end{bmatrix} \\ \text{COMP-FORM} & \text{THAT} \end{bmatrix} \\ \text{OBJ}_\theta & \boxed{2}\begin{bmatrix} \text{PRED} & \text{'JAN'} \\ \text{CASE} & \text{DAT} \end{bmatrix} \end{bmatrix}$$

(32)
$$\begin{bmatrix} \text{PRED} & \text{'NICE<}\boxed{1}\text{,}\boxed{2}\text{>'} \\ \text{SUBJ} & \boxed{1}\begin{bmatrix} \text{PRED} & \text{'SWIM<}\boxed{2}\text{>'} \\ \text{SUBJ} & \boxed{2} \end{bmatrix} \\ \text{OBJ}_\theta & \boxed{2}\begin{bmatrix} \text{PRED} & \text{'JAN'} \\ \text{CASE} & \text{DAT} \end{bmatrix} \end{bmatrix}$$

5 Semantics

Let us start by considering the English sentence *Swimming is healthy*. The dominant meaning is that what is healthy is a certain *kind* (or type, as opposed to token) of event. Similar references to kinds of events are discernible in many of the Polish examples above, so we assume here that not only the domain of ordinary entities may be extended to kinds (Carlson 1977), but also that of eventualities (cf., e.g., Carlson 2003, Landman and Morzycki 2003, Anderson and Morzycki 2015, as well as Gehrke 2019 and other references therein; this move was foreshadowed in Barwise and Perry 1983 and Hinrichs 1985). In particular, Grimm and McNally 2015 make crucial use of event types in their analysis of English gerunds. So the representation of this sentence could be: $\lambda s.\, healthy(s) \wedge arg(s, {}^{\cap}\lambda e.\, swim(e))$. Here, after Rothstein 2001, we assume that the basic representation of a predicate such as *healthy* is $\lambda x \lambda s.\, healthy(s) \wedge arg(s, x)$. Moreover, the above representation uses Chierchia's (1998: 348–349) down operator $^{\cap}$, which shifts properties into corresponding kinds (if the latter exist); the dual up operator $^{\cup}$ shifts kinds into properties.

Similarly, we propose the following basic (simplified in various respects, e.g., lacking information about tense) representation of the running example (29) – the one involving an InfP subject:

(33) $\lambda s.\, nice(s) \wedge experiencer(s, j) \wedge$
$arg(s, {}^{\cap}\lambda e.swim(e) \wedge agent(e, j))$

This representation contains one more conjunct, expressing the experiencer of the state s; the possibility of adding such roles to (adjectival) predicates is discussed in Rothstein 2001: 295. Also, the event kind expressed by the subject is more specific: not just swimming, but swimming-by-John.

This initial representation gives rise to the following episodic and generic readings:

(34) $\exists s.\, nice(s) \wedge experiencer(s, j) \wedge arg(s, {}^{\cap}\lambda e.swim(e) \wedge agent(e, j))$

(35) $\mathrm{Gn}\, s\, [C(j, s)]\, [nice(s) \wedge experiencer(s, j) \wedge arg(s, {}^{\cap}\lambda e.swim(e) \wedge agent(e, j))]$

The episodic reading (34) is the result of the usual existential closure, while the generic reading (35) uses Chierchia's (1995, 1998) generic operator Gn, which may be understood as an intensional version of a universal quantifier with exceptions, and the contextually-provided variable C which constrains the scope of Gn to relevant situations involving j.

It might not be immediately clear on the basis of (29) that event kinds – rather than ordinary event tokens – are needed here; after all, if it was nice for Jan to swim, a swimming event occurred and it was this particular event that was nice. But consider the following example:

(36) Janowi (było) trudno [wstać].
Jan.DAT was difficult.ADV get up.INF
'It was difficult for Jan to get up.'

(37) $\lambda s.\, difficult(s) \wedge experiencer(s, j) \wedge arg(s, {}^{\cap}\lambda e.getup(e) \wedge agent(e, j))$

Unlike (29), example (36) does not entail the existence of a getting-up event, and neither does its representation in (37). Rather, the predicate expressed by the adverb *miło* 'nice.ADV' is more factive than the adverb *trudno* 'difficult.ADV', but the basic meaning representations of the two sentences should be analogous, as proposed here. (See Grimm and McNally 2015: 92 for similar considerations.)

How can such representations be achieved compositionally? In an outline, we assume the following semantic contributions of particular words (ignoring the optional and semantically light copula):

(38) *miło* 'nice.ADV':
$\lambda P \lambda x \lambda s.\, nice(s) \wedge experiencer(s, x) \wedge arg(s, {}^{\cap}P(x))$

(39) *pływać* 'swim': $\lambda x \lambda e.\, swim(e) \wedge agent(e, x)$

(40) *Janowi* 'Jan': j

The application of (38) to (39) renders:

(41) $\lambda x \lambda s.\, nice(s) \wedge experiencer(s, x) \wedge arg(s, {}^{\cap}\lambda e.\, swim(e) \wedge agent(e, x))$

This, combined with j, results in the desired (33). More precisely, as common in LFG, the analysis assumes Glue Semantics (Dalrymple 1999, Gotham 2018), which implements compositionality on the basis of functional structures rather than constituency trees; the detailed analysis follows the approach to control of Asudeh 2005 and the approach to thematic roles of Asudeh *et al.* 2014.

The analysis of the running example (28) – the one involving a CP subject – is similar. We assume the basic semantic representation of this example as in (42) and the semantic contribution of the adverb *miło* in (43):

(42) $\lambda s.\, nice(s) \wedge experiencer(s, j) \wedge arg(s, {}^{\cap}\lambda e.swim(e) \wedge agent(e, m))$

(43) $\lambda P \lambda x \lambda s.\, nice(s) \wedge experiencer(s, x) \wedge arg(s, {}^{\cap}P)$

Note the slight difference between (38) and (43): the variable P is of type $\langle e, \langle v, t\rangle\rangle$ (where v is the type of eventualities) in (38) and of type $\langle v, t\rangle$ in (43). This difference is correlated with the syntactic difference in the lexical entry (30): the adverb either combines with an InfP of type $\langle e, \langle v, t\rangle\rangle$, or with a CP of type $\langle v, t\rangle$. Note also that not all predicative adverbs display both behaviours; for example, *trudno* 'difficult.ADV' may only predicate of InfPs, as illustrated in (36) above, but not of CPs, e.g.:

(44) *Janowi (było) trudno, [że Maria wstaje].
Jan.DAT was difficult.ADV that Maria gets up
'That Maria gets up was difficult for Jan.' (intended)

This justifies the disjunctive specification in the lexical entry (30).

6 Conclusion

It is widely – though typically tacitly – assumed that adverbs never act as predicates in predicative constructions. This paper demonstrated that, in Polish, when verbal constituents – InfPs and CPs – are subjects of predication, the predicate may indeed be expressed by an adverb.

The syntactic analysis of this phenomenon is simple and consists mainly in adding appropriate lexical entries of predicative adverbs to the lexicon; in particular, constituency trees are so simple that there was no need to discuss them here.[5] An interesting syntactic complication – expressed at the level of functional structures – is the possibility of control into subjects in such constructions.

The semantic part of the analysis is based on the insight that adverbs predicate of event kinds; this adds predicative adverbial constructions in Polish to the quickly growing repertoire of phenomena analysed with reference to this type of kinds.

[5] This is in line with recent arguments for simplifying the syntax of predicative constructions in Matushansky 2019.

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