

MARIA BLOCH-TROJNAR

THE STRUCTURE OF R-NOMINALS IN *-NIE/-CIE* IN POLISH AND THE FACTORS CONDITIONING THEIR EMERGENCE

1. INTRODUCTION

Verbal nominals (*substantiva verbalia*) in Polish are regularly formed with the suffixes *-nie* and *-cie* (1a–b) and exhibit the distinctive characteristics identified for Argument Supporting/Argument Structure nominals (AS-nominals) (Alexiadou, “On the Role”; Borer, “Exo-Skeletal vs. Endo-Skeletal Explanations”, *Structuring Sense III*, “Derived Nominals”; Alexiadou, Iordachioaia, and Soare), i.e. they carry argument structure inherited from the verb, show distinctions in viewpoint aspect and allow aspectual modifiers. Implicit argument control is also possible, and these are predominantly non-count nouns. Their AS-nominal status has been convincingly argued for and is generally accepted (Rozwadowska 60–68; Bloch-Trojnar, *The Mechanics*).

(1) a. *łam-a-nie* ‘break.IPFV-NMLZ’

istnieją dowody na łamanie praw człowieka przez agentów CIA w Europie

‘there is evidence of the breaking of human rights by CIA agents in Europe’

Ile można znosić ciągle łamanie przepisów?

‘How long can you put up with the constant breaking of the rules?’

Kontrole w całej Polsce wykazały częste łamanie Kodeksu Pracy w hipermarketach

‘Inspections all over Poland have revealed frequent violation of the Work code in supermarkets.’

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b. *z-lam-a-nie* ‘break.PFV-NMLZ’

złamanie postanowień paktu reńskiego przez rząd Hitlera

‘the breach of the Rhineland clauses of the Locarno Pact by Hitler’s government’

Złamanie hasła w mniej niż sekundę jest możliwe

‘the breaking of a password in less than a second is possible’

jest to ... złamanie zasad gry, żeby odbierać ludziom to, co już otrzymali

‘this is the breaking of the rules of the game in order to take away from people what they had been given’

This paper examines nominals which are morpho-phonologically identical to them but lack argument and event structure, and function as Simple Event and Result nominals (2a–b), i.e. R-nominals in the sense of Borer (“Exo-Skeletal vs. Endo-Skeletal Explanations”, “In the Event”, “Derived Nominals”). SE-nominals have event implications but lack an associated argument structure. They are barred from contexts appropriate for concrete objects, which are reserved for R-nominals. Non-eventive nominals show a variety of readings, though they typically denote the product or result of the event denoted by the base verb. Borer (“Exo-Skeletal vs. Endo-Skeletal Explanations”) conflates both categories and calls them R(eferential)-nominals.

- (2) a. *złamanie to moment, a rekonwalescencja może ciągnąć się miesiącami*
 ‘the breaking is a moment, but convalescence may drag for months’
 b. *złamaną nogę (otwarte złamanie) zagipsowano*
 ‘the broken leg (the open breakage) was plastered’

The Polish data are puzzling since R-nominals in *-nie/-cie* show morphological evidence of the verbalising layer in their structure in the guise of a theme element alongside aspectual marking, both of which could be regarded as indicators of the presence of the functional structure responsible for the licensing of the internal argument. However, neither internal argument licensing nor aspectual modification is possible in R-nominals. Our task is to construe their representation in such a way that it will account for their distributional properties and non-compositional interpretation. In addition, we set out to pinpoint the factors which condition their emergence, i.e. why only some AS-*nie/cie* nominals have corresponding R-*nie/cie* nominals.

This paper is organised as follows. In section 2 we provide a more detailed theoretical exposition of the treatment of different types of nominals in Borer’s exo-skeletal model (“In the Event”, *Structuring Sense III*, “Derived Nominals”), with special emphasis on issues of non-compositionality.

The attainment of the first task will require us to focus on complex verb morphology in Polish, which, apart from theme vowels, includes a variety of aspect(ual) markers, i.e. three types of prefixes (lexical, aspectual and superlexical) and secondary imperfective markers. Insight into the structural differences between AS- and R-*nie/cie* nominals is offered in section 3. The proposed account includes the aspectual projection of inner aspect in the structure of R-nominals and it is argued that the licensing of the internal argument is not related to the presence of verbalising morphology or the presence of the aspectual projection such as Asp_O , unless the verbaliser combines the verbalising function with the spell-out of Asp_{Ev} in the structure. To be more precise, there appears to be a systematic difference in the way prefixes and suffixes are incorporated into the lexical root. Lexical prefixes and empty prefixes acting as telicity markers are the first to be merged with the root below/right above the VP (Svenonius, “Slavic Prefixes: Introduction”, “Slavic Prefixes”; Jabłońska, *Radical Decomposition*; Łazorczyk). Markers of secondary imperfectivisation spell out higher aspectual projections (Jabłońska, “When the Prefixes”; Slabakova; Svenonius, “Slavic Prefixes: Introduction”, “Slavic Prefixes”), as do some thematic elements, which additionally act as verbalisers. The proposed structure for R-nominals will automatically exclude *-nie/-cie* nominals with secondary imperfective suffixes, semelfactive *-ną* and superlexical prefixes.

The problem of the remaining gaps in the generation of R-*nie/cie* nominals will be related to the existence of root R-nominals which are either morphologically null or overtly marked. It will be argued that the derivation of R-*nie/cie* nominals is blocked in the case of roots which directly merge with a nominaliser or roots that can synthetically spell out a series of heads including the nominaliser or, by the Superset Principle, be directly merged with a classifier (Fábregas; Bloch-Trojnar, “A Neo-Constructionist Account”). Notably, unlike in the classic versions of Distributed Morphology or Borer’s exoskeletal model, it is assumed here that a single exponent may realise more than one syntactic head (Starke; Caha). This question is addressed in section 4. Our conclusions and avenues for future work are set out in section 5.

2. THE STRUCTURE OF AS-NOMINALS AND R-NOMINALS IN BORER’S XS-MODEL

Generally speaking, three types of deverbal nominals have been identified in the literature (Grimshaw; Alexiadou, *Functional Structure* 10–12; Borer, “Exo-Skeletal vs. Endo-Skeletal Explanations” 45, “Derived Nominals” 71; Alexiadou and Grimshaw 3) and table 1 below summarises the results of an ongoing discussion

concerning their defining characteristics and taxonomy (Bloch-Trojnar, “A Neo-Constructionist Account” 54):

Complex Event Nominals (CENs)/ Argument Structure Nominals/ Argument Supporting Nominals (ASNs)	Simple Event Nominals (SENs)	Result Nominals/ Referential Nominals/ R-Nominals
<i>reading, construction, examination</i>	<i>construction, examination, exam, walk</i>	<i>construction, examination, exam, war</i>
Event reading	Event reading	No event reading
θ -assigners, Obligatory arguments Agent-oriented modifiers (e.g. <i>intentional</i>) Subjects are arguments <i>by</i> -phrases are arguments Implicit argument control Aspectual modifiers Modifiers like <i>frequent, constant</i> possible without plural	Non- θ -assigners, No obligatory arguments No agent-oriented modifiers (e.g. <i>intentional</i>) Subjects are possessives <i>by</i> -phrases are non-arguments No implicit argument control No aspectual modifiers Modifiers like <i>frequent, constant</i> only with plural	
Mass nouns	Mass/Count nouns	Count nouns

