

**The lexical/phrasal status of Polish
Noun+Adjective or Noun+Noun combinations
and the relevance of coordination as a diagnostic test**

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Abstract

*This paper considers the morphosyntactic status of Noun+Adjective and Noun+Noun combinations in Polish, such as *dział finansowy* (lit. department financial) ‘a finance department’ and *pilot-oblatywacz* ‘a pilot-navigator’. A brief review is offered of diagnostic tests which can be employed to determine the phrasal or lexical status of N+A and N+N units in Polish. Reference will be made to various criteria of compound-hood proposed for English (e.g. by Bauer 1998, Giegerich 2005 and Lieber and Štekauer 2009). Particular attention will be given to the predictions of the coordination test.*

Keywords: *juxtapositions, phrasal lexemes, coordinated compounds*

1 Introduction

Speakers of Polish frequently put classifying adjectives after head nouns, to form such multiword expressions as those given in (1-3). The adjectives in such N+A combinations are often (though not exclusively) denominal relational adjectives, e.g. the lexeme *finansowy* ‘financial’ is derived from the noun *finanse* ‘finances’.

- | | | |
|-----|------------------------|-------------|
| (1) | dział | finansowy |
| | department | financial |
| | ‘a finance department’ | |
| (2) | ogród | zoologiczny |
| | garden | zoological |
| | ‘a zoological garden’ | |

- (3) myśliwiec bombowy⁴³
 fighter bomb.adj
 ‘a fighter-bomber’

The adjectives in (1-3) are classifying ones since they identify a kind of what is denoted by the head noun (cf. Warren 1984). For instance, *dział finansowy* ‘a finance department’ is a kind of departments that can usually be found in large companies, and its function is to control the company’s finances. *Ogród zoologiczny* ‘a zoological garden’ can be set apart from other types of gardens, including *ogród botaniczny* ‘a botanic garden’ or *ogród działkowy* ‘a community garden, an allotment garden’.

Sometimes (though less commonly) the classifying adjective must precede the head noun in Polish (as in 4). In some other combinations both orders (N+A and A+N) are acceptable (see 5a and 5b).

- (4) rajski ptak
 paradise.adj bird
 ‘a bird of paradise’
- (5) a. woda mineralna
 water mineral
 b. mineralna woda
 mineral water
 ‘mineral water’

However, I will focus here on multiword units in which the adjective follows the noun since the pre-head position of the modifier typically corresponds to its descriptive (i.e. qualifying) function.⁴⁴

⁴³ The Polish N+A combination in (3) can be replaced by synonymous expressions, such as a N+A complex containing a participial adjective, i.e. *myśliwiec bombardujący* (lit. fighter bombarding.ptcp) or a N+A complex with a compound adjective, i.e. *samolot myśliwsko-bombowy* (lit. plane fighting.ptcp+Int+bomb.adj).

Some multiword units in Polish consist of two nouns, as shown in (6-8).

- (6) pilot nawigator
pilot navigator
'a pilot-observer'
- (7) klub kawiarnia
club cafe
'a café which also hosts some cultural events'
- (8) kobieta pilot
woman pilot
'a woman pilot, a female pilot'

Diverse analyses of Noun+Adjective and Noun+Noun combinations have been provided by several Polish scholars. Topolińska (1984), Laskowski (1984) and Polański (1999), among others, regard them as a subtype of compounds, so-called juxtapositions (Pol. *zestawienia*). In contrast, Kallas (1980) and Willim (2000, 2001) assume that these are syntactic objects, i.e. noun phrases,⁴⁴ though of a special type, referred to as "N+A and N+N complexes" by Willim (2000, 2001). Despite the abundant research on the topic, no consensus has been reached yet about the morphosyntactic status of such multiword complexes, thus the issue calls for further investigation.

Moreover, controversies concerning the status of N+A or N+N strings in Polish are relevant to the discussion of how to identify compounds in other languages (cf. Ralli and Stavrou 1998, Bauer 1998, Spencer 2003, Giegerich 2004, 2005, Lieber and Štekauer 2009, Booij 2010, Bell 2011).

⁴⁴ The shift of the position of an adjective can result in a change of its interpretation, as is shown by, among others, the comparison of *dyrektor kreatywny* (N+A) 'a creative director (as a name of a position in an advertising company)' and *kreatywny dyrektor* (A+N) 'a director who is a creative person' (see Rutkowski and Progovac 2005 or Cetnarowska, Pysz and Trugman 2011 for further examples).

⁴⁵ Polish N+A complexes are also treated as syntactic objects by Rutkowski and Progovac (2005) and Szymanek (2010). Cetnarowska, Pysz and Trugman (2011) as well as Cetnarowska and Trugman (2012) regard N+A combinations as semi-lexical formations.

This paper is organized as follows. Section 2 looks at the semantic criterion that can be employed in distinguishing between compounds and syntactic phrases in Polish. Section 3 reviews the orthographic and the inflectional criterion. Syntactic mobility and uninterruptability of N+A and N+N combinations is discussed very briefly in section 4. Section 5 focuses on coordination of such complexes. Conclusions are stated in section 6.

