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Workshop 8, Uninflectedness

Uninflectedness of modifiers in composite noun-noun units in Polish

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Outline:

- basic information about two main types of composite units in Polish: compounds proper vs. juxtapositions (phrasal nouns);
- inflectional properties of Polish compounds proper and juxtapositions;
- uninflectable nouns in Polish composite units: lexical uninflectability vs. constructional uninflectability;
- variation in the inflectional properties of the modifier *widmo* ‘ghost’;
- similarity to data concerning compounds in Romance languages;
- a tentative attempt at formulating constructional schemas for Polish ATAP juxtapositions with uninflected modifiers.

Basic properties of compounds proper in Polish:
(cf. Kurzowa 1976, Szymanek 2010, Nagórko 2016)

Polish compounds proper (Pol. *złożenia właściwe*) meet the criteria of morphological compounds (as discussed cross-linguistically by, among others, Lieber and Štekauer 2009, Ralli 2013 etc.)

(1) *marszobieg* /mar'ʃɔbjɛk/ 'endurance march'

morphological structure: *marsz-o-bieg* (march-LV-run)

- a single orthographic word;
- the main lexical stress falls on the penultimate syllable;
- there is an interfix (a linking vowel), usually /ɔ/, between the two compound constituents

Inflectional properties of Polish compounds proper

- most of them are right-headed,
- the left-hand constituent appears as a stem, the inflectional ending (if overt, as in 2) attaches to the right-hand constituent

(2) *marszobiegów* / ,marʃɔ'bjɛguf/ 'of endurance marches'

morphological structure: *marsz-o-bieg-ów* (march-LV-run-GEN.PL)

NB: in (1) the inflectional ending attached to the right-hand constituent of *marszobieg* 'endurance march' is covert (possibly a morphological zero): as a marker of NOM.SG in masculine gender nouns

marsz-o-bieg-∅ (march-LV-run-NOM.SG)

Inflectional properties of Polish compounds proper

- the right-hand head constituent (in endocentric compounds proper) determines the grammatical gender and inflectional class of the whole compound:

(3) *ten marszobieg* ‘this endurance march’ /'tɛn mar'ʃɔbjɛk/

cf. *marsz* ‘march’ (M) , *bieg* ‘run’ (M)

(4) *ten krwiobieg* ‘this blood circulation system’ (M) /'tɛn 'krfjɔbjɛk/

krwi-o-bieg (blood-LV-run)

cf. *ta krew* ‘this blood’ (F); *ten bieg* ‘this run’ (M)

Basic properties of juxtapositions in Polish: (cf. Kurzowa 1976, Szymanek 2010, Nagórko 2016)

- Juxtapositions (Pol. *zestawienia*) fail to meet most of the criteria for morphological compounds:

(5) *fotele pufy* /fɔ'tɛlɛ 'pufɨ/ 'beanbag chairs'

fotel-e puf-y (armchair-NOM.PL pouffe-NOM.PL)

- each of their constituents has its own lexical stress;
- each is a separate orthographic word, although they may be linked with a hyphen, e.g. *fotel-tóżko* /'fɔtɛl 'wɔʃkɔ/ (armchair bed) 'foldable chair-bed';
- there is no interfix (no linking vowel) connecting the constituents;
- both constituents are inflected.

Some Polish linguists (e.g. Kallas 1980) regard juxtapositions such as those in (5) as syntactic expressions, i.e. noun phrases in apposition.

Why should juxtapositions be treated as lexical items (i.e. as a type of composite units)?

Nagórko (2016):

- Typically constituents of juxtapositions cannot be replaced by synonyms;
- their word order is generally fixed (NB: not in the case of coordinate composite units, cf. *łóżko-fotel* (bed armchair) and *fotel-łóżko* (armchair bed)).

Cetnarowska (2019):

- Noun+noun juxtapositions have a naming function;
- they can motivate semantically suffixal derivatives;
- they can change into morphological compounds (over time).
- they can be treated as phrasal nouns (cf. Booij 2010).

Inflectional properties of Polish juxtapositions

- Juxtapositions are typically left-headed in Polish.
- For some types of noun-noun juxtapositions (e.g. coordinate ones in 5) their constituents agree in case and number, though they don't need to agree in grammatical gender.
- The grammatical gender and inflectional class of the whole juxtaposition is determined by the (morphological) head:

(6) *ten fotel pufa* / 'tɛn 'fɔtɛl 'pufa/ 'this beanbag chair' (M)
ten fotel 'this armchair' (M); *ta pufa* 'this pouffe' (F)

NB: both constituents in (6) coordinate juxtapositions function as semantic co-heads.