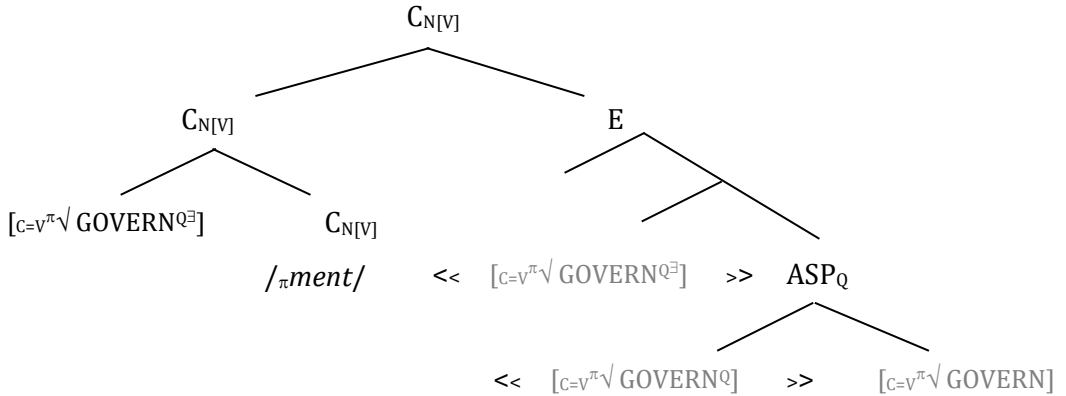
Table 1. The typology of nominals

This tripartition has been superseded by a two-way distinction in Borer’s exo-skeletal model (*Structuring Sense I-III*, “Derived Nominals”), as depicted in the structures in (3) below.¹ In Borer’s model, roots lacking formal (non-phonological) properties are merged with Categorical and Semantic Functors. $C_{N[V]}$ is a C-functor which projects N and which defines its complement as equivalent to V. Its phonological realisation in English includes, among others, *-ation, -ance, -ment, -al*. AS-nominals, in contradistinction to R-nominals, contain verbal functional structure. The root is dominated by functional nodes which are part of the verbal extended projection $\{Ex[V]\}$. In (3a) the root is immediately dominated by an ExP segment that licenses a quantity object (Asp_Q in Borer, *Structuring Sense II*). R-nominals are devoid of aspectual structure (3b), which explains why they are incapable of licensing the internal argument. In R-nominals there is no additional verbalising head

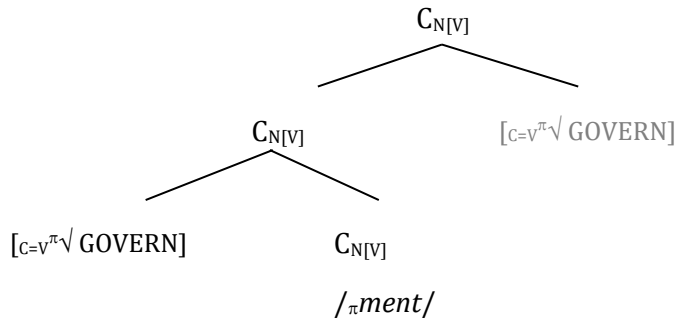
¹ Both structures have been taken from Borer (*Structuring Sense III* 420).

and the root is V-equivalent by virtue of its syntactic context, here the presence of the C-functor *-ment*.

(3) a. *government of the people*



b. *(The) government (is imperfect)*

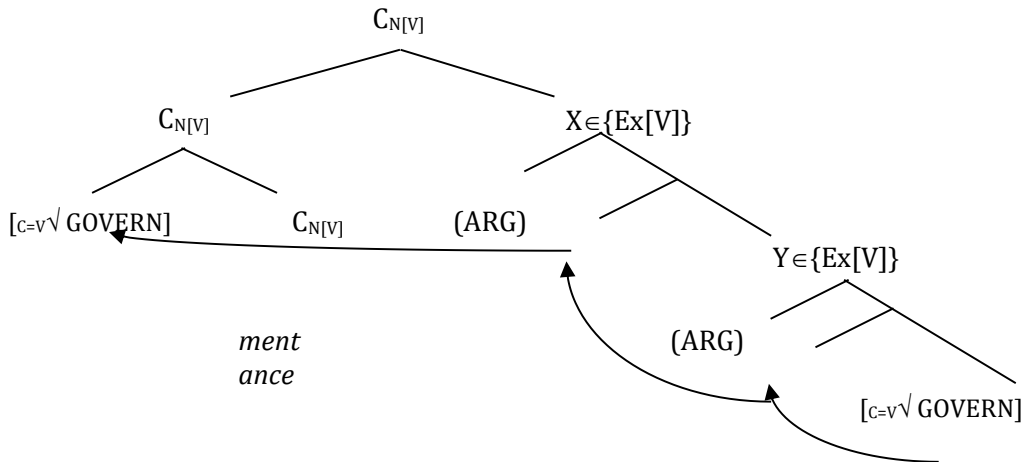


The structure in (4) is a simplified representation of the structure of AS-nominals from Borer (“Derived Nominals” 83), where the root is dominated by multiple ExP segments responsible for the licensing of the internal and external argument. In Borer’s system, verbs are deprived of arguments, and arguments, including the internal one, emerge from the presence of the functional structure.² In Borer (*Structuring Sense II*), ASP_Q (Aspect of Quantity) introduces the internal argument, whereas ASP_{Ev} (Aspect of Event) licenses the event argument and the external argument. However, Borer (“Derived Nominals”) does not go into the details of the semantics

² The presence of the internal argument characterises categorially specified verbs (not roots, contra Harley, “The Morphology”, “On the Identity”).

of the specific nodes and their value, but merely points out that the relevant configuration includes “(optional) $Y \in \{Ex[V]\}$ implicated in licensing a direct internal argument, and ... $X \in \{Ex[V]\}$, a node that licenses the event argument as well as, potentially, an external argument.”

(4) *The government/governance (of the people by the people)*



There is a strong correlation between syntactic complexity and compositionality, which, in her view, is a strong argument for a syntax-based view of morphological phenomena. AS-nominals are always fully compositional—their meaning can be construed from the meaning of the verb, the arguments and the event structure. We systematically observe the absence of grammatical event properties when the internal argument is missing. Listing corresponds to the inability to take arguments, and the ability to take arguments precludes listing. Borer (“In the Event” 121) proposes considering “the possibility that the internal argument is selected by a verbal head of some sort, and that the domain of the verb and the internal argument do not carry an event entailment, system where reference is made to the existence or lack thereof of an external argument, by assumption licensed in a bigger, event denoting structure.” In this system, the licensing of the internal argument is thus dependent on the presence/availability of a higher extended projection responsible for the licensing of the external argument and event structure.

The compositionality of the derived nominal hinges on its relationship with the fully verbal/argumental complex, not with the verb. She contends that “in AS-nominals, the nominal head scopes over the verbal/argumental complex” and “in R-nominals, it scopes over the verb, and specifically excludes any structure that may be implicated in the projection of arguments” (Borer, “In the Event” 125). When the verb alone nominalises, non-compositionality may emerge.

The structures for R-nominals can involve a non-branching structure (5a), the merger of a (verbalised) root (5b) or a derived verb with a nominaliser (5c).

