

Structure constraints in Polish and English adjectival synthetic compounds*

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Abstract

The subject matter of this paper is the external syntax of adjectival synthetic compounds in Polish (e.g. *czasochłonny*, *ciepłolubny*, *opiniotwórczy*, etc.) and English (*life-giving*, *sleep-inducing*, *far-reaching*, etc.). The primary objective of the study is to determine whether *-ny/-czy/-ły* compounds in Polish and adjectival *-ing* compounds in English, whose heads appear to be derived from verbs, are deverbal in the sense of Distributed Morphology; that is, whether their external syntax points to the presence of complex verbal structure in their syntactic representation. It is shown that adjectival synthetic compounds in Polish and English behave in a way typical of underived adjectives, being unrestricted in the predicative position and allowing degree modification with *very*; as such they are not deverbal in the morphosyntactic sense with their syntactic representation lacking the functional heads vP and VoiceP found in deverbal structures. The limited productivity of adjectival synthetic compounds further contributes to their non-eventive status.

Keywords: adjective, synthetic compound, verbal structure, Distributed Morphology

1. Introduction

The licensing of argument structure by deverbal adjectives has been a widely studied topic by language researchers. In particular, the implicit presence of the external argument in adjectival participles (Kratzer 2000; Embick 2003, 2004; Gehrke 2011; McIntyre 2013; Alexiadou *et al.* 2014, Bruening 2014) has generated a great deal of discussion. This paper will be centred on the question of argument structure in adjectival synthetic in Polish (e.g. *czasochłonny* ‘time-consuming’, *życiodajny* ‘life-giving’, *opiniotwórczy* lit. ‘opinion-forming, influential’, etc.) and their English counterparts (e.g. *time-consuming*, *life-giving*, *sleep-inducing*, etc.). Specifically, the objective of the study is to determine whether the morphosyntactic properties of Polish and English adjectival synthetic compounds point to the presence of argument structure, specifically the external argument, and how their morphosyntactic characteristics are manifested in their internal structure.

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The present study is couched within the Distributed Morphology approach, which posits that syntax is a single generative component responsible for the formation of both sentences and words. Furthermore, according to DM, all words are decomposed into roots.

The paper is structured as follows: Section 2 will be devoted to the discussion of what is required of a construction to label it deverbal. In Section 3 we will investigate the external syntax of adjectival synthetic compounds in Polish and English paying special attention to whether their syntactic behaviour points to their adjectival or verbal nature. In this section we will also look into the question of whether adjectival synthetic compounds have the capacity to license the external argument. The syntactic analysis of adjectival synthetic compounds will allow us to propose their internal structure. Our findings will be summarised in Section 4.

2. Deverbal vs. non-deverbal constructions in Distributed Morphology

In the lexicalist tradition, the labels ‘deverbal adjective’ and ‘deverbal noun’ have been applied to every adjective and noun derived from a lexical verb by an affix. Consider *scratcher* understood as a lottery ticket which is scratched. At a first glance, *scratcher* appears to be derived from the verb *scratch* by attaching the suffix *-er* to the verbal base.

The DM approach looks at the issue of what is and what is not deverbal differently. For a distributed morphologist, it is not sufficient to claim that an adjective (or a noun) being based on what appears to be a verbal root is deverbal as DM takes also into account the internal semantics of words. What this means in practice is that deverbal formations are those whose meanings are fully transparent: this is not the case with, for example, *scratcher* where the suffix *-er* is not employed to form an agentive nominal, which is the most common function of the suffix. Thus, the DM approach does not consider nominals of the *scratcher* type¹ to be deverbal – they are not productive and, consequently, convey idiosyncratic meaning (Alexiadou and Schäfer 2010).