Inflectional properties of Polish juxtapositions

- For some other types of juxtapositions in Polish there is a head-complement relation between their constituents. The head governs the case of the complement (e.g. in N-N.GEN combinations):

(7) a. *dawc-a szpik-u* (giver-NOM.SG marrow-GEN.SG) / 'daftsa 'ʃpiku/
'bone marrow donor'

b. *dawc-om szpik-u* (giver-DAT.PL marrow-GEN.SG) 'to bone marrow donors'

Constituents which are not inflected in Polish noun-noun juxtapositions: lexical uninflectability

(8) a. *rzecz tabu* (thing.NOM.SG taboo) /'ʒɛʦ̥ 'tabu/ 'a taboo object'

b. *rzecz-y tabu* (thing-GEN.SG taboo) /'ʒɛʦ̥ɨ 'tabu/ 'of a taboo object'

(9) a. *pożar zombie* (fire.NOM.SG zombie) /'pɔʒar 'zɔmbi/ 'a holdover fire'

b. *pożar-ach zombie* (fire-LOC.PL zombie) /pɔ'ʒarax 'zɔmbi/ '(about) holdover fires'

c. *pies dingo* (dog.NOM.SG dingo) /'pjɛs 'dɪŋgɔ/ 'a dingo'

d. *ps-a dingo* (dog-GEN.SG dingo) /'psa 'dɪŋgɔ/ 'of a dingo'

Zombie 'zombie', *dingo* 'dingo' and *tabu* 'taboo' are borrowed lexemes which are not inflected in Polish (see Krzyżanowski 2013).

It's a case of **lexical uninflectability** (see Spencer 2020).

Constituents which are not inflected in Polish noun-noun juxtapositions: constructional uninflectability

(10) a. *odżywk-a cud* (conditioner-NOM.SG miracle.NOM.SG) /ɔdʒ'zɨfka 'tʂut/
'a miracle (hair) conditioner'

b. *odżywk-i cud* (conditioner-NOM.PL miracle.NOM.SG) /ɔdʒ'zɨfci 'tʂut/
'miracle (hair) conditioners'

(11) a. *autor widm-o* (author.NOM.SG ghost-NOM.SG) /'awtɔr 'vidmɔ/
'a ghost writer'

b. *autor-em widm-o* (author-INS.SG ghost-NOM.SG) /aw'tɔrɛm 'vidmɔ/
'(with a) ghost writer'

We see examples of **constructional uninflectability** (Spencer 2020) in (10-11) above.

Why constructional uninflectability?

The lexemes *cud* /tʂut/ ‘miracle’ and *widmo* /'vidmɔ/ ‘ghost, phantom’ are inflected for case and number when they occur as independent words in syntactic phrases in (12-13). Their inflectional paradigms are not defective.

- (12) a. *niezwykt-e cud-a* (extraordinary-NOM.PL miracle-NOM.PL)
‘extraordinary miracles’
b. *niezwykt-y mi cud-ami* (extraordinary-INS.PL miracle-INS.PL) ‘(with)
extraordinary miracles’
- (13) a. *przerazajqc-ym widm-em* (frightening-INS.SG ghost-INS.SG) ‘(with) a
frightening ghost’
b. *przerazajqc-e widm-o* (frightening-NOM.SG ghost-NOM.SG)
‘a frightening ghost’

Constructional uninflectability and the modifier position

Apart from *widmo* /'vidmɔ/ 'ghost, phantom' and *cud* /ʦut/ 'miracle' in (10-11), also *cudo* /'ʦudɔ/ 'marvel', *piernik* /'pjɛɾɲik/ 'gingerbread; fogey', and *herod* /'hɛɾɔt/ 'a strong and threatening person', do not agree in case and number with their heads when occurring in the composite units in (14).