2 The semantic criterion

When distinguishing between syntactic objects (i.e. phrases) and lexical objects (i.e. lexemes) researchers often take the semantic interpretation of a given item into consideration. Syntactic objects are semantically compositional. The meaning of a phrase is the sum of meanings of its constituents. Morphologically complex lexemes, such as compounds, can undergo a semantic drift, therefore their meanings can be no longer (fully) predictable from the meanings of their parts (cf. Szymanek 1989, Plag 2003, Lieber and Štekauer 2009). The impossibility of predicting the complete meaning of a compound is visible particularly in the case of exocentric compounds, which cannot be interpreted as hyponyms of their (syntactic) heads. *Moonshine*, for instance, is not a type of a light or shine but alcohol which is made illegally. Similarly, the Polish compound *białogłowa* (lit. white head) (obsolete) ‘woman’ does not denote a type of a head but a person wearing a white scarf on the head (i.e. a woman).

Some N+A and N+N complexes in Polish are non-compositional (or partly compositional) since the meaning of the whole unit does not correspond to the sum of the meanings of lexemes which make them up, as illustrated in (9).

- (9)
- | | | |
|----|---------|--|
| a. | opera | mydlana |
| | opera | soap.adj |
| | | ‘a TV/radio serialized drama’ |
| b. | włosy | anielskie |
| | hair.pl | angelic |
| | | ‘angel hair, i.e. spun glass Christmas decoration’ |

- c. kobieta guma
 woman rubber
 ‘a female contortionist’
- d. pisarz widmo
 writer ghost
 ‘a ghost writer’

Difficulties in predicting the exact meaning of a given N+A combination partly stem from the semantic indeterminacy of classifying relational adjectives, which can denote any type of relatedness between the head noun and the noun which functions as the base of the relational adjective in question. While *wino ryżowe* ‘rice wine’ is a type of wine made from rice, *wino stolowe* ‘table wine’ is one which is inexpensive and of rather low quality. The exact interpretation of N+A and N+N combinations in Polish may require some extralinguistic knowledge, often of a specialist type. Thus, the meaning of the term *rzut wolny* (lit. free throw) ‘direct free kick’ in soccer differs from that of *rzut wolny* ‘free throw’ in basketball.

Ralli and Stavrou (1998) employ the semantic criterion to the analysis of Greek data, and distinguish between non-compositional A+N units treated as compounds⁴⁶ (e.g. *psixros polemos* ‘cold war’) and semantically regular and compositional A+N constructs, treated as syntactic objects (e.g. *atomiki vomva* ‘atomic bomb’, *musiki kritiki* ‘music review’). Booij (2010: 181) uses the term “syntactic compounds” with reference to such lexicalized units as *psixros polemos* ‘cold war’, reserving the term “morphological compounds” in Greek for combinations of stems joined with an interfix (i.e. for compounds proper).

Szymanek (2010: 244) suggests that some phrases of the type N+A in Polish should be listed in the lexicon as they have the status of collocations (i.e. set phrases) which are able to become input to word-formation processes, such as the process of univerbation, e.g. *sklep warzywny* ‘greengrocer’s shop’ can give rise to *warzywniak* ‘greengrocer’s shop’.

⁴⁶ Nagórko (1996: 189) makes a similar observation with respect to Polish. She suggests that semantically non-compositional N+A and N+N expressions belong to the lexicon.

On the other hand, even those N+A and N+N combinations which are fairly compositional, easy to interpret and easy to coin, e.g. *biblioteka szkolna* (lit. library school.adj) ‘school library’, *biblioteka wydziałowa* (lit. library faculty.adj) ‘faculty library’, *pilot-oblatywacz* (lit. pilot tester) ‘a test pilot’ and *pilot-nawigator* (lit. pilot navigator) ‘a pilot-observer’, can be treated as conceptual wholes, as is expected of lexemes in general, including affixal derivatives as well as compounds (cf. Lieber and Štekauer 2009: 8, Booij 2010: 169). As the English glosses to the examples given above indicate, some of the Polish N+A and N+N complexes correspond to English determinative compounds⁴⁷ (e.g. *finance department*) in the compound typology proposed by Olsen (2004). Other Polish N+N and N+A combinations given in (1-9) can be translated by means of English copulative compounds⁴⁸ (in the terminology adopted by Olsen 2004 and Plag 2003), e.g. *fighter-bomber*, *woman pilot* or *pilot-navigator*.

The naming function is characteristic of N+A or A+N combinations cross-linguistically, thus such multiword expressions, in spite of exhibiting phrasal characteristics, can be treated as phrasal lexemes, as suggested by, among others, Masini (2009) and Booij (2010).⁴⁹

⁴⁷ Olsen (2004) points out that there occurs a subordinate relation between the first (non-head) and the second (head) constituent in a determinative compound. Bauer (1983) and Szymanek (1989) classify English items such as *finance department* or *school library* as endocentric compounds. A useful review of differences between various compound typologies is given by Bisetto and Scalise (2005). In the new classification which is proposed by them, both *finance department* and *test pilot* would be identified as subordinate compounds.