DM also attaches crucial importance to the external syntax of complex words. One of the features of productive, semantically predictable *-er* nominals is that they can be preceded by adjectives modifying the events denoted by verbs on which they are based. Such modification is hardly possible with unproductive, idiosyncratic *-er* nominals.²

- (1) a. *a skilful worker* (= someone who works skilfully)
 b. *an ardent admirer of Picasso* (= someone who admires Picasso ardently)
 c. ??*an easy scratcher* (= a lottery ticket that scratches easily)

Consider also, for example, participles in Greek which come in two variants: one based on the suffix *-menos* and the other incorporating the suffix *-tos*. One of the main differences between the two is that negating prefixes can attach only *-tos* participles (Anagnostopoulou 2003: 10):

¹ Other non-deverbal *-er* nominals include *baker*, *broiler* or *diner* (Alexiadou and Schäfer 2010).

² As noted by Alexiadou and Schäfer (2010), event adjectives can also be licensed by non-deverbal nominals which are associated with certain actions, as in *a fast horse*.

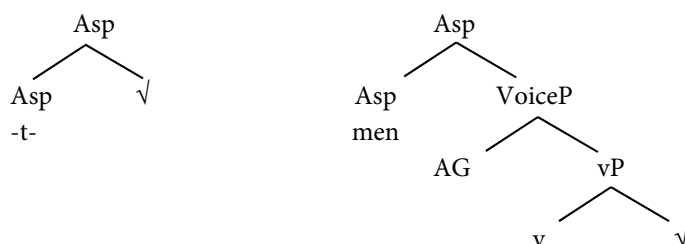
- (2) a. *gra-menos* 'written'
 b. *a-graf-tos* 'unwritten'
- (3) a. *pli-menos* 'washed'
 b. *a-pli-tos* 'unwashed'
- (4) a. *diavas-menos* 'read'
 b. *a-diavas-tos* 'unread'
- (5) a. *fago-menos* 'eaten'
 b. *a-fago-tos* 'uneaten'
- (6) Alexiadou and Anagnostopoulou (2008: 33)
 a. **adiavasmenos* 'unread'
 b. **aplimentos* 'unwashed'

The *-menos* and *-tos* participles also differ in that the former, unlike the latter, has the ability to license *by*-phrases (Anagnostopoulou 2003: 11):

- (7) a. *To vivlio ine gra-meno apo tin Maria.*
 The book is written by the Mary
 'The book is written by Mary.'
- b. **To vivlio ine a-graf-to apo tin Maria.*
 The book is unwritten by the Mary
 'The book is unwritten by Mary.'

The implication of the data above is that only the *-menos* participle has the structure in which the verbalizing head vP and VoiceP (the head introducing the external argument) are projected: it is thus deverbal. On the other hand, the *-tos* participle is derived directly from the root: its structure does not contain little v or VoiceP (Anagnostopoulou and Samioti 2008: 105):

- (8) a. *-tos* b. *-menos*



The structure of *-tos* participles is then identical to the structure of simple, underived adjectives, such as *empty* or *dry* (see Embick 2003: 152), the only difference being the presence of the adjectivizing suffix in the Greek participles. The non-eventive external syntax of *-tos* participles means that, despite being morphologically complex, they are simple structurally.

3. Adjectival synthetic compounds

3.1. Polish *-ny/-czy/-ły* compounds

In Polish, verbs can be combined with nouns and adverbs to give rise to compound adjectives (Szymanek 2010). Some examples are listed below:

(9)	Noun/Adverb	Verb	Compound
	<i>czas</i> 'time'	<i>chłonać</i> 'absorb'	<i>czasochłonny</i> 'time-consuming'
	<i>mięso</i> 'meat'	<i>żyć</i> 'eat' (obsolete)	<i>mięsożerny</i> 'carnivorous'
	<i>ropa</i> 'oil'	<i>nosić</i> 'bear'	<i>roponośny</i> 'oil-bearing'
	<i>kwas</i> 'acid'	<i>odpierać</i> 'resist'	<i>kwasoodporny</i> 'acid-resistant'
	<i>lekko</i> 'lightly'	<i>strawić</i> 'digest'	<i>lekkostrawny</i> 'light, easily digestible'
	<i>ciepło</i> 'warmth'	<i>lubić</i> 'like'	<i>ciepłolubny</i> 'stenothermic'
	<i>dźwięk</i> 'sound'	<i>naśladować</i> 'imitate'	<i>dźwiękonaśladowczy</i> 'onomatopoeic'
	<i>rak</i> 'cancer'	<i>tworzyć</i> 'form'	<i>rakotwórczy</i> 'carcinogenic'
	<i>opinia</i> 'opinion'	<i>tworzyć</i> 'form'	<i>opiniotwórczy</i> 'lit.opinion-forming, influential'
	<i>długo</i> 'long'	<i>trwać</i> 'last'	<i>długotrwały</i> 'long, long-lasting'

The external syntax of *-ny/-czy/ły* compounds in Polish is stative as they exhibit a range of features typical of adjectives. For example, they can appear in the predicative position after a copular verb and be coordinated with other adjectives and adjectival compounds³ (all examples have been extracted from the National Corpus of Polish, except where noted otherwise):

- (10) a. Zabezpieczenie hipoteczne wymaga bowiem założenia dla nieruchomości księgi wieczystej, co jest **czasochłonne i kosztowne**.
'Securing mortgage requires the establishment of a land and mortgage register, which is **time-consuming and expensive**.'
- b. Jako substancja chemiczna mazut wykazuje właściwości **rakotwórcze i toksyczne**.
'As a chemical substance, mazout has **carcinogenic and toxic** properties.'
- c. Największe zagrożenie dla upraw roślinnych w okresie zimowym mogą stanowić: silne mrozy przy braku lub niedostatecznej grubości pokrywy śnieżnej, **długotrwała i zbyt gruba** pokrywa śnieżna (...).
'The greatest threat to vegetable crops in winter can be: strong frosts in the absence of or insufficient thickness of the snow cover, **long lasting and too heavy** snow cover (...).'
- d. Szparagi są **lekkostrawne i niskokaloryczne**.
'Asparagus is easily digestible and low in calories.'
- e. Jeżeli ma być to organ **opiniotwórczy i doradczy**, to – w moim przekonaniu – wystarczyłoby, aby powoływał go minister do spraw gospodarki.
'If it is to be an **opinion-forming and advisory** body, then – in my opinion – it would suffice for it to be appointed by the minister for economy.'
- f. Gdyby istotnie przodek człowieka był zwierzęciem **mięsożernym i drapieżnym**, to trzeba przyznać, że byłby to absolutny ewenement "dentystyczny".
'If the human ancestor were a **predatory and carnivorous** animal, it must be admitted that it would be an absolute "dental" revelation.'

³ The ability to be coordinated with other adjectives and to appear postnominally has been claimed to be indicative of adjectival nature of participles (Levin and Rappaport 1986; McIntyre 2013).

Polish *-ny/-czy/ły* compounds also accept the modification with adjectival degree modifiers such as *very* (a property often considered to be indicative of the non-verbal nature of a participle, e.g. Kennedy and McNally 1999):

- (11) a. Praca przy stworzeniu pełnej dokumentacji z przykładami jest **bardzo czasochłonna**.
‘Working on creating full documentation with examples is **very time-consuming**.’
- b. Są to osiedla wybudowane w pewnym okresie czasu, kiedy do budowy używano lepków, w składzie których były **bardzo rakotwórcze** węglowodory aromatyczne.
‘These are settlements built during a certain period of time, when glues containing very carcinogenic aromatic hydrocarbons were used for construction.’
- c. Procedura udowodnienia nieprawidłowości jest **bardzo długotrwała**.
‘The procedure of proving irregularities is very long.’
- d. (...) tego właśnie dnia łódzką operę odwiedzi liczna i **bardzo opiniotwórcza** grupa krytyków muzycznych (...).
‘(...) on that day, the Łódz Opera House will be visited by a large and very influential group of music critics (...).’
- e. Ryby są **bardziej lekkostrawne** niż mięso.
‘Fish are more easily digested than meat.’
- f. Nie ma co liczyć na to, że wraz ze wzrostem zamożności staniemy się **bardziej mięsożerni**.
‘There is no reason to hope that as we become richer we will become more carnivorous.’

