

## THE ROLE OF THE PERFECTIVE ASPECT IN THE INTERPRETATION OF NPs

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### ABSTRACT

This paper deals with the interaction of aspectual properties of VPs with the semantics of their subject NPs. It is mainly concerned with the role played by the perfective aspect in the interpretation of bare plurals, and, more specifically, in distinguishing among their various semantic uses, with special attention paid to generic and indefinite ones. Still, ordinary and secondary imperfectives will also be considered for the purposes of comparison. This will allow to test the *minimal marking tendency* postulated by Dahl (1995), which demands that crosslinguistically the verbal forms used in generic contexts be unmarked or the least marked ones with respect to tense and aspect. The perfective, which is a marked form, will be shown to force the existential (non-generic) reading of BPs. It is going to be demonstrated that the *minimal marking tendency* in most cases works for Polish but for one exception. We are going to concentrate on Polish data, but some analogies with English language will also be drawn.

### 1. The interaction of verbal and nominal properties

In this paper we will focus on the role the perfective aspect plays in the interpretation of bare plural subject noun phrases (henceforth, BPs). The influence of the verbal categories such as tense and aspect on the semantics of nominal arguments have already been the subject of extensive studies (cf. Carlson 1977, Krifka et al. 1995, Dahl 1995, Delfitto 1998, Filip 1994), which resulted in the discovery of many interesting correlations between verbal and nominal properties. To give an example, Dahl (1995: 417) and Krifka et al. (1995: 12) note that the English progressive forces the existential reading of subject noun phrases<sup>1</sup>. This is illustrated by (1) (27c in Krifka et al.), where the subject BP can only be interpreted as referring to a certain group of Italians, but not the whole nation:

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<sup>1</sup> Krifka et al. (1995: 8) assert that the progressive can serve as a diagnostic test in this respect.

- (1) Italians are drinking wine with their dinner.

Krifka et al. (1995: 12) motivate this link between the English progressive and the existential reading of subject NPs by the fact that the former disallows stative verbs. They claim that, “[...] a linguistic form which excludes stative predicates [...] will typically exclude the characterizing interpretations as well”. If the characterizing reading of a VP is excluded, we are left with the particular one, which allows only for the existential readings of subject NPs.<sup>2</sup> The progressive is not the only English verb form that exerts such an impact on subject NPs. Another one, also mentioned by Krifka et al. (1995: 6), is the perfect. Perfects, however, are not argued to have a diagnostic status (like progressives), nor any argument is given why they should pattern with the latter in this respect. It seems to us that they also exclude statives, as progressives do. On the other hand, both progressives and perfects are clearly marked forms, so their influence on the semantics of NPs is (at least partially) predicted by the minimal marking tendency postulated by Dahl (1995: 415). He argues that crosslinguistically verbal forms used in generic contexts tend to be unmarked or the least-marked with respect to tense and aspect. This entails that marked forms are expected to appear in non-generic contexts. This is precisely the case of the English progressives and perfects which are marked forms and they do occur in non-generic contexts exclusively.

Surprisingly, those issues have never evoked a serious interest in Slavic linguistics, hence “[...] a gap in the coverage of [Slavic] data[...]”, as noted by Filip (1994: 251). This paper aims to fill it. We will investigate Polish data with an eye for the correlations between temporal and aspectual markers and the interpretations of NPs similar to the ones already found in other languages. We hope to find such correlations that could be argued to have a diagnostic-status, comparable to that of the progressive in English. The perfective aspect in Polish seems to be a good candidate to examine in this respect. Perfectives are semantically related to perfects which, as we have already noted, are also reported by Krifka et al. (1995) to influence the reading of NPs. We can speculate that Polish perfectives might pattern with both English progressives and perfects, since they are marked forms as well (see Binnick 1991). If they indeed did, it would constitute another piece of evidence in support of the minimal marking tendency. Still, apart from ordinary perfective and imperfective verb forms, Polish has a number of derived verb forms like secondary imperfectives, for instance, which should also be considered marked forms. These forms constitute an interesting piece of data, which may serve as a means for verifying the power of the *minimal marking tendency*.

<sup>2</sup> Interestingly, the same correlation is observed in Polish (see 2.2.), despite the fact that Polish does not have any progressive forms morphosyntactically spelled out. The point is that Polish verb forms of tenses can be interpreted as either progressive or habitual. If a given verbal predicate is interpreted progressively, its subject NP gets the existential reading, precisely as in the case of English.