⁴⁸ In the compound typology adopted by Bauer (1983) and Szymanek (1989), *woman pilot* and *girlfriend* are classified as appositional compounds, while *fighter-bomber* and *pilot-observer* belong to the class of dvandva compounds. In the classification proposed by Bisetto and Scalise (2005), both *fighter-bomber* and *woman pilot* are regarded as coordinate compounds.

⁴⁹ Ten Hacken (2013) suggests considering N+A complexes and N+GenP constructions in Polish as compounds since they can refer to a single entity and have compounds as translation equivalents in other languages, e.g. in English, as is shown by *fabryka samochodów* (lit. factory cars.gen) ‘car factory’ and *krem orzechowy* (lit. cream nut.adj) ‘peanut butter’.

3 The inflectional and the orthographic criteria

Compounds cross-linguistically are expected to be inflected as wholes (cf. Lieber and Štekauer 2009). It is generally only the head constituent which takes inflectional endings (such as the plural marker), as in the plural form of the English determinative (endocentric) compound *handbag*, which is *handbags* and not **handsbag* or **handsbags*.

Moreover, both morphologically simplex and morphologically complex words (including compounds) tend to correspond to orthographic words. Consequently, institutionalized compounds in English are often written as single words or are hyphenated, e.g. *blackboard*, *handbag*, *tennis-ball*, *comic-book*. This is not a watertight criterion of compound-hood in English, since there are often several orthographic shapes of a given compound, e.g. *flowerpot*, *flower-pot*, *flower pot* (cf. Szymanek 1989: 41).

The orthographic criterion will be discussed here jointly with the inflectional one, since their results coincide in the case of Polish compounds and compound-like expressions.

Polish compound nouns proper (i.e. morphological compounds) consist of two stems linked by an interfix vowel (Int), e.g. *szybk-o-war* ‘pressure cooker’, *star-o-druk* ‘antique print’. They can additionally contain a suffix, added to the second stem, e.g. the suffix *-ek* in the exocentric compounds *gryz-i-piór-ek* ‘paper pusher’ and *baw-i-dam-ek* ‘a ladies’ man’. It is only the head (i.e. the right-hand constituent) which takes the inflectional ending, as in (10).

- | | | | | |
|------|----|--|-----|--|
| (10) | a. | star-o-druk
old-Int-print
‘an antique print’ | a.’ | star-o-druk-i
old-Int-print-nom.pl
‘antique prints’ |
| | b. | biał-o-głow-a
white-Int-head-nom.sg
‘(obsolete) woman’ | b.’ | biał-o-głow-y
white-Int-head-nom.pl
‘(obsolete) women’ |

- | | | | |
|----|---|-----|---|
| c. | baw-i-dam-ek
amuse-Int-lady-suff
'a ladies'man' | c.' | baw-i-dam-k-a
amuse-Int-lady-suff-gen.sg
'(of) a ladies' man' |
|----|---|-----|---|

A restricted set of compounds proper contain no interfix vowel, yet it is again only the (right-hand) head element which is inflected (for number and case).

- | | | | | |
|------|----|---|-----|--|
| (11) | a. | zegar-mistrz
watch-master
'a watchmaker' | a.' | zegar-mistrz-a
watch-master-gen.sg
'(of) a watchmaker' |
| | b. | ćwierć-nut-a
quarter-note.nom.sg
'a quaternote, a crotchet' | b.' | ćwierć-nut-y
quarter-note-gen.sg
'(of) a crotchet' |

In contrast, both constituents of N+A and N+N combinations take inflectional endings, as in (12).

- | | | | |
|------|-----|--|----------------------------------|
| (12) | a. | dział
department
'a finance department' | finansow-y
financial-nom.sg.m |
| | a.' | dział-y
deparment-nom.pl
'finance departments' | finansow-e
financial-nom.pl |
| | b. | kobiet-y
woman-nom.pl
'female pilots' | piloc-i
pilot-nom.pl |
| | b.' | kobiet-y
woman-gen.sg
'(of) a female pilot' | pilot-a
pilot-gen.sg |
| | c. | pisarz-
writer
'a ghost-writer' | widm-o
ghost-nom.sg |

c.ʹ	pisarz-e writer-nom.pl ‘ghost-writers’	widm-a ghost-nom.pl
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The data in (12) can be interpreted as indicating the phrasal status of such juxtapositions, as argued by Willim (2001).⁵⁰ Polish N+N combinations in (12) are thus more phrase-like than English appositional copulative compounds, such as *bomber-fighters*, *poet-translators* or *barber-surgeons* discussed in Olsen (2004), where only the right-hand element is inflected.⁵¹

From the point of view of orthography, Polish N+A complexes should be treated as noun phrases since they are written as two words (see, for instance, examples in 1-3). Some N+N combinations, e.g. those given in (13), can be hyphenated (as an alternative to being written as two orthographic words).⁵²

- (13) a. kobieta-kierowca
 ‘a woman driver’
 b. pisarz-widmo
 ‘a ghost writer’
 c. pilot-oblatywacz
 ‘a test pilot’

⁵⁰ See Ralli and Stavrou (1998) for a similar conclusion concerning Greek A+N constructs, and Booij (2010: 176-177) on inflectional properties of Dutch A+N phrases.