- (14) a. *bramk-i cud-o* (goal-NOM.PL marvel-NOM.SG) /'bramci 'ʦudɔ/
'marvelous goals' (Monco PL)
- b. *bab-ę herod* (hag-ACC.SG herod-NOM.SG) /'babe 'hɛɾɔt/ 'a strong
and domineering woman' (NKJP)
- c. *dzidzi-e piernik* (babe-NOM.PL fogey-NOM.SG) /'dʒidʒɛ 'pjɛɾɲik/
'elderly women who dress and behave like young women' (NKJP)

ATAP composite units and uninflectable modifiers

- The composite units discussed above, such as *autor widmo* (author ghost) ‘ghost writer’ and *bramka cudo* (goal marvel) ‘marvelous goals’, belong to attributive-appositive (ATAP) multiword units (Scalise and Bisetto 2009).
- In ATAP composite units the non-head expresses some property attributed to the head (often in a metaphorical way).
- A hypothesis which seems plausible at first sight: elements of N-N coordinate juxtapositions in Polish show case & number agreement (as in 15a), while in ATAP juxtapositions (15b) the modifier remains uninflected.

(15) a. *aktor-ami reżyser-ami* (actor-INS.PL director-INS.PL)

/,akto'rami ,rɛʒisɛ'rami/ ‘(with) actor-directors’

b. *dziewczyn-ami cud* (girl-INS.PL miracle-NOM.SG)

/,dʑɛftʃi'nami 'tʂut/ ‘(with) miraculous girls’

ATAP composite units and uninflectable modifiers

But: the majority of left-headed ATAP juxtapositions require their modifiers to show case/number agreement with the heads:

(16) a. *biur-a koszmar-y* (office-NOM.PL nightmare-NOM.PL)

/'bjura kɔʃ'mari/ 'horrible offices'

b. *kac-em-potwor-em* (hangover-INS.SG monster-INS.SG)

/'katsɛm pɔ'tfɔrɛm/ '(with a) monstrous hangover'

c. *kobiet-y demon-y* (woman-NOM.PL demon-NOM.PL)

/kɔ'bjɛti dɛ'mɔni/ 'demonic women'

d. *trener-em legend-a* (coach-INS.SG legend-INS.SG) /trɛ'nɛrɛm lɛ'gɛndɔw/
'a legendary coach'

e. *książk-i skandal-e* (book-NOM.PL scandal-NOM.PL) /'kɛɔ̃ʃci skan'dalɛ/
'scandalous books'

Optional agreement in N+*widmo* juxtapositions

The modifier *widmo* ‘ghost, phantom’ in left-headed N+N juxtapositions can exhibit either agreement or non-agreement with the head, as shown in (17a-d) (see also Cetnarowska 2021)

(17) a. *w pensjonac-ie widm-ie* (in guesthouse-LOC.SG ghost-LOC.SG)

/f₁ pensjɔˈnatɕɛ ˈvidmjɛ/ ‘in a ghost guesthouse’

b. *w pensjonac-ie widm-o* (in guesthouse-LOC.SG ghost-NOM.SG)

/f₁ pensjɔˈnatɕɛ ˈvidmɔ/ ‘in a ghost guesthouse’

This can be treated as **optional agreement**, which is a type of non-canonical agreement (Corbett 2006, Fedden 2019).

Optional agreement in N+*widmo* juxtapositions

The examples in (17) come from written sources and do not differ in their level of formality. Native speakers tend to accept both forms, though prescriptive sources recommend that constituents of such juxtapositions should show agreement.

(<https://sjp.pwn.pl/poradnia/haslo/statek-widmo;1828.html>)

(17) c. *o statk-ach widm-ach* (about ship-LOC.PL ghost-LOC.PL)

/ɔ 'statkax 'vidmax/ 'about ghost ships'

d. *o statk-ach widm-o* (about ship-LOC.PL ghost-NOM.SG)

/ɔ 'statkax 'vidmɔ/ 'about ghost ships'

Interim summary

- Juxtapositions generally require both of their constituents to be inflected.
- There are two types of situations in which one of the constituents of attributive-appositive juxtapositions is uninflected:
 - a/ such a constituent is never inflected and is a borrowed lexeme, e.g. *tabu* 'taboo'.
 - b/a given lexeme shows a full inflectional paradigm but it remains uninflected when occurring in the non-head position, as in *odzywki cud* (conditioner-NOM.PL miracle.NOM.SG) 'miracle (hair) conditioners'.
- The noun *widmo* 'ghost, phantom' shows a variable behaviour (optional agreement) as a non-head in ATAP composite units: it can either agree in case and number with the head, or it can remain uninflected.

Analogy to some data from Romance languages

- In Spanish both constituents of coordinate compounds are pluralized. In other types of compounds, including ATAP Spanish compounds in (18b), plural marker may be shown only on the head (Rainer 1993).