Finally, Polish *-ny/-czy/ły* compounds accept the prefixation with the negating affix,⁴ which is another feature claimed to be very adjectival (Wasow 1977, Levin and Rappaport 1986, McIntyre 2013):⁵

- (12) a. A przecież dania te ze všech miar zasługują na uwagę. Sporządza się je głównie z naturalnych, łatwo dostępnych składników, a ich wykonanie jest zwykle proste i **nieczasochłonne**.
‘And yet these dishes by all means deserve attention. They are prepared mainly from natural, easily available ingredients, and preparing them is usually simple and **non-time-consuming**.’
- b. Jakiś procent populacji jest **niemięsożerny**, a inny wprost przeciwnie.
Some percentage of the population is **not carnivorous**, while the other is just the opposite.’
- c. Materiały te są poza tym niedrażniące i **nierakotwórcze**.
‘These materials are also non-irritating and **non-carcinogenic**.’
- d. Kiedyś liczył się głos Pauline Kael z „New Yorkera”, ale zrezygnowała ona ze stałej współpracy. Reszta to płatki **nieopiniotwórcze**.
‘Once the voice of Pauline Kael from New Yorker mattered, but she gave up permanent cooperation. The rest are **non-influential** minnows.’
- e. Łączenie ze sobą w ciągu kilku godzin śledzi, mięs, ciast i zdecydowanie **nielekkostrawnych** sałatek daje naszemu układowi pokarmowemu niezłe wyzwanie.⁶
‘Eating herring, meat, cake and **not easily digestible salads** within a few hours is quite a challenge for the digestive system.’

⁴ The negated variants of Polish *-ny/-czy-ły* compounds are rarely employed due to the existence of viable antonyms. For example, *niedługotrwały* ‘non-long-lasting’ is a possible word in Polish but virtually unattested since the majority of speakers show clear preference for *krótkotrwały* ‘short-lasting’.

⁵ As recently argued in the literature (e.g. Bruening 2014), deverbal adjectives equipped with a negating prefix may host complex structure.

⁶ The example (12f) from www.hellozdrowie.pl/blog-swieteczne-zasady-na-mniejsze-zlo/.

In theory, *-ny/-czy/-ły* compounds in Polish are virtually unrestricted in being able to occur in adjectival context, although some *nie-* forms (e.g. *niekwasoodporny* ‘non-acid-resistant’, *nieciepłolubny* ‘non-stenothermic’) are rarely attested due to pragmatic reasons. In addition, the relational *dźwiękonaśladowczy* ‘onomatopoeic’ cannot be modified by *very*, prefixed with *un-* or attested attributively.

3.2. Adjectival *-ing* compounds in English

Adjectival synthetic compounds in English are formed by merging a modifier with the active participle of a verb.⁷ As with Polish, the left-hand side element can be a noun or an adverb:

- (13) a. *time-consuming*
 b. *life-giving*
 c. *sleep-inducing*
 d. *thought-provoking*
 e. *law-abiding*
 f. *life-threatening*
 g. *fast-acting*
 h. *slow-melting*
 i. *far-reaching*
 j. *forward-looking*

In terms of the external syntax, the behaviour of adjectival *-ing* compounds in English is very similar to the behaviour of *-ny/-czy/-ły* compounds in Polish. They are found predicatively and in coordination with ‘pure’ adjectives:

- (14) a. The victim's wound was not believed to **be life-threatening**.
 b. Examining a department or agency, its personnel, and its implementation policies **is time-consuming**.
 c. Reading, reflecting on, and debating the writings of philosophers and educators in the field, especially within the context of a well-taught philosophy of music education course, can **be life-changing**.
 d. Even tree-huggers like to haul boats and trailers from time to time. But the gas required can **be guilt-inducing**.
 e. (...) the consequences of teacher stress are **far-reaching**.
 f. Because the geographic origins of the activities are diverse, the topics covered **are wide-ranging**.
- (15) a. Childhood cancer is a **life-threatening and traumatic** event that affects the patient as well as the entire family.
 b. The researchers streamlined the pre-test process so that traditional genetic counselling, which can be **time-consuming and difficult**, was excluded.
 c. The personal challenges faced by the young black journalist are **thought-provoking and compelling**.
 d. The Irish were not only more **law-abiding and sober** than their English counterparts but also apparently possessed a superior morality as well (...).

⁷ Adjectival compounds in English may be also based on simple adjectives (e.g. *oil-rich*, *lead-free*) and passive participles (e.g. *home-made*, *pencil-drawn*). Compounds of this type lie beyond the scope of this study.

- e. The Senate is poised to begin the most **wide-ranging and ambitious** battle over gun control on Capitol Hill in 20 years (...).
- f. Contrary to some reports, there have not been **far-reaching and significant** changes to voter ID laws in the battleground states since 2008.

Adjectival *-ing* compounds in English can be modified by *very* and prefixed with a negating affix; both of these properties are also exhibited by Polish *-ny/-czy/-ły* compounds. By way of illustration, consider examples in (16) and (17).

(16) **very** time-consuming/thought-provoking/life-threatening/far-reaching

- (17) a. In stressful situations eyewitnesses are likely to become more focused on the stimuli that are stress inducing than on **non-stress-inducing** stimuli (...).
- b. Both people in the car suffered **non-life-threatening** injuries.
- c. It would be quite remarkable to hold that speech by a law-abiding possessor of information can be suppressed in order to deter conduct by a **non-law-abiding** third party.
- d. A powerful body of laboratory-based research has established the effects of fear-arousing appeals versus **non-fear-arousing** appeals.
- e. In addition to being edifying, encouraging, and empowering, our multiple book series are also meant to be **non-time consuming**.
- f. Younger Indian children were equally likely to choose the hard-working and the **non-hard-working** child in response to the question about who would do better with effort and which of the two was smarter.

Adjectival compounds of the *time-consuming* type are contrasted with deverbal compounds which involve event implications, e.g. *decision-making*, *gift-giving* or *award-winning*, which can only function as prenominal modifiers:⁸

- (18) a. a decision-making unit / *This unit is decision-making.
- b. a book-reading family / *This family is book-reading.
- c. a gift-giving person / *This person is gift-giving.
- d. a note-taking student / *This student is note-taking.
- e. degree-seeking people / *These people are not degree-seeking.
- f. an award-winning artist / ?This artist is award-winning.⁹

Another important difference between the compounds in (17) and stative *-ing* compounds is that the latter commonly function as nominals (with the exception of compounds such as *award-winning* which express results of prior events). Conversely, the *time-consuming*-type compounds are impossible as nominals:

- (19) a. rational decision making
- b. recreational book reading

⁸ Eventive *-ing* compounds do exhibit certain adjectival features; for example, they can universally be prefixed with *non-* (*non-tax-paying businesses*, *non-decision-making units*). They are, however, highly restricted with *very* (**very tax-paying/decision-making/note-taking/degree-seeking*).

⁹ While *award-winning* is possible predicatively, it appears to be highly degraded in that position. The COCA corpus returns 8 occurrences of the predicative uses of *award-winning* versus over 4000 prenominal occurrences.