## 2. Bare plurals

In the previous section we gave examples of the systematic correlations between the aspectual properties of verbal predicates and the readings of their subject NPs. It was noted that our main concern would be the role of the Polish perfective aspect in the interpretation of NPs. As for nominal arguments, we have chosen bare plural subject noun phrases as the main object of our analysis, because they are distinguished by a wide variety of semantic uses. Consequently, they constitute a good piece of data for our research. Since native speakers always know which use of a BP they are dealing with, they must have some clues that help them to identify it. We hope to trace some of these clues and give an account of them. Carlson (1977) was the first to argue that they all boil down to the role of sentential context. His claim was advanced by Krifka et al. (1995). We believe that aspectual markers are among those clues.

### 2.1. English

Carlson (1977) distinguishes two main uses of English BPs: generic and indefinite. The former is associated with the universal interpretation, while the latter with the existential<sup>3</sup> one. Generic BPs denote kinds, whereas indefinite BPs refer to groups of things or individuals. Let us consider the examples of each of these uses, generic in (2a) and indefinite in (3a), given by Carlson (1977: 429-446; his 66 and 124a, respectively):

- (2a) Dogs bark.  
 (2b)  $\forall x[\text{dogs}(x) \rightarrow \text{bark}(x)]$   
 (2c)  $*\exists x[\text{dogs}(x) \rightarrow \text{are barking}(x)]$
- (3a) Dogs are running around in circles.  
 (3b)  $\exists x[\text{dogs}(x) \rightarrow \text{are running around in circles}(x)]$   
 (3c)  $*\forall x[\text{dogs}(x) \rightarrow \text{run around in circles}(x)]$

As shown by (2b) and (2c), as well as (3b) and (3c), the BP is not ambiguous in either (2a) or (3a). It gets the universal interpretation in (2) and the existential one in (3). This lack of interpretational ambiguity is one of Carlson's strongest arguments for the treatment of English BPs as a unified phenomenon, both syntactic and se-

<sup>3</sup> Non-accidentally, those glosses bring to mind two quantifiers known from logic, universal ( $\forall$ ) and existential ( $\exists$ ). Yet though the universal interpretation of BPs is formally coded by means of the universal quantifier, and the existential interpretation by means of existential one, it is not the case that their meanings are always identical to the meanings of these quantifiers as postulated by logic. Generic interpretation often has the power of 'most', but not necessarily 'all'.

mantic. His proposal is to always treat BPs as proper names of kinds of things. All other readings of BPs are attributed to the interaction of sentential context (the verbal predicate, mainly) with this basic kind-denoting reading. Note that in Carlson's examples the VPs consist of simple verbs exclusively. No additional context is needed to identify the particular use of a BP.

## 2.2. Polish

As already noted, Polish BPs have not been the subject of a comprehensive study yet. As representatives of Slavic NPs, they are particularly worth examining, since Slavic languages, in sharp contrast to Germanic and Romance languages, lack determiners, which play a non-trivial role in the semantics of NPs. In the case of plural nominals, for instance, both determiner and bare forms may be distinguished, and determiner forms may further be divided into definite and indefinite. Now, the question we will address in this section is to what extent, if at all, do Polish BPs pattern with their English counterparts? Let us first examine the properties of a Polish BP in sentence (4), which is the equivalent of both English sentences (2a) and (3a):

- (4a) Psy szczekają.  
 dogs bark<sub>IMPERF.PRES</sub>  
 'Dogs bark.' or  
 '(Some/The) Dogs are barking.'
- (4b)  $\forall x[\text{dogs}(x) \rightarrow \text{bark}(x)]$
- (4c)  $\exists x[\text{dogs}(x) \rightarrow \text{are barking}(x)]$

In sharp contrast to English BPs in (2a) and (3a), the Polish BP in (4a) is ambiguous. It can get the generic as well as the existential reading, which is shown in (4b) and (4c), respectively. Yet, importantly, it is not only the NP which is ambiguous in sentence (4a). The same holds for the VP, which, being in the present tense form, can be read as either progressive or habitual. Essentially, the habitual reading of the VP correlates with the generic reading of the BP, whereas the progressive – with the existential one, precisely as in the case of English. This is captured by the two possible English translations of (4a), which are (2a), with the Present Simple verb form, and (3a), with the Present Progressive, respectively. Although Polish does not explicitly mark 'progressivity' on the levels of lexicon and syntax, as English does, the distinction is still present in Polish semantics.<sup>4</sup> To disambiguate the VP in sentence (4a) we need to add further context. This is illustrated by sentences (5a) and (6a) below:

<sup>4</sup> In fact, an English example similar to the Polish sentence in (4) was discussed by Carlson (1977: 430, his 74):

- (5a) Psy szczekają, kiedy są głodne.  
 dogs bark<sub>IMPERF.PRES</sub> when be<sub>3PL.PRES</sub> hungry  
 'Dogs bark when they are hungry.'