⁵¹ The exception is the class of appositional compounds whose first constituent is the lexeme *woman* or *man*, which can also be inflected, as in *women slaves*, and *women drivers*.

⁵² Nagórko (1997: 191) adds that this happens because such N+N complexes can be treated as terms (“wyrażenia o terminologicznym najczęściej charakterze”).

4 Syntactic mobility and uninterruptibility

The Principle of Lexical Integrity (postulated by di Sciullo and Williams 1987) predicts that a combination of morphemes functioning as a lexeme cannot be interrupted by any other segments nor should parts of it be dislocated.

The English simplex lexeme *potato* or the suffixal derivatives *kindness* or *solidify* do not allow for a word to be added in the middle, e.g. **po-hot-tato*, **kind-exceptional-ness*, **solid-slow-ify*. One cannot change the order of suffixes within a complex lexeme, either, as is shown by the ill-formedness of **nesskind* and **ifysolid*.

Willim (2001) argues that Polish A+N/N+A combinations belong to the realm of syntax⁵³ since the order of the constituents can be changed. The possibility of inverting the order of nouns and adjectives in Polish is shown in section 1⁵⁴ (ex. 5a and 5b), and is further illustrated in (14).

- | | | | |
|------|----|----------------|----------------|
| (14) | a. | lampy | gazowe |
| | | lamp.nom.pl | gas.adj.nom.pl |
| | b. | gazowe | lampy |
| | | gas.adj.nom.pl | lamp.nom.pl |
| | | ‘gas lamps’ | |

Reversing the order of constituents is possible for N+N complexes shown in (15), but not for those given in (16), which are less compositional.⁵⁵

⁵³ Willim’s decision is similar to the position taken by Ralli and Stavrou (1998), who analyse A+N constructs in Greek as syntactic objects (such as *atomiki vomva* ‘atomic bomb’) pointing out that their internal order is reversible. However, the application of the syntactic mobility criterion gives equivocal results for some appositional compounds in English which are reversible, e.g. *slave women* vs. *women slaves*.

⁵⁴ Syntactic mobility of various types of N+A combinations in Polish is also discussed by Cetnarowska and Trugman (2012).

⁵⁵ Moreover, in the typology proposed by Bisetto and Scalise (2005), the English equivalent of *pisarz-widmo* in (16c), i.e. *ghost writer*, does not belong to coordinate compounds (together with *woman driver*), but is identified as a representative of attributive compounds. According to Bisetto and Scalise, the non-

- (15) a. kobieta- kierowca
 woman driver
 ‘a driving woman’
 b. kierowca kobieta
 driver woman
 ‘a woman driver’ (ex. from Willim 2001).
 c. językoznawca slawista
 linguist Slavist
 ‘a linguist who studies Slavic languages’
 d. slawista językoznawca
 Slavist linguist
 ‘a Slavist who specializes in the study of linguistics’
- (16) a. kobieta guma
 woman rubber
 ‘a female contortionist’
 b. *guma kobieta
 rubber woman
 c. pisarz widmo
 writer ghost
 ‘a ghost writer’
 d. *widmo pisarz
 ghost writer

Another signal of the syntactic status of N+N or N+A combinations in Polish is, according to Willim (2000, 2001), the possibility of introducing parentheticals between constituents of such multiword combinations.

head constituent in attributive compounds is often used metaphorically to express the property of the head.

- (17) To jest dzielnica, jak każdy widzi, przemysłowa.
 this is quarter as everyone see.sg industrial
 ‘As everyone can see, this is an industrial quarter.’
 (from Willim 2000, her ex. 15).
- (18) On jest chirurgiem, można by powiedzieć, artystą.
 he is surgeon.ins could.imp cond say.inf artist.ins
 ‘He is a surgeon, one could say, an artist as such.’
 (from Willim 2001, her ex. 23)

The interpretation of the above-given data concerning the occurrence of epenthetic phrases involves some degree of arbitrariness, since constituents of selected morphological compounds in Polish can also be separated by a parenthetical string of words, as in (19):

- (19) ćwierć-, a może nawet pół- litrówka
 quarter and maybe even half litre_bottle
 ‘a 0.25 or perhaps even a 0.5 litre bottle (of vodka)’

Consequently, more attention will be given here to yet another test regarded as a diagnostic of the syntactic status of multiword expressions, i.e. the coordination test.