- (5) a. $[N\sqrt{\quad}]$
class
- b. $[N[C=\sqrt{\quad}]]$ N]
(trans)form *ation*
 ing
- c. $[N[V[A[C=N\sqrt{\quad}]]]]$ A] V] N]
verb *al* *iz* *ation*
 ing

Since a reservoir of listed meanings (the encyclopedia) is available to constituents larger than roots, a syntactic theory of word-formation should delimit the syntactic domain within which non-compositionality is available. It should be larger than the root and guarantee the exclusion of AS-nominals. Arad (“Locality Constraints”) proposes that it is the point where the root merges with a category label (the domain of first categorisation). For Borer (“In the Event”) this domain is larger and extends as far as the first functional bracket, i.e. the encyclopedia gives a meaning for the first functional bracket. In Borer (“Derived Nominals” 79) it is further specified that the upper boundary for en-searching is the first merging ExP-segment.

A single encyclopedic search (en-search) may return a single (non-compositional) meaning for a larger domain providing it does not include a functional bracket, where $[_V[_N[_A$ are not functional brackets. In R-nominals (3b), no functional brackets intervene between the verb or the verbalised root and N, i.e. the entire bracket structure of the R-nominal is devoid of functional bracketing. In AS-nominals, event structure along with its functional structure intervenes between the verb and its target in the successive head movement of the V to N; any search for a listed reading would be stopped by a functional boundary. This position is thus not fully convergent with the view that affixes added outside verbalising morphology result in compositional meaning predictable from the meaning of the stem (see Marantz, “No Escape”, “Phases”; Alexiadou, “On the Role” 268; Harley, “On the Identity” 266–67).

Let us now apply this approach to the analysis of R-*nie/cie* nominals in Polish and test Borer’s proposal that content matching cannot be accomplished past the merger of the first ExP-segment, bearing in mind that categorial functors should be kept distinct from functional elements.

3. THE STRUCTURE OF *-NIE/-CIE* NOMINALS IN POLISH

3.1 THE STRUCTURE OF THE VERB

Before we can propose the structures for nominals it is necessary to flesh out the relevant members of the extended verbal projection dominating the root, i.e. nodes implicated in event structure and aspectual nodes which render the root V-equivalent. We will first discuss the different types of prefixes and then proceed to discuss the function of theme elements and markers of secondary imperfectivisation.

3.1.1 *The prefixes*

The prefixes fall into three types. Prefixes which, depending on the approach, might be characterised as lexical, inner or low constitute the first type. The second type are superlexical, outer or high prefixes (for more on these distinctions see, e.g. Babko Malaya; Romanova; Svenonius, “Slavic Prefixes: Introduction”, “Slavic Prefixes”; Jabłońska, *Radical Decomposition*; Łazorczyk). Aspectual or empty prefixes form a class intermediate between the two.

Lexical/inner or low prefixes change the meaning of verbs, attach only to unprefixated or bare imperfective stems (i.e. are incapable of stacking), and make them perfective. They can serve as input to secondary imperfectivisation,³ e.g. *pisac*^{IPFV} ‘write’ — *wy-pisac*^{PFV} ‘write out’ — *wy-pis-yw-ac*^{IPFV(SI)} ‘write out’.

Superlexical or high quantificational prefixes show adverbial-like meaning and do not affect the meaning or valency of the base verb. They are capable of stacking and do not serve as input to secondary imperfectivisation, because they are added to verbs which already bear secondary imperfective markers, e.g. *na-wypisywać* ‘write out a lot’ — *po-na-wypisywać* ‘write out a lot unnecessarily’.

The class of ‘purely perfectivising’ prefixes, i.e. aspectual prefixes, is viewed as occupying an intermediate position between lexical and superlexical prefixes (Svenonius, “Slavic Prefixes: Introduction” 192–96, “Slavic Prefixes”). Aspectual prefixes do not form secondary imperfectives, and since their semantic contribution is limited to perfectivity/telicity, they are regarded as ‘empty’.⁴ All perfective verbs

³ Secondary imperfectives (SIs) arise when a derived perfective verb reverts to the imperfective class. The morphological markers of SIs include the suffixes *-iwa/ywa*, *-wa* and *-ewa* (Wróbel 565–68).

⁴ The existence of empty prefixes divides the Slavic linguistic community. Some scholars argue that there are no ‘purely perfectivising’ prefixes (e.g. Vey; van Schooneveld; Isačenko; Janda and Nessel), whereas others view certain prefixes as pure perfectivisers devoid of semantic content (e.g. Tihonov; Forsyth).

related to a bare imperfective will have the secondary imperfective form save one, i.e. a verb bearing a perfectivising prefix:

(6) <i>pis-a-ć</i>	<i>na-pis-a-ć</i> ‘write’	<i>*na-pis-ywa-ć</i>
‘write’	<i>za-pis-a-ć</i> ‘write down’	<i>za-pis-ywa-ć</i>
	<i>o-pis-a-ć</i> ‘describe’	<i>o-pis-ywa-ć</i>
	<i>od-pis-a-ć</i> ‘answer, copy’	<i>od-pis-ywa-ć</i>
	<i>prze-pis-a-ć</i> ‘copy, prescribe’	<i>prze-pis-ywa-ć</i>
	<i>wy-pis-a-ć</i> ‘write out’	<i>wy-pis-ywa-ć</i>

Simple imperfective roots such as *pisać* ‘write’ give rise to a myriad of derived perfective forms (*Śmiech*, *Derywacja*), as can be seen in the second column in (6). Since the derived verbs (*za-pisać* ‘write down’, *o-pisać* ‘describe’, *od-pisać* ‘answer, copy’, *prze-pisać* ‘copy, prescribe’, *wy-pisać* ‘write out’, etc.) express a variety of meanings in addition to perfectivity/telicity, the system generates their proper aspectual counterparts, as shown in the third column in (6) above. They are traditionally called secondary imperfectives, although they are, in fact, aspectual counterparts of derived verbs (lexical prefix+root combinations).

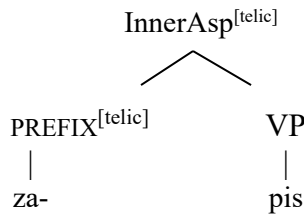
According to Svenonius (“Slavic Prefixes: Introduction”, “Slavic Prefixes”), who adopts a nanosyntactic approach, the different properties of prefixes can be accounted for in configurational terms in that lexical prefixes are merged below the VP layer(s), but superlexical prefixes above the VP. Ramchand (“Time”, *Verb Meaning*) assumes that lexical prefixes select telic (not perfective) stems, but superlexical prefixes atelic ones. They are merged very low in the structure in the complement of ResultP (first phase). Thus, prefix+root combinations are the case of root-cycle attachment or the inner domain: a prefix is added to the root before attaching the functional head determining the syntactic category. Root attachment, in turn, is associated with negotiated (idiosyncratic) meaning.