- (5b)  $\forall x[\text{dogs}(x) \rightarrow \text{bark}(x)]$

- (6a) Psy szczekają, bo są głodne.  
 dogs bark<sub>IMPERF.PRES</sub> because be<sub>3PL.PRES</sub> hungry  
 '(Some/The) Dogs are barking, because they are hungry.'

- (6b)  $\exists x[\text{dogs}(x) \rightarrow \text{are barking}(x)]$

Now, neither the BPs nor the VPs in sentences (5a) and (6a) are ambiguous. The subordinate *when*-clause in (5a) attributes the VP with the habitual reading and, in consequence, the BP with the universal reading, while the subordinate clause of reason in (6a) gives the progressive meaning to the VP, and the existential meaning to the BP.

Up to this point, it would seem that Polish BPs, despite the difference between English and Polish in the formal marking of 'progressivity', do pattern with English BPs in both the number and sort of readings they can get, and the correlations of their particular readings with the particular readings of their VPs, which are formally marked in English but determined contextually in Polish. There is, however, one more interpretation Polish BPs can get, which does not appear in the case of English BPs, namely the definite interpretation. In English this interpretation is rendered by means of the addition of the definite determiner *the* in front of an NP. Since there are no determiners in Polish, either definite or indefinite, the definite interpretation is the third possible interpretation a Polish BP can get, which is shown in example (7):

- (7a) Psy, które szczekają przed domem, są czarne.  
 dogs which bark in front of house are black  
 'The dogs which are barking in front of the house are black.'

- (7b)  $\exists x[\text{dogs}(x) \rightarrow \text{are barking}(x)]$

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- (a) Dinosaurs ate kelp.  
 (b)  $\forall x \exists y[\text{dinosaurs}(x) \wedge \text{kelp}(y)] \rightarrow \text{ate}(x,y)$   
 (c)  $\exists x[\text{dinosaurs}(x) \wedge \exists y[\text{kelp}(y) \rightarrow \text{ate}(x,y)]]$

The English Past Simple tense, similarly to the Polish present tense, may denote a long-term habit as well as a single event. As in the case of Polish, the habitual reading of the VP correlates with the universal reading of the BP, while the 'event' reading – with the existential one. According to Carlson, the evidence given by this type of sentences constitutes an even stronger argument in support of the claim that the reading of BPs is "wholly predictable from context".

Once again, the definite reading of the BP in (7) is predicted by the sentential context, more specifically, the defining relative clause following it.

### 3. Aspectual distinctions and the semantics of BPs

In this section we will compare the readings the Polish BPs get when followed by imperfective, perfective and derived (secondary) imperfective VPs in future and past tenses.

#### 3.1. The imperfective

Imperfectives are unmarked forms, so they are expected by the minimal marking tendency to correlate with the generic readings of BPs in the first place. Let us check if they do so:

- (8a) Więźniowie będą kopali/kopali rowy.  
 prisoners be<sub>FUT</sub> dig<sub>IMPERF/IMPERF.PAST</sub> ditches  
 'Prisoners will dig/be digging/dug/were digging ditches.'
- (8b)  $\forall x \exists y [\text{prisoners}(x) \wedge \text{ditches}(y) \rightarrow \text{will dig/dug}(x)(y)]$
- (8c)  $\exists x [\text{prisoners}(x) \wedge \exists y [\text{ditches}(y) \rightarrow \text{will dig/dug}(x)(y)]]$
- (8d) Latem/W lecie więźniowie będą kopali/kopali rowy.  
 Summer/in summer prisoners be<sub>FUT</sub> dig<sub>IMPERF/IMPERF.PAST</sub> ditches  
 'In the summertime prisoners will dig/be digging ditches.'
- (8e) W przyszłości/  
 w tamtych czasach więźniowie będą kopali/kopali rowy.  
 in future/  
 in those times prisoners be<sub>FUT</sub> dig<sub>IMPERF/IMPERF.PAST</sub> ditches  
 'In the future/in those times prisoners will dig/be/were digging/dug ditches.'

We observe that both future and past imperfectives do correlate with the generic reading of subject BPs, as predicted, but it is not the only reading the BPs can get in this context. They can also be interpreted existentially. To properly identify the reading of a BP we need to have some contextual clues. Sentences (8d) and (8e) demonstrate how the adverbials of time help disambiguate the meanings of BPs. The BP in (8d) can only be interpreted existentially, while in (8e) universally.