5 Coordination

5.1 Coordination of modifier constituents

Coordination is frequently regarded as indicating the status of coordinated elements as syntactic objects (cf. Bosque and Picallo 1996, Ralli and Stavrou 1998). Sadler and Arnold (1994) provide the example in (20a) to show that so-called English “strongly lexical constructions”, i.e. compounds proper, cannot be coordinated. The A+N combinations “solar heat” and “lunar heat” are regarded by Sadler and Arnold (1994) as lexical combinations on the basis of, among others, their compound-like stress pattern

(i.e. the fore-stress).⁵⁶ In contrast, A+N phrasal combinations in English (in 20b) exhibit a distinct “phrasal” stress contour (with both elements carrying lexical stresses) and can be easily coordinated.

- (20) a. *solar and lunar heat
 b. nuclear and conventional weapons

Willim (2001: 85) analyses relevant data from Polish and concludes that they confirm the syntactic status of N+A and N+N complexes in Polish. She suggests that the coordination of the adjectives in (21) involves the ellipsis of the head in the second conjunct (as indicated by the trace *e*), hence the coordination process must take place in syntax.

- (21) zakłady państwowe i e prywatne
 firm.pl state.adj.pl and e private
 ‘state and private firms’ (from Willim 2001: 85, her ex. 28)

When semantically non-compositional A+N/N+A combinations are taken into account, the coordination of modifier constituents (and head ellipsis) does not seem to be felicitous. This is exemplified in (22) for Polish A+N/N+A combinations which are regarded by Cetnarowska, Pysz and Trugman (2011) and Cetnarowska and Trugman (2012) as lexical idioms. Coordination of the adjectival constituent of such an idiom with another classifying adjective leads either to the rejection of the resulting structure (as in 22c-d), or to the reanalysis of the lexical A+N idiom as a semantically compositional phrasal combination (see 23c).

⁵⁶ The relationship between the syntactic/lexical nature of N+N or A+N combinations in English and their stress contour is a fairly complex issue, discussed by, among others, Liberman and Sproat (1994), Bauer (1998), Spencer (2003), Giegerich (2004), and a series of recent papers by Ingo Plag and his collaborators, e.g. Plag et al. (2008).

- (22) a. boża krówka
god.adj cow.dim
'a ladybird'
- b. mleczna krówka
milk.adj cow.dim
'a milk fudge'
- c. *boże i mleczne krówki
god.adj and milk.adj cow.dim.pl
the intended reading: 'ladybirds and milk fudge'
- d. *boża albo mleczna krówka
god.adj or milk.adj cow.dim
the intended reading 'a ladybird or a milk fudge'
- (23) a. koński ogon
horse.adj tail
'a ponytail'
- b. tygrysi ogon
tiger.adj tail
'a tiger's tail'
- c. końskie i tygrysie ogony
horse.adj and tiger.adj tail.pl
'tails of horses and tigers'
unacceptable in the reading: 'ponytails and tails of tigers'

However, the lexical (i.e. idiomatic) status of A+N units in (22) may be far from being the most important reason for their infelicity in coordinated construction. The resulting structure in (22c) or (22d) would be predicted to be anomalous by virtue of the principle of Ontological Coherence postulated (on the basis of English) by Olsen (2004: 88).

(24) Principle of Ontological Coherence

A complex concept as the denotation of a morphological object picks out a coherent individual from one of the domains of individuals.

Olsen (2004) notes that the above principle does not restrict the formation of syntactic phrases. She illustrates the application of (24) in accounting for the ill-formedness of the putative copulative compound in (25a). It corresponds to the well-formed syntactic coordinative apposition in (25b), yet it cannot be felicitous since the concepts of “artist” and “instruments” refer to distinct types of entities.

- (25) a. *The artist-instrument thrived on irony.
 b. Warhol, the pop artist and (the) instrument of the masses, thrived on irony.
 (from Olsen 2004: 88, her ex. 4a, 4c).

The coordination of idiomatic A+N/N+A combinations such *boża krówka* ‘a ladybird’ and *mleczna krówka* ‘milk fudge’ is impossible since each of them denotes a different ontological type,⁵⁷ i.e. either a type of a beetle or a type of candy. The result of coordinating idiomatic A+N/N+A combinations is more acceptable when they refer to similar types of objects, e.g. *wilcza jagoda* ‘belladonna’ and *czarna jagoda* ‘black berry’, as well as *czarny rynek* ‘black market’ and *szary rynek* ‘grey market’.

- (26) a. wilcza jagoda
 wolf.adj berry
 ‘belladonna’
 b. czarna jagoda
 black berry
 ‘bilberry, blueberry’

⁵⁷ See also Bauer (1998) on the impossibility of coordinating English idiomatic compounds such as **bread and buttercup*.