Łazorczyk, who conducts her analysis within Borer’s neo-constructionist framework, regards lexical prefixes as telicity markers merged with a verbalised root. They are viewpoint perfective but they themselves do not have a viewpoint-marking role, i.e. their locus is the InnerAsp projection immediately dominating the VP and not the ViewpointAspP which is higher up in the structure.⁵ This layering is in line with Borer (*Structuring Sense II*), who makes a distinction between the extended verbal

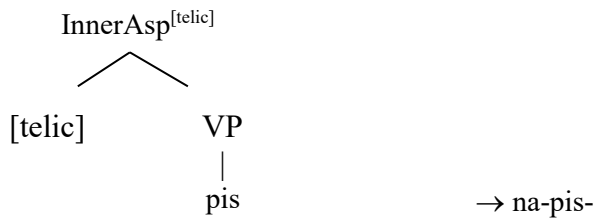
⁵ In Łazorczyk, Viewpoint aspect combines with other predicates of events prior to tense (TP). It introduces Event Time into the equation, and turns predicates of events into predicates of intervals (Smith). It existentially binds the event variable, which itself is associated with V, VP, vP/VoiceP, or EP, depending on the model. The Viewpoint aspect projection can be headed by two features: PERFECTIVE or IMPERFECTIVE.

functional projection Asp_Q (Aspect of Quantity), which licenses a quantity object, and Asp_{Ev} (Aspect of Event), which licenses the event argument and an external argument. In Łazarczyk, the functional node encoding *Aktionsart* ($InnerAsp^0$) also has a layered structure. It can be headed by a meaning-modifying prefix or merely by a telic feature in the case of ‘purely perfectivising’ prefixes, as shown in (7a) and (7b) respectively. It can be further dominated by another partitive-homogenising projection— $InnerAsp^{PSI}$ —in secondary imperfectives, as shown in (7c) below (Łazarczyk 146):

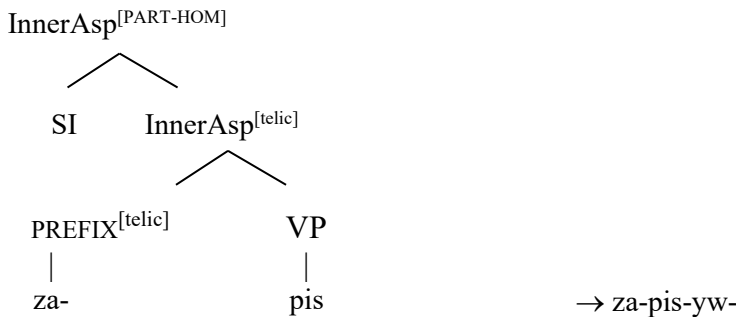
(7) a. meaning modifying prefixes, e.g. *za-pis(-a-ć)* ‘to write down’



b. ‘pure perfectivisers’, e.g. *na-pis(-a-ć)* ‘to write down’



c. secondary imperfectivisation, e.g. *za-pis-yw(-a-ć)* ‘to write down’

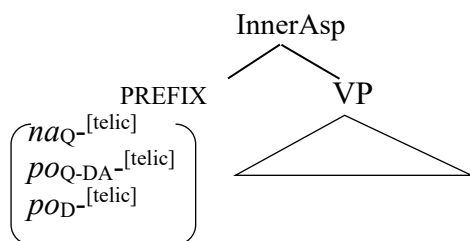


The partial representations above incorporate a VP node, i.e. a constituent already previously verbalised. This function is served by theme-forming elements (see section 3.1.2).

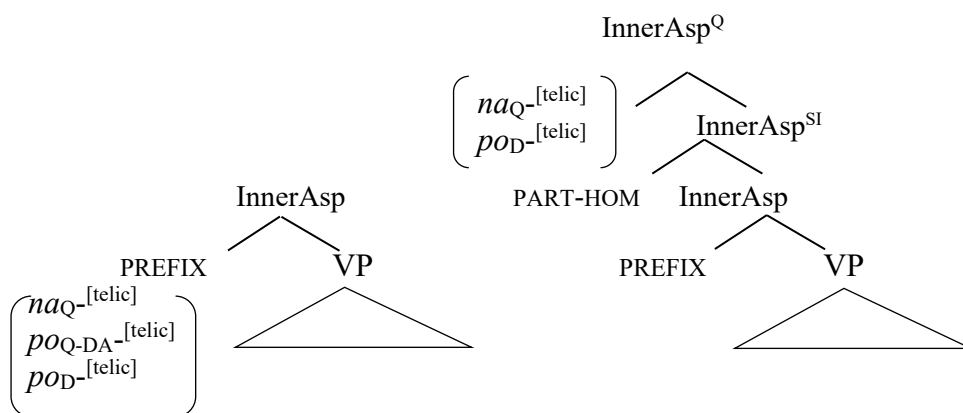
Superlexical or quantificational prefixes include na_Q - ‘a lot, enough’ (e.g. *naśpiewać się* ‘sing a lot’, *na-wypis-ywać* ‘write out a lot’), po_Q - ‘some, a little’ (e.g.

po-kopać ‘kick for a while’, *po-ob-gadywać* ‘gossip’), and the distributive *po_D-* (e.g. *po-prać firanki* ‘wash all the curtains’, *po-roz-wieszać firanki* ‘hang out the curtains’). As far as their representation goes, Łazorczyk (250–60) proposes that the quantificational prefixes: *na_Q-* ‘a lot, enough’ and *po_Q-* ‘some, a little’ are merged in either of the two Aktionsart projections: as heads of the InnerAspP for non-stacking cases (8a), or as heads of the new InnerAsp_Q phrase—a telicity-encoding projection merging above the atelicising secondary imperfective projection (8b).

(8) a.

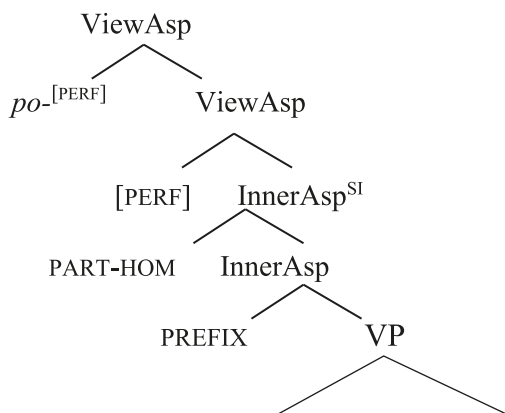


b.



The merge site of distributive *po_D-* is within ViewAsp, which is higher and external to Inner Aspect projections when it combines with secondary imperfectives.

(9)



3.1.2 The theme elements and markers of secondary imperfective

The assumption that thematic elements in Polish are the realisation of a categorising head V is widely accepted in syntax-based accounts of Polish morphology, while there is some disagreement as to the exact number of verb classes and the role of roots and verbalisers.⁶ It is impossible to predict the stem class to which a given root belongs and, consequently, its conjugation on the basis of the infinitive form alone, i.e. *pis-a-ć* ‘write’ is an *-a-* stem, whereas *koch-a-ć* is an *-aj-* stem. By the same token, *krzycz-e-ć* ‘shout’ is an *-e-* stem, whereas *łysi-e-ć* ‘go bald’ is an *-ej-* stem. Stem identification requires a thorough phonological analysis of the various alternations which they display.⁷ Let us consider some examples in (10) below, where the theme element is marked in bold:

(10) Theme element	Infinitive	3rd pers.pl.ind.pres.	3rd pers.pl.ind.past	Gloss
-a-	<i>pis-a-ć</i>	<i>pisz-q</i>	<i>pis-a-li</i>	‘write’
-e-	<i>krzycz-e-ć</i>	<i>krzycz-q</i>	<i>krzycz-e-li</i>	‘shout’
-i-	<i>pros-i-ć</i>	<i>prosz-q</i>	<i>pros-i-li</i>	‘ask’
∅	<i>gryź-ć</i>	<i>gryz-q</i>	<i>gryź-li</i>	‘bite’
-ej-	<i>łysi-e-ć</i>	<i>łysi-ej-q</i>	<i>łysi-e-li</i>	‘go bald’
-aj-	<i>koch-a-ć</i>	<i>koch-aj-q</i>	<i>koch-a-li</i>	‘love’
-owa-	<i>kup-owa-ć</i>	<i>kup-uj-q</i>	<i>kup-owa-li</i>	‘buy’
-ną-	<i>kop-ną-ć</i>	–	<i>kop-ną-li</i>	‘kick’

They precede inflectional endings, and their identity plays a key role in the assignment of stems to particular conjugations. In this study, we will implement the classification of verbal stems and conjugations put forward by Laskowski.⁸ The conjugation class is a Phonological Form (PF) related property. Since theme elements show up in *R-nie/cie* nominals, we need to demonstrate that they spell out the verbalising head only and in the cases where they combine the verbalising function

⁶ In most approaches, the feature marking of the root determines the choice of a specific thematic element (the DM account of Czaykowska-Higgins, the nanosyntactic treatment of Jabłońska, “When the Prefixes”, *Radical Decomposition*). To avoid the storage of long lists of roots, Zdziebko offers an alternative analysis on which the distribution of thematic elements can be explained in terms of the marking of categorising heads.