#### 3.2. The perfective

Perfectives as marked forms should not appear in generic contexts. Let us then check if they obey this constraint:

- (9a) Więźniowie wykopią/wykopali rowy.  
 prisoners dig<sub>PERF.FUT/PERF.PAST</sub> ditches  
 'Prisoners will dig/will have dug/dug/have dug ditches.'
- (9b)  $\exists x [\text{prisoners}(x) \wedge \exists y [\text{ditches}(y) \rightarrow \text{will dig/dug}(x)(y)]]$
- (9c)  $*\forall x \exists y [\text{prisoners}(x) \wedge \text{ditches}(y) \rightarrow \text{will dig/dug}(x)(y)]$
- (9d) Latem/W lecie więźniowie wykopią/wykopali rowy.  
 Summer/in summer prisoners dig<sub>PERF.FUT/PERF.PAST</sub> ditches  
 'In the summertime prisoners will dig/will have dug/dug/have dug ditches.'
- (9e) ??W przyszłości/  
 \*W tamtych czasach więźniowie wykopią/wykopali rowy.  
 In future/  
 in those times prisoners dig<sub>FUT.PERF/PERF.PAST</sub> ditches  
 'In the future/in those times prisoners will dig/have dug/dug/have dug ditches.'

Example (9) shows that the perfective aspect of the VP seems to force the existential reading of the BP, as illustrated in (9b) and (9c). In (9d) and (9e) the same adverbials of time were added as in the case of (8d) and (8e). As far as (9e) is concerned, judgements vary; consequently, it is marked with a double question mark in the case of the future perfective, and the asterisk (meaning 'unacceptable') in the case of the past perfective. Most native speakers judge them as odd. It seems to us that this is due to the clash between the meanings of the adverbials of time *w przyszłości* 'in the future' and *w tamtych czasach* 'in those times', and the perfective aspect. Both adverbials refer to long stretches of time without clear boundaries (that is a specified starting point or the end point), hence being unbounded, non-delimited, while perfective verbs always denote bounded eventualities (see Filip 1994). So far our results seem to conform to the *minimal marking tendency* (see section 1.). Perfectives, which are marked forms, prohibit the generic reading of BPs. BPs can only be interpreted universally when followed by imperfectives, which are unmarked forms. In addition, imperfectives allow for the existential readings of BPs as well. Yet it is not surprising in light of the definition of markedness, which says that unmarked forms are used in a bigger number of contexts than marked ones, usually subsuming also the uses of the latter (see Binnick 1991: 153). However, sentence (10) seems to constitute a piece of counterevidence to the *minimal marking tendency*:

(10a) Zardzewiałe drzwi nie otworzą się.  
Rusty doors not open<sub>FUT.PERF</sub> REFL  
'Rusty doors will not open.'

(10b)  $\forall_x[\text{rusty doors}(x) \rightarrow \text{not open}(x)]$   
 $\exists_x[\text{rusty doors}(x) \rightarrow \text{not open}(x)]$

We observe that the BP in sentence (10) can get the universal as well as the existential interpretation regardless of the perfective aspect of the VP. Our intuition is that this is due to the nature of the BP *drzwi* 'doors', which, in spite of being a surface plural form, refers to a single entity. Therefore, we will claim that *drzwi* 'doors' are not a true BP, and that they should be expected to pattern with bare singulars rather than with bare plurals, which is illustrated below:

(11a) Zalany silnik nie odpali.  
Flooded engine not light<sub>PERF.FUT</sub>  
'The flooded engine will not start.'

(11b)  $\forall_x[\text{flooded engine}(x) \rightarrow \text{not start}(x)]$

(11c)  $\exists_x[\text{flooded}(x) \rightarrow \text{not start}(x)]$

(12) \*Zalane silniki nie odpalą.  
Flooded engines not light<sub>PERF.FUT</sub>  
'Flooded engines will not start.'

Example (11) shows that when the perfective aspect follows a bare singular NP the sentence is good, while example (12) demonstrates that when the perfective aspect follows a BP the sentence unacceptable. Interestingly, the bare singular NP in (11) can get the universal as well as the existential interpretation, which is an exception to the *minimal marking tendency*.

### 3.3. Secondary imperfectives

Still, apart from the ordinary perfectives and imperfectives some Polish verbs have also additional, derived forms like secondary imperfectives, for instance. These forms must be considered marked, because they are formed with the help of special affixes, so they are overtly morphologically marked, and, moreover, the number of contexts they can appear in is usually restricted and/or so is their semantics. They can be attributed with a distinguished meaning, for instance, iterative. Therefore, they are certainly worth closer examination from the point of view of the *minimal marking tendency*. (13) and (14) give examples of future and past secondary imperfective forms of the verb *kopać* 'dig':

(13a) ?Latem/??W przyszłości więźniowie będą wykopywali rowy.  
Summer/In future prisoners be<sub>FUT</sub> dig<sub>DER.IMPERF</sub> ditches  
'In the summertime/in the future prisoners will dig/be digging ditches.'