- (18) a. *poetas pintores* (poet.PL painter.PL) ‘poet painters’
b. *años luz* (year.PL light.SG) ‘light years’

- Some ATAP N+N compounds in Spanish show two inflectional patterns: either both of their constituents are marked for plural number (19b) or only the head is pluralized (19c).

- (19) a. *hombre rana* (man.SG frog.SG) ‘diver’
b. *hombres ranas* (man.PL frog.PL) ‘divers’
c. *hombres rana* (man.PL frog.SG) ‘divers’

Analogy to some data from Romance languages

- In Italian – reversible compounds require both their constituents to be pluralized (20a) while in the case of irreversible compounds (in 20b) the expected form for the non-head is the singular form (see Gaeta & Ricca 2009; Radimský 2015).

(20) a. *lavoratori studenti* (worker.PL student.PL) ‘student workers’

b. *presidenti fantoccio* (president.PL puppet.SG) ‘puppet presidents’

- Some Italian ATAP compounds show variable inflectional behaviour:

(21) a. *pescecane* (fish.SG dog.SG) ‘shark’

b. *pescecani* (fish.SG dog.PL) ‘sharks’

c. *pescicani* (fish.PL dog.PL) ‘sharks’

- Damborský (1966) emphasizes the influence of French compounding patterns on Polish (and Russian).

Constructional schemas for Polish ATAP juxtapositions

A general (high-level) schema for left-headed attributive composite units in Polish – in which heads and modifiers agree in case – might take the following form (see e.g. Masini and Audring 2018)

(22) a. $\langle [[a]_{N\alpha k} [b]_{N\beta i}]_{N\alpha j} \leftrightarrow [SEM_k \text{ with relation } R_{ATT} \text{ to } SEM_i]_j \rangle$

or

(22) b. $\langle [[a]_{N\alpha k} [b]_{N\beta i}]_{N\alpha j} \leftrightarrow [SEM_k \text{ with property } SEM_i]_j \rangle$

where α and β stand for morphosyntactic properties (such as case, number and gender) and those properties are „inherited” by the whole composite unit from its head.

Constructional schemas for ATAP composite units

What is lacking in (22a) or (22b) is the information that the head and non-head in ATAP juxtapositions as *biur-a potwor-y* (office-NOM.PL monster-NOM.PL) ‘monstrous offices’ agree in case and number, though they need not agree in grammatical gender:

biur-a potwor-y (office-NOM.PL monster-NOM.PL)

biuro ‘office’ (N); *potwór* ‘monster’ (M)

Thus, the schema in (22a) or (22b)

(22) b. $\langle [[a]_{N\alpha k} [b]_{N\beta i}]_{N\alpha j} \leftrightarrow [SEM_k \text{ with property } SEM_i]_j \rangle$

would need to be rewritten to refer separately to grammatical gender, case, and number, e.g. tentatively as (22c) below, to show that the head and non-head share the features for case and number (β_{case} , γ_{number}).

Constructional schemas for ATAP composite units

(22) c. $\langle [[a]_{Nk\{\alpha gender, \beta case, \gamma number\}} [b]_{Ni\{\delta gender, \beta case, \gamma number\}}]_{Nj\{\alpha gender, \beta case, \gamma number\}} \rangle$
 \leftrightarrow $\langle [SEM_k \text{ with property } SEM_i]_j \rangle$

Such a fairly abstract constructional schema can undergo lexical specification (see Booij 2010, Masini and Audring 2019, Radimský 2020), as in (23), and be instantiated by ATAP juxtapositions in (24).

(23) $\langle [[a]_{Nk\{\alpha gender, \beta case, \gamma number\}} [anioł]_{Ni\{Mgender, \beta case, \gamma number\}}]_{Nj\{\alpha gender, \beta case, \gamma number\}} \rangle$
 \leftrightarrow $\langle [SEM_k \text{ with property } SEM_i]_j \rangle$

(24) a. *żon-q anioł-em* (wife-INS.SG angel-INS.SG) ‘(with) an angelic wife’

b. *teściow-e anioł-y* (mother_in_law-NOM.PL angel-NOM.PL) ‘angelic mothers-in-law’

Constructional schemas for ATAP composite units

- One could also propose an intermediate-level schema which applies to a subset of juxtapositions and which says that the non-head constituent in left-headed ATAP composite units in Polish is not inflected for case and number. However, such a schema would account for the behaviour of NN composite units with only a handful of modifiers.
- It seems more appropriate to postulate some low-level schemas mentioning specific lexemes as uninflectable modifiers, e.g. *cuda* 'miracle' and *herod* 'a strong and threatening person'.