⁷ For different proposals and explanations, see, for example, Rubach, Szpyra or Gussmann.

⁸ An alternative classification was proposed by Tokarski. More information on the methodological underpinnings of both classifications can be found in e.g. Nagórko.

with the spell-out of aspectual distinctions (Młynarczyk), an R-*nie/cie* nominal is not possible.

Czaykowska-Higgins argues that what is listed is the root, which is abstractly specified for the conjugation class features. The VS is like the theme vowel/suffix in other Indo-European languages, and functions merely as the phonological spell-out of these abstract specifications. Furthermore, she introduces a distinction between VS1 suffixes, which participate in the formation of the derivational stem constituent, and VS2 suffixes, whose sole function is to form the inflectional stem, i.e. they precede tense and person/number marking, as depicted in (11) below, with optional elements in parentheses:⁹

(11) [_{vw} [_{DS} (Prefix) [_√ROOT] (VS1) _{DS}] (VS2)—TM—(P/N) _{vw}]

VS1 suffixes fall into the derivational stem, and can serve as bases for derivational morphology, whereas VS2 suffixes fall into the Verb Word constituent and appear only in inflected verbs. The identification of the two types of verbalising suffix has to do with their phonological effects¹⁰ and their participation in derivational operations. Each stem-forming element, regardless of its type, automatically assigns the resulting stem to a particular conjugation (as indicated by the upper index), i.e. VS1: *-ow^{-I}*, *-ej^{-I}*, *-i^{-II}*, \emptyset^I , *-nq^I* and VS2: *-a^{-I}*, *-e^{-II}*, *-aj^{-III}* (Laskowski 241).

The status of theme elements as verbalisers is further confirmed by the fact that they realise categorising operations, i.e. some of them surface in verbs which include a C-core which can be A or N equivalent, or in lexicalist terms verbs derived from adjectives and nouns, as in e.g. *równ·y* ‘smooth, even’ → *równ-a·ć* ‘to level, even out’, *grub·y* ‘fat’ → *grubi-e·ć*, *grub-nq·ć* ‘to get fatter, thicker’, *ran·a* ‘wound’ → *ran-i·ć* ‘to wound’ (Wróbel 574).

(12) a. [_v [C=A_√RÓWN] a], [_v [C=A_√GRUB] e/nq]
 b. [_v [C=N_√RAN] i]

A complicating factor for an analysis which envisages the presence of thematic elements in R-nominals is the fact that they have also been argued to be implicated in marking aspectual distinctions and the temporal constituency of the

⁹ $\sqrt{\text{ROOT}}$ —Root or derived Verb Stem, VS—verbalizing suffix, TM—Tense marker, Infinitive, Participle, P/N—Agreement (person, number, gender).

¹⁰ Certain palatalisation effects can be observed only at morpheme boundaries and never word internally (Rubach). The change of velar [k] to [tʃ] is an instance of the first velar palatalisation, i.e. /tok+i_{VS}+ć/ → to[tʃi]ć ‘to roll’, whereas the change of [d] to [dz] in the context of [e] in /wid+e_{VS}+i/ → wi[dz]i ‘s/he sees’ exemplifies palatalisation.

event (Młynarczyk). For example, in *ogłasz-a-ć*^{IPFV} ‘announce’, *krzycz-e-ć*^{IPFV} ‘shout’, *got-owa-ć*^{IPFV} ‘cook’ and *da-wa-ć*^{IPFV} ‘give’, the *-a*, *-e*, *-owa* and *-wa* elements contribute the meaning of incompleteness and iteration. The *-i* element in *ogłos-i-ć*^{IPFV} ‘announce’ supplies the single event reading and so does *-ną* in *krzyk-ną-ć*^{IPFV} ‘shout, cry out’. However, we would like to underline the fact that the perfective or imperfective character of the stem cannot be projected in a one-to-one fashion from the identity of the theme element, e.g. *-ną* in *chud-ną-ć*^{IPFV} ‘get thinner’ is not semelfactive, and *-i* in *pros-i-ć*^{IPFV} ‘ask’ is not perfective. Ultimately, it is the amount and type of functional structure that dominates the verbal root which is crucial for determining its perfective or imperfective status. In inflected verb forms, theme elements are best understood as conditioned spell-out operations of the category verb, aspect and conjugation. They combine the verbalising function with the spell-out of higher Aspect/Tense projections. A more nuanced view is taken by Łazorczyk (44), who claims that “theme vowels are overt reflexes of verbalization through structure, rather than verbalization by a categorizing morpheme (cf. Borer 2005).” This would mean that theme vowels act as spell-out of the verbaliser and extended verbal projections, providing that the latter are present in the structure. In the absence of higher-level structures, a theme element will only serve the categorising function.

As far as secondary imperfectivising suffixes are concerned, Łazorczyk treats them on a par with prefixes as telicity markers (merged in the InnerAsp^{SI} projection on top of InnerAsp⁰). However, there are competing analyses on which they are ascribed a viewpoint aspect role as markers of the imperfective viewpoint, such as Jabłońska (“When the Prefixes”), Slabakova and Svenonius (“Slavic Prefixes: Introduction”, “Slavic Prefixes”).¹¹

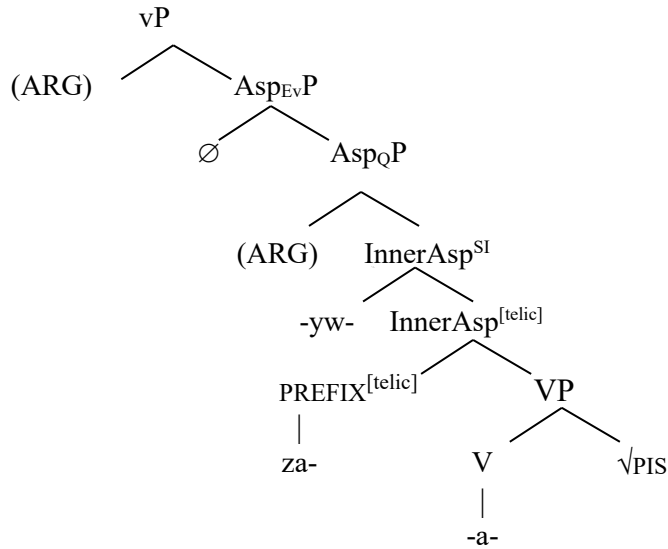
3.1.3 The functional architecture of the Polish verb—summary

Let us summarise the results of the available analyses which will be relevant for our discussion. Lexical prefixes and empty prefixes acting as telicity markers are the first to be merged with the root below/right above the VP. Markers of secondary imperfectivisation spell out higher aspectual projections, as do superlexical prefixes which are even higher up the InnerAspP structure and as do thematic elements, which additionally act as verbalisers. Consider the structure of the secondary imperfective verb *zapisywać* ‘to write down’. The superlexical prefixes could,

¹¹ Svenonius (“Slavic Prefixes: Introduction”, “Slavic Prefixes”) argues that lexical prefixes originate either as the head of the Result Phrase or as the complement of the Result head (Ramchand, “Time”). He concludes on the basis of stacking phenomena that lexical prefixes are merged below the IMPERFECTIVE position filled by the secondary imperfective suffix, while superlexical prefixes are merged above the IMPERFECTIVE position.

in principle, be added to form *(po)-na-zapisywać* ‘write down a lot’, but are not included for the sake of clarity of exposition.