- c. ceremonial gift giving
- d. detailed note-taking
- e. *the life giving (by the river)
- f. *the time-consuming (by the procedure)

Polish does not have nominal-adjectival deverbal compounds. While nominal compounds denoting activities do exist in Polish (e.g. *grzybobranie* 'mushroom picking'), they do not give rise to adjectives (**grzybobiarczy*).¹⁰

3.3. Adjectival synthetic compounds and the external argument.

The presence of the external argument in deverbal constructions is most commonly diagnosed by testing their capacity to license *by*-phrases. This method, however, is hardly applicable to *-ny/-czy/-ły* and *-ing* compounds as they are adjectives based on active participles. Interestingly, English and Polish adjectival synthetic compounds may be preceded with *deliberately/celowo*,¹¹ as shown in the examples below:

- (20) a. The options Niño offers to us are **deliberately thought-provoking** both in the individual content and in their scope as a whole.
- b. The evidence of the New Testament and of early Christian literature shows consistently that the Christians were **deliberately law-abiding** (...).
- c. Without exception, everyone at Saydnaya is subjected to a sustained and **deliberately life-threatening** programme of relentless torture.
- d. This is the first of several articles on the subject to run over the next few months. It is **wide-ranging** in content and emotional reach.
- e. This coalition includes government workers (...) and both wings of the "dependency lobby" (those locked into welfare dependency and those who earn a handsome living managing that **deliberately never-ending** dependency).
- f. On the other hand, Monk's **deliberately awkward-sounding** pianism has never been as popular as his compositions.
- (21) Jak wiemy, osadzenie prawne PKW w polskiej strukturze władzy jest **celowo wieloznaczne** i nie jest oczywiste to, kto sprawuje tam władzę (...).
'As we know, the legal establishment of PKW in the Polish power structure is **deliberately ambiguous** and it is not obvious who exercises the power there (...).'

¹⁰ Polish has a small inventory of compounds ending in *-czy* which have nominal counterparts (e.g. *krwiodawczy* and *krwiodawstwo*). Such compounds are of highly relational nature – they appear only as postnominal modifiers and are not possible predicatively:

- (i) a. *akcja krwiodawcza*
'a blood donation event'
- b. **Ta akcja jest krwiodawcza*
'This event is a blood donation'

¹¹ The licensing of adverbials of the *deliberately* type has been closely linked with the agentive nature of deverbal structures (Embick 2004; Meltzer-Asscher 2011). They are attested, for example, in deverbal nominals in Polish (Cetnarowska 2017: 150):

- (i) *umyślne prezydenckie ulaskawienie gangsterów*
'(the) president's pardoning the gangsters intentionally'

However, the above data hardly point to the agentive nature of *-ing* and *-ny/-czy/-ły* compounds because *deliberately* frequently modifies simple adjectives, as in the COCA examples below:

- (22) a. Some members of the media were engaged in deliberately false reporting.
 b. This deceptively simple and **deliberately vague** assertion masks an array of nuanced historical judgments (...).
 c. (...) government layers charged the appraisals were instead tainted by conflicts of interest and weak or **deliberately inadequate** research.
 d. The metaphor's two words are deliberately simple and emotive, but challenging.
 e. The S.E.C. rules are **deliberately conservative** and intended to prevent companies from overstating their reserves.
 f. They were fake-historical movies, crafted in a **deliberately anachronistic** style to accommodate the stars' gift for eternal-adolescent horseplay.

The Polish equivalent of *deliberately/intentionally* (*celowo*) is also occasionally found with simple adjectives. The examples below have been extracted from the Internet:

- (23) a. **Celowo długie** przerwy pomiędzy aktami skłaniały widzów do rozmowy o ideach spektaklu i przyszłości kraju.
 'Intentionally long breaks between acts encouraged viewers to talk about the ideas of the show and the future of the country.'
 b. Niektóre miejsca mogą być **celowo puste** z powodów „operacyjnych”.
 'Some seats may be **intentionally empty** for “operational” reasons.'
 c. Dla wielu kandydatów jest to trudny do osiągnięcia próg. Jest on **celowo wysoki**, aby zredukować liczbę kandydatów (...).
 'For many candidates, this is a difficult threshold to reach. It is **deliberately high** to reduce the number of candidates (...).'