(25) $\langle [[a]_{N\alpha k} [cuda]_{N\beta i}]_{N\alpha j} \leftrightarrow [SEM_k \text{ with property } SEM_i]_j \rangle$
where N_i is not inflected.

(26) $\langle [[a]_{N\alpha k} [herod]_{N\beta i}]_{N\alpha j} \leftrightarrow [SEM_k \text{ with property } SEM_i]_j \rangle$
where N_i is not inflected.

Modifiers as stems in ATAP composite units?

- In the case of constructional uninflectability of modifiers in English or German compounds (of various types), the non-head constituent can be treated as appearing in its stem form, e.g. *girl scouts*, *table legs*.
- It could be suggested that the same assumption can be made for Polish ATAP composite units, such as *diety cud* (diet-NOM.PL miracle).

(27) $\langle [[a]_{N\alpha k} [cud]_{Ni_Stem}]_{N\alpha j} \leftrightarrow [SEM_k \text{ with property } SEM_i]_j \rangle$

This could work for *cud* ‘miracle’ or *herod* ‘a strong and threatening person’, which are masculine nouns and show no overt inflectional ending in their default form (NOM.SG).

Modifiers in their default form in ATAP phrasal nouns

- But (27) should be rejected because we can see the overt marker of NOM.SG (-o in neuter nouns) present in the non-heads *cudo* ‘marvel’ or *widmo* ‘ghost’ as in (28)

(28) *bramk-ę cud-o* (goal-ACC.SG marvel-NOM.SG) ‘marvelous goal’.

- Instead of N_{stem} or N_{uninfl} we could specify the modifier in (25) and (26) as appearing in its default form. For Polish nouns, it is NOM.SG form.

(29) $\langle [[a]_{N\alpha k} [cud]_{N\beta i}]_{N\alpha j} \leftrightarrow [SEM_k \text{ with property } SEM_i]_j \rangle$

where $[cud]_{N\beta i}$ is NOM.SG

Conclusions

- Although both constituents of Polish N+N juxtapositions are expected to be inflected, we can come across juxtapositions where one constituent remains uninflected.
- It may be a case of **lexical uninflectability**, e.g. when the uninflected element is a borrowing, such as *zombie* ‘zombie’ or *tabu* ‘taboo’.
- Alternatively, it may be a case of **constructional uninflectability**, as in the case of *bramk-i cud-o* (goal-GEN.SG marvel-NOM.SG) ‘of a marvelous goal’. The noun *cudo* ‘marvel’ shows a non-defective inflectional paradigm when it occurs as an independent lexeme (in syntactic phrases). It is uninflectible when functioning as a **modifier** in attributive-appositive N+N juxtapositions.
- The data from Polish bear some similarity to the behaviour of modifiers in ATAP juxtapositions in Romance languages, e.g. in Spanish, in which the modifier is allowed to be in the singular form even when the head is plural.

Conclusions

- The tools of Construction Morphology can be employed to model the inflectional behaviour of constituents of Polish N+N juxtapositions.
- A general (high-level) schema proposed for N+N juxtapositions (e.g. coordinate and attributive-appositive ones) predicts that their constituents agree in case and number.
- Low-level schemas with lexically specified modifiers (such as *cud* ‘miracle’) state a constructional restriction valid for a subset of attributive-appositive juxtapositions in which modifiers are not inflected. I assume that such modifiers appear in their default NOM.SG form.
- Perhaps we should talk of **constructional+lexical** uninflectability of non-heads in Polish (rather than of constructional uninflectability proper), because this happens only in the case of selected modifying nouns.

Online sources:

- Monco PL Wyszukiwarka korpusowa Monco - Frazeo.pl
<http://monco.frazeo.pl>
- NFJP Narodowy Fotokorpus Języka Polskiego <https://www.nfjp.pl/>
- NKJP Narodowy Korpus Języka Polskiego <http://nkjp.pl>
- SJP PWN Słownik języka polskiego PWN <https://sjp.pwn.pl/>
- WSJP PAN Wielki słownik języka polskiego PAN <https://wsjp.pl/>

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