(13) *za-pis-yw-a(-ć)* ‘to write down’



3.2 THE STRUCTURE OF AS- AND R-NOMINALS

The verbal structure in (13) could be realised as a verb or could be merged with the categorial functor *-nie* to form a nominalisation. The spell-out of the verbaliser in the form of the theme-vowel is postponed until the realisation of InnerAsp projection, because the theme vowel also realises extended verbal projections (i.e. ViewpointAsp) if they are present in the structure. However, the theme vowel, as such, is not an indicator of aspect, i.e. note the same theme vowel in *zapisanie*^{PFV} and *zapisywanie*^{IPFV}. This would explain why verbalisers are not ruled out in R-nominals.

An alternative path worth investigating is to regard the prefixes which contribute telicity alone or telicity combined with special or idiosyncratic meanings as forming part of the root, i.e. the prefix and the root merge prior to the addition of the verbaliser, which might directly account for their idiosyncratic interpretation.¹² One piece

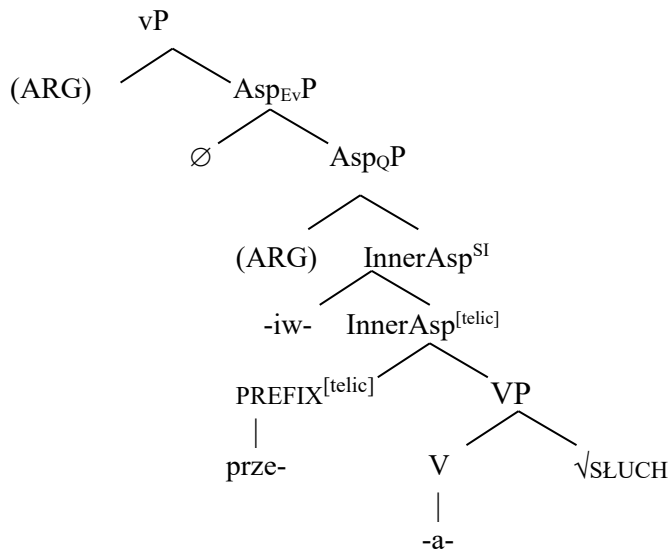
¹² This ties in with Stump's (278) observation that "a root may or may not be morphologically unanalysable, since a lexeme arising by a rule of derivation or compounding will ordinarily have a root which is morphologically complex; thus roots are basic only in the inflectional sense of lacking overt inflectional exponents." If we take seriously the proposal that a root does not have syntactically active features, it follows almost logically that at least some categoryless roots might bundle.

of evidence in support of such complex categoryless roots is that they can be directly merged with S-functo¹³ and C-functo^rs which define their complement as V- or N-equivalent. Like *walk* in English, *zapis* ‘recording’ in Polish shows no AS characteristics, which points to the lack of (extended) verbal projections in the structure. The lexical prefix is merged with an uncategorised root, resulting in another categoryless root $\sqrt{\text{ZAPIS}}$, which can be dominated by a Classifier.

The existence of such (morphologically null) root-based nominals will later on be argued to be responsible for the gaps in the formation of R-*nie/cie* nominals. Namely, there is no R-*nie/cie*-nominal with the root ZAPIS . This issue is addressed in section 4.

Coming back to the representation of R-*nie/cie* nominals, let us first consider the structure of AS-nominals relating to the aspectual pair *przesłuchać*^{IPFV} — *przesłuchiwać*^{IPFV} ‘listen to, interrogate’, for which one corresponding R-nominal *przesłuchanie* ‘audition, interrogation’ is available.

(14) *prze-słuch-iw-a(-ć)* ‘to interrogate’

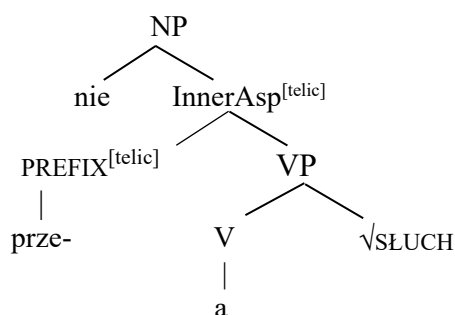


The structure in (14) could be realised as a verb or could be merged with the categorial functor *-nie* to form an AS-nominalisation, i.e. *przesłuchiwać*^{IPFV} — *przesłuchanie* ‘act of interrogating, ipfv’, or, if we assume that the InnerAsp^{SI} projection is absent in the structure, this will result in *przesłuchać*^{IPFV} — *przesłuchanie* ‘act of interrogating, pfv’.

¹³ Semantic functors (S-functo^rs) value functional nodes within extended projections. S-functo^rs in the extended nominal projection include determiner, number and classifier.

For an R-nominal to emerge, the structure must not contain projections responsible for the licensing of arguments. In *przesłuchanie* ‘interrogation’, the theme vowel spells out the verbaliser only and the higher layer of structure responsible for the licensing of the internal argument Asp_QP is missing. Only the first merging segment of the extended verbal projection is allowed. This segment is the marker of Inner- Asp^0 . The presence of the VP layer in the structure accounts for the ambiguity between simple event and concrete reading.

(15)



Consequently, the markers of secondary imperfective (as in (7c) above), which are higher up in the structure, let alone superlexical prefixes (as in (8)–(9)), are impossible in R-nominals.

Even though markers of secondary imperfective fall into verbalising suffixes type 1 in Czaykowska-Higgins, their involvement in aspectual spell-out differentiates them from the VS1 suffix *-ow-*, which, like markers of lexical aspect, forms the derivational stem and is merged with the root prior to the merger with the verbaliser. It is possible in R-nominals. Unlike the markers of secondary imperfective which are always merged following the prefix+root merger, the verbaliser *-ow-* can be added to a bare root (16a) or the prefix+root (16b), in which case it could in principle be followed by an SI marker, or can act as a verbaliser merged with a nominalised root (16c).

(16) Verb	R-nie/cie nominal	R-nominal
a. <i>bud-ow-ać</i> ‘build’	–	<i>budowa, budowla</i> ‘building’
<i>got-ow-ać</i> ‘cook’	–	–
<i>rys-ow-ać</i> ‘draw’	–	<i>rysunek</i> ‘drawing’
<i>organiz-ow-ać</i> ‘organise’	–	<i>organizacja</i> ‘organisation’

	<i>prefer-ow-ać</i> 'prefer'	—	<i>prefer-encja</i> 'preference'
	<i>cyt-ow-ać</i> 'quote'	<i>cytowanie</i> 'quotation'	—
b.	<i>o-pak-ow-ać</i> 'pack' (<i>opakowywać</i>)	<i>opakowanie</i> 'packaging'	—
	<i>s-kier-ow-ać</i> 'direct' (<i>skierowywać</i>)	<i>skierowanie</i> 'referral'	—
	<i>za-stos-ow-ać</i> 'use' (<i>zastosowywać</i>)	<i>zastosowanie</i> 'usage'	—
c.	<i>deska</i> 'plank' — (<i>o</i>) <i>desk-ow-a-ć</i> 'fit with planks'	(<i>o</i>) <i>deskowanie</i> 'planking'	—
	<i>krzyż</i> 'cross' — (<i>s</i> -) <i>krzyż-ow-ać</i> 'cross'	<i>skrzyżowanie</i> 'crossing'	—
	<i>znak</i> 'sign, signpost' — (<i>o</i>) <i>znak-ow-ać</i> 'brand, signpost' (<i>oznakowywać</i>)	(<i>o</i>) <i>znakowanie</i> 'signposting'	—
	<i>formuła</i> 'formula' — (<i>s</i>) <i>formuł-ow-ać</i> 'formulate'	<i>sformułowanie</i> 'expression, formulation'	—
	<i>rama</i> 'frame' — (<i>ob</i>) <i>ram-ow-ać</i> 'frame' (<i>obramowywać</i>)	<i>obramowanie</i> 'framing'	—

It has now become standard practice to analyse the *-owa-* exponent as a bi-morphemic combination (Czaykowska-Higgins; Łazorczyk; Zdziebko), where *-ow-* acts as a verbalising head and *-a* is the morphological flag of the conjugation class.