The apparent ability of Polish *-ny/-czy/-ły* compounds and English adjectival *-ing* compounds to license *deliberately* cannot be taken as indicative of the presence of the external argument in their structure as in the cases where they are preceded with *deliberately*, the agent-oriented modifier is controlled by the copular verb, rather than the compound itself, which is further confirmed by the coordination of *deliberately* with pure adjectives devoid of any verbal element capable of controlling the modifier.

Adjectival synthetic compounds in English and Polish, as shown in the examples below, are also sometimes found to be accompanied by purpose clauses, which is another feature used to diagnose the presence of the external argument (see Sichel 2010; Alexiadou *et al.* 2015).

- (24) a. **These** statements are **thought provoking in order to** make students think deeply about the primary issues in the study of science.
 b. The police should only be required to police a small group who are deviant and the rest of the citizens must be **law-abiding in order to** ensure a safe society.
- (25) Pokarmy powinny być **lekkostrawne po to**, aby organizm nie marnował zbyt wiele energii na trawienie.
 'Foods should be easily digestible so that the body does not waste too much energy on digestion.'

We find the sentences (24a) and (25) identical to sentences with no traces of the external argument, such as *Grass is green to promote photosynthesis* (Williams 1987; Landau 2000) where

the purpose clause is controlled by a non-agent director or, as is the case with (23b), the purpose clause is controlled by the copular verb. Consequently, we believe that compounds in (24) and (25) are agentless adjectives.

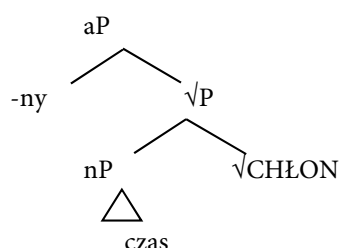
An argument can be made that adjectival compounds project the external argument identical with the described subject; for example, in *thought-provoking book*, the head of the phrase (*book*) can be seen as the initiator of the event of ‘provoking’ as in the active and passive sentences below:¹²

- (26) a. John’s book provoked the/much thought.
b. The/Much thought was provoked by John’s book.

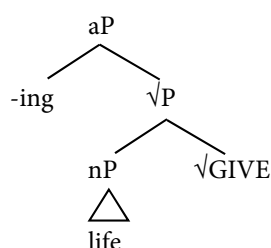
The sentences in (25) are possible only in the presence of the additional focus (**Thought was provoked by John’s book*) and as such events expressed by them do not fully correspond with *-ing* compounds. Also, a number of *-ing* compounds are characterized by some degree of idiosyncrasy (e.g. *life-giving*); such cannot be turned into passive structures (*life-giving water*; **Life is given by water*).

The relevant linguistic data does not allow us to postulate the presence of the external argument in the structure of Polish *-ny/-czy/-ły* compounds and English compounds of the *time-consuming* type. This, coupled with the fact that they exhibit a range of non-verbal properties, leads to the conclusion that the examined adjectival compounds are constructed by attaching the adjectivizing suffix directly to the root via RootP which houses the left-most element, which effectively functions as the argument of the root:

- (27) a. *czasochłonny*



- b. *life-giving*



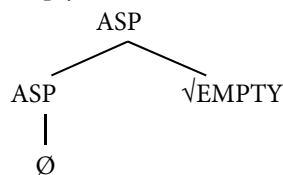
The syntactic stativity of adjectival compounds effectively means that they express properties rather than events. Given the lack of vP, adjectivizing suffixes *-ny/-czy/-ły* and *-ing* function as the spell-out of the active semantics of adjectival compounds.¹³

The proposed internal structural is based on Embick’s (2003) representation of stative participles which in his framework are identical to simple adjectives:

¹² But note that some compounds, especially those incorporating adverbs (e.g. *quick-acting*), can be used as eventive active participles (*Thanks to the quick acting John, the man was rescued from the fire*).