(13b)  $\exists_x[\text{prisoners}(x) \wedge \exists_y[\text{ditches}(y) \rightarrow \text{will dig}(x)(y)]]$

(13c)  $*\forall_x\exists_y[\text{prisoners}(x) \wedge [\text{ditches}(y) \rightarrow \text{will dig}(x)(y)]]$

(14a) ?Latem/??W tamtych czasach więźniowie wykopywali rowy.  
Summer/in those times prisoners dig<sub>DER.IMPERF.PAST</sub> ditches  
'In the summertime/in those times prisoners dug ditches.'

(14b)  $\exists_x[\text{prisoners}(x) \wedge \exists_y[\text{ditches}(y) \rightarrow \text{dug}(x)(y)]]$

(14c)  $*\forall_x\exists_y[\text{prisoners}(x) \wedge [\text{ditches}(y) \rightarrow \text{dug}(x)(y)]]$

As indicated by the question marks, sentences (13) and (14) were judged as odd. The generic reading of subject BPs is totally excluded. If we are to accept these sentences, regardless of their sounding a bit unnatural, we have to assume the existential reading of BPs. This is puzzling bearing in mind the fact that the secondary imperfective verb form has an additional, iterative meaning. Iterative, by the virtue of its meaning, should be expected to correlate with the generic uses of BPs. Still, there seems to be one more feature of the semantic composition of the verb form *wykopywać* 'dig out', which is at play here. This is very well captured by its English translation. This secondary imperfective form has another additional meaning, namely 'to get something out of somewhere', which is absent from the meaning of the basic imperfective verb *kopać* 'dig'. Sentence (15) gives probably the better context for this verbal form:

(15a) Tamtego lata /w tamtym miejscu /?w tamtych czasach  
that summer /in that place /in those times  
archeolodzy wykopywali coraz to większe posagi.  
archeologists dig<sub>PAST.DER.IMPERF</sub> repeatedly bigger statues

'That summer/in that place/?in those times archeologists dug out/were digging out bigger and bigger statues.'

(15b)  $\exists_x[\text{archeologists}(x) \wedge \exists_y[\text{statues}(y) \rightarrow \text{dug out}(x)(y)]]$

(15c)  $*\forall_x\exists_y[\text{archeologists}(x) \wedge [\text{statues}(y) \rightarrow \text{dug out}(x)(y)]]$

We see that after placing the secondary imperfective *wykopywać* 'to dig out' in a somewhat different context, grammaticality judgements improved. This is probably due to the fact that the context of sentence (12) requires the verb 'dig out', not just 'dig'. This, in turn raises the question whether to treat the affix *-yw* as an inflectional or a derivational one, if we witness this change of meaning of the verb. Still, the ge-

neric reading of the BP is rather unacceptable. In short, secondary imperfectives, which are marked forms, seem to disfavour the generic reading of subject NPs despite their being iterative. This fact is predicted by the *minimal marking tendency*, which, in this case, overrides the tendency of iteratives to stimulate the generic interpretation of BPs.

#### 4. Conclusion

The Polish data examined in this paper reveal that the perfective aspect forces the existential (non-generic) interpretation of bare plural subject NPs. This goes in agreement with the *minimal marking tendency*. The perfective is the marked member of the aspectual pair perfective/imperfective, so it is predicted to appear in non-generic context. However we have come across the context which allows the universal (generic) reading of a subject NP followed by the perfective aspect. This is the case of a bare singular NP subject. In this paper we have limited our area of study to bare plural NPs. Still, Polish bare singulars should also be considered in future research.

The linguistic behaviour of Polish ordinary and secondary imperfectives also supports the *minimal marking tendency*. Ordinary imperfectives, as unmarked forms, allow for both universal and existential interpretation of their subject BPs. Secondary imperfectives, as marked forms, allow for existential readings only.

On the whole, we have demonstrated that the principles of the interaction between the aspectual markers and the semantics of Polish BPs conform to the *minimal marking tendency*. In our opinion the presence of the perfective marking of a VP can be argued to be a diagnostic test of the existential reading of its subject BP. What is still left for a future research, however, is the role of the perfective (and other aspectual markers) in the interpretation of bare singulars, which seem not to pattern with BPs, and hence can constitute a challenge for the *minimal marking tendency* to account for.

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