Just as SI markers are excluded due to their aspectual function, so too is the semelfactive verbaliser *-ną*. It is ruled out from R-nominals because it synthetically realises the verbalising function and the spell-out of higher inner aspect projections. Where it is not linked with the semelfactive role, it is allowed, as illustrated in (17d) below.

(17) Verbs with <i>-ną</i> VS	AS-nie/cie nominals	R-nominals
a. <i>kopać</i> 'kick' — <i>kopnąć</i>	<i>kopanie</i> — <i>kopnięcie</i>	<i>kop(niak)</i> 'kick'
<i>dygać</i> 'curtsey' — <i>dygnąć</i>	<i>dyganie</i> — <i>dygnięcie</i>	<i>dyg</i> 'curtsey'
<i>pstrykać</i> 'flick' — <i>pstryknąć</i>	<i>pstrykanie</i> — <i>pstryknięcie</i>	<i>pstryk</i> 'flick'
<i>pukać</i> 'knock' — <i>puknąć</i>	<i>pukanie</i> — <i>puknięcie</i>	—
<i>klikać</i> 'click' — <i>kliknąć</i>	<i>klikanie</i> — <i>kliknięcie</i>	—

	<i>kichać</i> ‘sneeze’— <i>kichnąć</i>	<i>kichanie</i> — <i>kichnięcie</i>	—
	<i>mrugać</i> ‘wink’— <i>mrugnąć</i>	<i>mruganie</i> — <i>mrugnięcie</i>	—
b.	<i>krzyczeć</i> ‘shout’— <i>krzyknąć</i>	<i>krzyczenie</i> — <i>krzyknięcie</i>	<i>krzyk</i> ‘shout’
	<i>piszczeć</i> ‘squeak’— <i>pisnąć</i>	<i>piszczenie</i> — <i>piśnięcie</i>	<i>pisk</i> ‘squeak’
	<i>gwizdać</i> ‘whistle’— <i>gwizdnąć</i>	<i>gwizdanie</i> — <i>gwizdnięcie</i>	<i>gwizd</i> ‘whistle’
c.	<i>gluchnąć</i> ‘turn deaf’— <i>ogłuchnąć</i>	<i>gluchnięcie</i> — <i>ogłuchnięcie</i>	—
	<i>chudnąć</i> ‘lose weight’— <i>schudnąć</i>	<i>chudnięcie</i> — <i>schudnięcie</i>	—
d.	<i>osiągnąć</i> ‘accomplish’— <i>osiągać</i>	<i>osiągnięcie</i> — <i>osiąganie</i>	<i>osiągnięcie</i> ‘accomplishment’
	<i>rozwinąć</i> ‘develop’— <i>rozwijać</i>	<i>rozwinięcie</i> — <i>rozwijanie</i>	<i>rozwinięcie</i> ‘development’
	<i>pęknąć</i> ‘crack’— <i>pękać</i>	<i>pęknięcie</i> — <i>pękanie</i>	<i>pęknięcie</i> ‘crack’
	<i>zamknąć</i> ‘close’— <i>zamykać</i>	<i>zamknięcie</i> — <i>zamykanie</i>	<i>zamknięcie</i> ‘closure, bolt’

The *-ną* verbs in (17a) are perfective semelfactive verbs (*semel* ‘once’ and *facere* ‘do’), and denote a single subevent of a unitisable process, whereas those in (17b) denote an activity with a minimal temporal duration (cf. Młynarczyk 124–26). The temporal semantics of verbs in *-ną* such as *kopnąć* ‘kick, semelfactive’ and *krzyknąć* ‘give out a shout, shout once’ refers to the minimal instantiation, and could thus be considered aspectual. They spell out some Inner aspect head which introduces semelfactive semantics. This explains why available R-nominals take the form of bare roots. Another type of verbal stems in *-ną* forms a class of inchoative unaccusative verbs (17c). Here, the suffix acts as the verbaliser of a root categorised as adjectival. Given the fact that the adjectives in question can also be verbalised to form causative *-i* verbs (i.e. *od-chudz-i-ć* ‘make slimmer’, *o-głusz-y-ć* ‘deafen’), the verbalising elements must also be implicated in disambiguating this contrast. In other words, they must somehow encode the presence/absence of the external/internal argument licensing projections. In both classes the *-ną* verbaliser combines the verbalising function with the spell-out of projections higher than InnerAsp⁰ which is associated with telic semantics. This explains why there are no R-nominals in *-cie*.

Interestingly, there are also pairs of verbs which participate in the achievement–accomplishment alternation (17d). Where the difference in meaning seems to be confined to the difference in telicity (change-of-state), the suffix *-ną* can crop up in R-nominals.

3.3 INTERIM SUMMARY

Borer's assumption that the upper boundary for en-search is the first functional projection merging above the VP can successfully account for the absence of R-nominals with superlexical prefixes, the markers of secondary imperfective, and the semelfactive *-nq* and can accommodate the presence of lexical and aspectual prefixes, the verbalising *-ow-* and telic *-nq*. However, more watertight constraints are necessary to specify which AS-*nie/cie* nominals can have corresponding R-*nie/cie* nominals.

4. FACTORS CONDITIONING THE EMERGENCE OF R-NOMINALS IN *-NIE/CIE*

4.1 OUTLINE OF THE PROPOSAL

As far as the factors conditioning the emergence of R-nominals in *-nie/-cie* are concerned, two major tendencies can be observed. Firstly, a stem-based R-nominal will appear if there is no root-based R-nominal. To be more precise, in addition to verbal nominals (*substantiva verbalia*), there are also root-based deverbal nominals (*substantiva deverbalia*), many of which bear no overt nominaliser. Such roots can synthetically spell out a series of heads including the nominaliser or, by the Superset Principle be directly merged with a classifier (Fábregas; Bloch-Trojnar, "A Neo-Constructionist Account").¹⁴ Consequently, a deverbal noun such as *ocena* 'evaluate.NMLZ' can function as an AS nominal, which can be used interchangeably with *-nie/-cie* nominals and an R-nominal.

- (18) a. *ocena/ocenie/ocenie* *moich* *możliwości*
 evaluate.NMLZ my.GEN.PL skill.GEN.PL

przez *kogoś* *obiektywnego*
 by somebody.ACC.SG objective
 'the evaluation of my skills by someone objective'

- b. *ocena niedostateczna* 'a failure, grade F'

¹⁴ Fábregas (99–101) explains that in cases where the nominal is not deverbal (e.g. *war*), a root does not combine with a lexical but with a nominal functional head (i.e. a classifier). In the noun *walk*, the root also merges directly with a functional and not lexical head because English has no null lexical nominaliser. If English had a null lexical nominaliser, it would be possible to have a zero nominalisation of any base that contains a verbal functor, which is not the case, e.g. **an atom-ize* vs. *atom-ization*. A functional nominal projection (ClassP) is incompatible with verbal structure.