¹³ The *-ny* suffix can also be the carrier of passive semantics as in the case of *lekkostrawny*.

(28) empty (Embick 2003: 148)



The structural simplicity of *-ny/-czy/-ły* compounds in Polish and adjectival *-ing* compounds in English stems also from the fact that they can only be derived from a limited range of roots and thus are not fully productive. Rather, they appear to be analogical formations. For example, the compound *życiodajny* is the only commonly attested compound in Polish containing the element *dajny* and *chłonny* appears frequently only in *czasochłonny* i *pracochłonny*; other compounds based on these heads are less common.¹⁴ The same holds true for adjectival compounds in English: for example, out of 61 compounds based on the participle *threatening* which appear in the COCA, only 5 occur more than 10 times.¹⁵ Likewise, the COCA returns 36 compounds with *provoking* as the head but only *thought-provoking* is widely employed with 1210 occurrences¹⁶ (the only other compound containing the head *provoking* which appears more than 5 times is *anxiety-provoking* with 71 occurrences). The limited productivity of Polish *-ny/-czy/-ły* compounds and English *-ing* compounds is in line with the assumption put forward by Marantz (2001, 2007 and see also Arad 2003, 2005 and Embick 2010), that unproductive complex words are formed by root attachment.

4. Conclusion

In this paper, we have argued that *-ny/-czy/-ły* compounds in Polish, although appearing to be deverbal, are in fact fully adjectival and non-eventive constructions. Their syntactic stativity is manifested by a range of features typical of adjectives such as the ability to occur in the predicative position, possible coordination with other adjectives, the prefixation with a negating affix and adjectival degree modification. Synthetic *-ny/-czy/-ły* and *-ing* compounds have been shown to be non-agentive, despite the existence of contexts where they are accompanied by the

¹⁴ As pointed out by a *LingBaW* reviewer, *dajny* is also found in compounds such as *złotodajny* ‘gold-giving’ or *miarodajny* ‘lit. measure-giving, reliable’; in a similar fashion, *chłonny* functions as right-most constituent in *energochłonny* ‘energy-consuming’, *surowcochłonny* ‘resource-consuming’ or *kosztochłonny* ‘cost-generating’. Such compounds are much less frequent than *życiodajny* or *czasochłonny*, with the exception of *miarodajny*, whose meaning is not-transparent. Consequently, an argument can be made that such compounds are analogical formations (analogy has been understood in contrast to productivity, see e.g. Motsch 1981).

¹⁵ The COCA data are based on the compounds spelled with a hyphen.

¹⁶ Note that some active participles can give rise to both ‘purely’ adjectival and deverbal compounds, with only the latter being productive. The participle *giving* functions as the right-most constituent in numerous *-ing* compounds but only *life-giving*, *health-giving* and *pleasure-giving* are commonly attested adjectival compounds. The great majority of compounds based on *giving* belong to the eventive class, e.g. *gift-giving*, *advice-giving*, *order-giving*, *party-giving*, *direction-giving*, *information-giving*, etc. Eventive *-ing* compounds can also be derived from a much wider range of roots. For example, the root √FORM is not found in vp-less adjectival *-ing* compounds but commonly gives rise to deverbal *-ing* compounds (*smog-forming*, *star-forming*, *bone-forming*, etc.).

adverb deliberately and purpose clauses which in such contexts are not controlled by the compound. Polish *-ny/-czy/-ły* compounds have been shown to correspond to adjectival *-ing* compounds in English such as *life-giving*, *though-provoking* or *time-consuming* whose syntactic features are identical with their Polish counterparts.

The stative external syntax of Polish and English adjectival synthetic compounds, further intensified by their limited productivity, leads to the conclusion that their internal structure lacks the vP and VoiceP projections with the adjectivizing suffix merged directly with the lexical root.

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