- c. czarne albo wilcze jagody
 black or wolf.adj berry.pl
 ‘blueberries or belladonnas’
- d. wartość czarnego i szarego rynku
 value black.gen.sg and grey.gen.sg market.gen.sg
 ‘the value of the black and grey market’

The Principle of Ontological Coherence predicts the impossibility of coordinating non-head constituents of non-compositional N+N constructs such as *kobieta-guma* ‘a female contortionist’ and *kobieta-nietoperz* ‘a batwoman’, or coordinating exocentric compounds, e.g. *kuternoga* ‘cripple’ and *hulajnoga* ‘scooter’.

- (27) a. kobieta- guma
 woman rubber
 ‘a female contortionist’
- b. kobieta- nietoperz
 woman bat
 ‘a batwoman’
- c. *kobieta- guma i nietoperz
 woman rubber and bat
 unacceptable in the reading: ‘a female contortionist and a batwoman’
- (28) a. kuter-noga
 cutter-leg
 ‘an old sailor with a wooden leg’
- b. hulaj-noga
 revel.imp-leg
 ‘a scooter’

- c. *hulaj i kuter-noga
 revel.imp and cutter-leg
 the intended meaning: ‘a scooter and a cripple with a wooden leg’

Polish morphological compounds of the endocentric type (i.e. determinative compounds) similarly tend to resist coordination. This is shown in (29-30) for *pracodawca* ‘employer’ and *krwiodawca* ‘blood donor’, or *baletmistrz* ‘ballet master’, *kapelmistrz* ‘band master’ and *zegarmistrz* ‘watch-maker’.

- (29) a. prac-o-dawca
 work-Int giver
 ‘employer’
 b. krwi-o-dawca
 blood-Int-giver
 ‘a blood donor’
 c. ?*praco- i krwio-dawcy
 work and blood giver.pl
 the intended meaning ‘employers and blood donors’
- (30) a. balet-mistrz
 ballet-master
 ‘a ballet master’
 b. kapel-mistrz
 band-master
 ‘a bandmaster’
 c. zegar-mistrz
 watch master
 ‘a watch-maker’
 d. ?*balet- lub kapel-mistrz
 ballet or band master
 the intended reading ‘a balletmaster or a bandmaster’

- e. *zegar- lub balet-mistrz
 watch or ballet master
 the intended reading ‘a watchmaker or a balletmaster’

The infelicity of (29c) and (30d-e) is reminiscent of the observations concerning coordination of modifiers in English compounds formulated by Bauer (1998). He regards coordination of compounds to be more likely when the semantic relationship between coordinated elements is parallel in both conjuncts, hence *wind-* and *water-mill* is more acceptable than *?wind- and flour mills*. While the coordinated structure in (30d) is far from perfect, I find it slightly more acceptable than the one in (30d), where the semantic relatedness between the two stems is different in each compound (cf. *zegarmistrz* ‘B produces A’ and *baletmistrz* ‘B leads A’).⁵⁸

The semantic parallelism may be the factor explaining why morphological compounds with the first element being a numeral expression are fairly easy to coordinate:

- (31) a. pierwsz-o- albo drug-o-klas-ist-a
 first-Int or second-Int-form-suff-nom.sg
 ‘the first or second form pupil’
 b. pięci-o albo sześci-o-bok
 five-Intor six-Int-side
 ‘pentagon or hexagon’
 c. pół- lub ćwierć-nut-a
 half or quarter-note-nom.sg
 ‘half or quarter note (in music)’

Rather than deciding on the syntactic status of the polymorphemic units in (31) (and postulating the head ellipsis in the first conjunct), one can treat them as compounds proper with their modifying constituents being coordinated.

⁵⁸ The coordination of the modifier constituents of the compounds *chórmistrz* ‘choir master’ and *kapelmistrz* ‘band master’ would be even more acceptable.

Coordination of non-head constituents is frequently visible in the case of Polish compound adjectives, such as those in (32):

- (32) a. kolor jaskraw-o- albo ciemn-o- zielony
 colour bright-Int or dark-Int green
 ‘bright green or dark green (colour)’
- b. architektura wczesn-o- lub późn-o- gotycka
 architecture early-Int or late-Int Gothic.adj
 ‘early or late-Gothic architecture’
- c. pożyczka dług-o- lub krótk-o-terminowa
 loan long-Int or short-Int-term.adj
 ‘a long-term or short-term loan’

Occasionally one can even coordinate non-head elements of affixal formations,⁵⁹ as in (33).

- (33) a. przed- i po-wyborczy
 pre- and post electoral
 ‘preceding or following the election(s)’
- b. za- i roz- pakować
 za.pref and roz.pref pack.inf
 ‘to pack and unpack’
- c. USŁUGI TRANSPORTOWE ZA I ROZŁADUNEK
 services transport.adj za.pref and roz.pref loading.nom
 SAMOCHODÓW
 car.gen.pl
 ‘transport services: car loading and unloading’

⁵⁹ When discussing such coordination in English, i.e. post- and pre-war, Di Sciullo and Williams (1987) suggest recognizing *pre-* and *post-* both as prefixes and as independent words (as noted in Sadler and Arnold 1994).

The possibility of coordinating affixal derivatives in English is noted by Plag (2003: 84), who mentions such combinations as *de- and recolonization* or *over- and underdetermination*. He observes that gapping in coordinate structures is possible when the affix does not form one prosodic word together with the base. This constraint is satisfied in the case of compound coordination in English, where compound constituents are expected to be independent prosodic words (see Nespor and Vogel 1986), e.g. *computer and cooking courses*. Prosodic weight seems to be relevant to the felicity of gapping in coordinate structures in Polish, yet this issue calls for more detailed analysis (outside the scope of this paper)⁶⁰.

5.2 Coordination of head constituents

Willim (2001) observes that while the coordination of non-head constituents of (morphological) compounds is attested cross-linguistically⁶¹, coordination of heads is expected to occur only in syntactic constructions. Willim (2001: 84) provides the examples in (34a) and (34c)⁶² below and argues that they indicate the phrasal status of N+A and N+N combinations in question, which behave differently in this respect from compounds proper (in 34b):

- (34) a. powieści i filmy historyczne
 novel.pl and film.pl historical
 ‘historical films and novels’ (her ex. 25a)

⁶⁰ See Rubach and Booij (1985) for a thorough analysis of the prosodic structure and the stress pattern of compounds in Polish.

⁶¹ She mentions modifier coordination in syntactic compounds in Spanish, as discussed by Bosque and Picallo (1996: 364). Moreover, coordination of modifiers is attested in the case of English compounds, e.g. *silver and gold rings* (as discussed by Bauer 1998).

⁶² The example in (34c) is slightly ambiguous, since it can be treated as showing two noun phrases in apposition (i.e. *koledzy i koleżanki* in apposition with *malarze*) rather than the coordination of two compounds or compound-like expressions. The putative compounds *kolega-malarz* ‘a friend and a painter’ or *koleżanka malarz* ‘a female friend and a (female) painter’ do not seem to be established as appositional compounds, in contrast to the compound *kobieta-pilot* ‘a woman pilot’.

- b. motorower i (*moto)szybowiec
 motor-bicycle and (motor)-glider (her ex. 13)
 unacceptable in the reading ‘a motorbicycle and a motor-glider’
- c. koledzy i koleżanki malarze
 friend.pl. masc and female.friend.pl painter.pl
 ‘male and female painters’ (her ex. 25b)

Examples of coordination of multiword expressions whose first constituent is *kobieta* ‘woman’ or *mężczyzna* ‘man’ are given in (35).

- (35) a. kobiety i mężczyźni kierowcy
 woman.pl and man.pl driver.pl
 ‘female or male drivers’
- b. kobieta lub mężczyzna pilot
 woman.sg or man.sg pilot.sg
 ‘a female or a male pilot’

A question could be asked whether the examples in (35) illustrate coordination of heads or modifiers. Usually the right-hand constituents are heads in Polish determinative compounds and the left constituents are modifiers, e.g. *gwiazd-o-zbiór* (lit. star-Int-collection) ‘constellation’.

The Polish compounds or compound-like expressions in (35) correspond to English appositional compounds which, as is suggested by Bauer (1983: 31) and Szymanek (1989: 51), can be treated as containing two semantic heads (since the whole appositional compound is a hyponym of both of its constituents).

With reference to Polish appositional compounds in (35), while both constituents are equally important semantically, the left-hand constituent is the dominant one syntactically, as it determines the inflectional class of the resulting multiword lexeme. This is pointed out by Willim (2001), and is further illustrated below. Since the appositional compounds in (36) are reversible, it is clearly visible that

the possessives as well as the qualifying adjectives agree in gender with the left-hand constituent.

- | | | | | | | |
|------|----|---|---------|--------------|--|-----------|
| (36) | a. | mój | | kolejny szef | | kobieta |
| | | my.m | next.m | boss.(m) | | woman.(f) |
| | | 'my next female boss, i.e. my next boss who is a woman' | | | | |
| | b. | moja | kolejna | kobieta | | szef |
| | | my.f | next.f | woman.(f) | | boss.(m) |
| | c. | najlepsza | | kobieta | | pilot |
| | | best.f | | woman.(f) | | pilot.(m) |
| | | 'the best female pilot' | | | | |
| | d. | najlepszy | | pilot | | kobieta |
| | | best.m | | pilot.(m) | | woman.(f) |

Coordination of syntactic heads seems to be felicitous for multiword strings in (37) which can be treated as copulative compounds. The left-hand constituent is the syntactic head of the phrasal lexemes in (37a), as is indicated in (37b), where the adjective *kolejny* 'next' agrees in gender with *wywiad* 'interview'.⁶³

- | | | | | | |
|------|----|---|-----|---------------|-----------|
| (37) | a. | powieści- | i | wywiady- | rzeki |
| | | novel.pl | and | interview.pl | river.pl |
| | | '(saga) novels and extended interviews' | | | |
| | b. | kolejnywywiad- | | rzeka | |
| | | next.m | | interview.(m) | river.(f) |
| | | 'the next extended interview' | | | |

⁶³ Such multiword units are similar to English copulative (dvandva) compounds such as *bomber-fighter*, which contain no semantic head according to Szymanek (1989: 51) and Bauer (1983: 31). However, Plag (2003: 146) as well as Scalise and Fábregas (2010) regard such compounds as *fighter-bomber* or *poet-translator* as having two semantic heads (similarly to other appositional copulative/coordinate compounds).

- c. samolot albo helikopter widmo
 plane or helicopter ghost
 ‘a (ghost) plane or a ghost helicopter’
- d. poeci i dramatopisarze tłumacze
 poet.pl and playwright.pl translator.pl
 ‘poets- and playwrights-translators’

Interestingly, coordination of heads of compounds (sharing a common modifier) is acceptable to some degree in Polish compounds proper⁶⁴ (containing two stems joined with an interfix) if they are semantically regular (as are the compound nouns and compound adjectives in 38). However, the resulting structures can be ambiguous, as in (38c), where the string *styl wczesno-gotycki albo romański* (lit. style early-Gothic or Romanesque) could either mean ‘early-Gothic or early-Romanesque style’ or ‘Romanesque or early Gothic style’. The coordinated structure *jaskrawo-żółty lub zielony* (lit. bright yellow or green) in (38b) is potentially ambiguous between the reading ‘bright-yellow and bright-green’ and ‘green and bright yellow’, yet the first interpretation (with coordination of compound heads) is more likely, as is indicated by the beginning of the sentence in (38b), where vibrant colours are mentioned. It seems that coordination of heads in compounds is infrequent partly for pragmatic reasons (i.e. due to ambiguity avoidance).

- (38) a. ?pierwsz-o- klas-iśc-i lub -klas-ist-k-i
 first-Int form-suf-nom.pl or form-suf-fem-nom.pl
 ‘boys and girls who are first form pupils’
- b. Ania lubi neonowe kolory, takie jak
 Ann likes neon.adj colours such as
 jaskraw-o-żółty lub zielony
 bright-Int-yellow or green
 ‘Ann likes neon colours, such as bright-yellow or (bright-)green.’

⁶⁴ A better (and more frequent) alternative to (38a) is one where the modifier is overt in both compounds, i.e. *pierwszoklasiści lub pierwszoklasistki* ‘boys and girls who are first form pupils’. This may be due also to the fact that neither *-klasista* ‘grader.m’ nor *-klasistka* ‘grader.f’ occur as free forms.

- c. styl wczesn-o-gotycki albo romański
 style early-Int-Gothic or Romanesque
 an early Gothic or (early-)Romanesque style'

Thus, the application of the coordination diagnostic does not distinguish neatly between lexical objects (such as morphological compounds) and syntactic objects (i.e. phrases).⁶⁵

6 Conclusion

Polish N+A as well as N+N combinations discussed in this paper are likely to be classified as syntactic objects when orthographic and inflectional criteria are applied. They also exhibit some syntactic mobility and ability to be interrupted by parenthetical expressions. However, the semantic criterion points to the need to treat N+A and N+N constructs as lexical objects. Some of those combinations are non-compositional or partly compositional, e.g. *boża krówka* (lit. God.adj cow.dim) 'a ladybird' and *kobieta-guma* (lit. woman-rubber) 'a female contortionist'. Even those N+N and N+A combinations which are fairly compositional function as naming units (denoting types of entities), hence they can be recognized as phrasal lexemes.

The application of the coordination test brings variable results for N+N and N+A compounds and compound-like expressions in Polish. Coordination of modifier constituents is possible in Polish N+A or N+N phrasal lexemes, though it is constrained by the Principle of Ontological Coherence (postulated on the basis of English data by Olsen 2004). It is also sensitive to the type of the relationship between the head and the modifier noun (as is observed by Bauer 1998 in the case of English N+N compounds), or between the head and the noun which is the base of the relational adjective. Coordination of heads is possible for N+A constructs. Although it is attested for some

⁶⁵ This conclusion formulated on the basis of the Polish data is similar to the observation made by Giegerich (2005: 588) and Bell (2011: 157-158) about the unreliability of coordination as a diagnostic of the phrasal status of multiword strings in English. Bell (2011: 158) suggests that „coordination can apply to both phrasal and morphological constituents provided that they have sufficient prosodic weight.“

N+N combinations, such as *kobieta-pilot* ‘a woman pilot’, head coordination is avoided, since it leads to the ambiguity of the resulting structure. It appears to be more felicitous for N+N constructs which are reversible and which can be written as two orthographic words. However, cases of head coordination or modifier coordination can be found also for compounds proper (which consist of two stems linked with a vocalic interfix), especially when the context makes the coordinated reading more likely (as in 38b). Consequently, the coordination test is not a fully reliable diagnostic of the syntactic nature of the multiword units in Polish.

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