More often than not, however, such morphologically null deverbal nouns are confined to the R-nominal status, e.g. *zapis* ‘recording’, *napis* ‘inscription’, *podpis* ‘signature’, *ozdoba* ‘decoration’, *rzeźba* ‘sculpture’ (Waszakowa 44, 70).

There are three nominals based on roots which underlie the imperfective–perfective opposition (19a–b), i.e. two stem-based verbal nominals and a root-based deverbal nominal, and only two if the root does not participate in an aspectual contrast (19c). Those verbal nouns (marked in bold below) will have R-nominal status whose roots are incapable of giving rise to deverbal nouns, i.e. *skaleczenie* ‘wound’, *nagranie* ‘recording’, *mieszkanie* ‘flat’.

(19)	Verbs	Verbal nouns	Deverbal nouns
a.	<i>dzielić</i> ^{IPFV} — <i>podzielić</i> ^{PFV} ‘divide’	<i>dzielenie</i> — <i>podzielenie</i>	<i>podział</i>
	<i>kaleczyć</i> ^{IPFV} — <i>skaleczyć</i> ^{PFV} ‘hurt’	<i>kaleczenie</i> — <i>skaleczenie</i>	–
b.	<i>ocenić</i> ^{PFV} — <i>oceniać</i> ^{IPFV} ‘evaluate’	<i>ocenie</i> — <i>ocnianie</i>	<i>ocena</i>
	<i>nagrać</i> ^{PFV} — <i>nagrywać</i> ^{IPFV} ‘record’	<i>nagranie</i> — <i>nagrywanie</i>	–
c.	<i>biegać</i> ^{IPFV} ‘run’	<i>bieganie</i>	<i>bieg</i>
	<i>mieszkać</i> ^{IPFV} ‘live’	<i>mieszkanie</i>	–

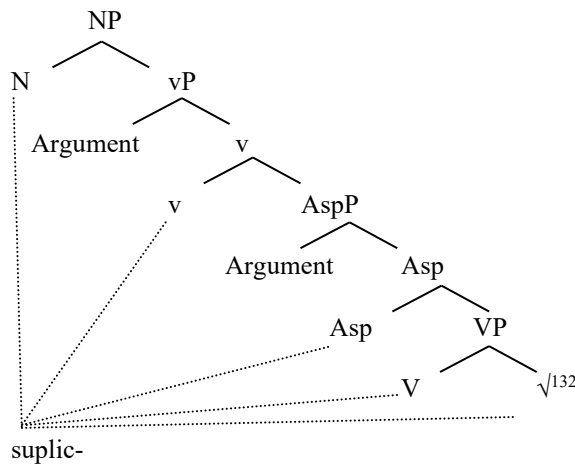
This state of affairs is in line with the mechanism of content matching as proposed in Borer (“Derived Nominals”). If there is no match in the encyclopedia for a given root merged with an overt or null nominaliser, this opens up the possibility of matching idiosyncratic content with a bigger structure in which a nominaliser is merged with a verbalised structure provided that it does not extend as high as the layers responsible for argument realisation.

Secondly, only R-nominals in *-nie* and *-cie* will arise in cases where the formation of root-based nominals is not possible due to the presence of an overt verbaliser with a root merged with a nominal or adjectival functor, which blocks cumulative spell-out (see Fábregas), e.g. *łysy* ‘bald’ — *łysiec*^{IPFV} — *wyłysiec*^{PFV} ‘go bald’ — *wyłysienie* ‘a bald patch’, *rana* ‘wound’ — *ranić*^{IPFV} — *zranić*^{PFV} ‘wound’ — *zranienie* ‘wound’.

Before we present the details of our analysis, let us first explain briefly Fábregas' proposal concerning the representation and AS-licensing potential of null deverbal nominals in Spanish.

4.2 PORTMANTEAU SPELL-OUT OF NULL DEVERBAL NOMINALS IN SPANISH

Fábregas distinguishes two classes of root-based verbal nominals in Spanish, depending on their argument structure licensing potential. Forms such as *baj-a* 'sick leave, fall', *cort-e* 'cut', *insult-o* 'insult' and *disfraz* 'disguise' are cases of a non-directional relation (see Arad, "Locality Constraints", *Roots*), whereas *ayud-a* 'help', *ataqu-e* 'attack', *abandon-o* 'abandonment', *perdón* 'amnesty' are nouns based on the verb, i.e. they involve a verbalised root, and the application of various tests points to the presence of a verbal functional structure. Fábregas (111) proposes that "some exponents can synthetically spell out an ordered series of heads ... that is spell out as a portmanteau morpheme the nominalization of a verbal stem with argument structure." The structure in (20) below shows that the morpheme *suplic-* can cumulatively spell-out the aspectual layer associated with the internal argument as well as the outer vP layer responsible for the licensing of the external argument Fábregas (113): (20)



In this approach, roots introduce phonological indexes (Acquaviva; Borer, "Derived Nominals"), which are linked to specific entries in the lexical inventory. The lexical entries provide information on the morphosyntactic features that a given exponent can maximally lexicalise. The relevant specification for the exponent *suplic-* is as follows:

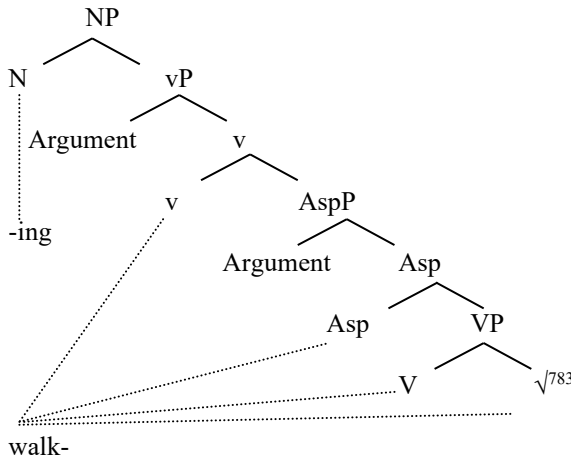
(21) /suplic-/ ↔ [N [v[Asp[V[√¹³²]]]]]

For the spell-out to be executed, it is crucial that the heads involved in the lexical entry form an uninterrupted syntactic constituent and appear in the hierarchical order specified in the lexical entry. In addition to this, the same lexical exponent can lexicalise two distinct representations, that of a N and V on the basis of the Superset Principle (Starke; Caha 55), which says that “a phonological exponent is introduced into a node if its lexical entry has a (sub)constituent that is identical to the node (ignoring traces).” Syncretism is possible when the lexicon lacks another entry corresponding to the syntactic tree. Since there is no other lexical entry for the verbal manifestation of the root 132, the lexical entry *suplic-* will render this function as well.

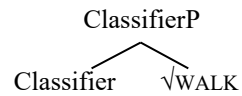
Because the entry of English *walk-* lacks a nominaliser feature, i.e. *walk* ↔ [v[Asp[V[√⁷⁸³]]]], it can only spell out a verb. To express a nominal structure an overt nominaliser is required (22a). In accordance with the Superset Principle, the item *walk* can spell out only the root (22b) when it is dominated by a classifier.

(22)

a.

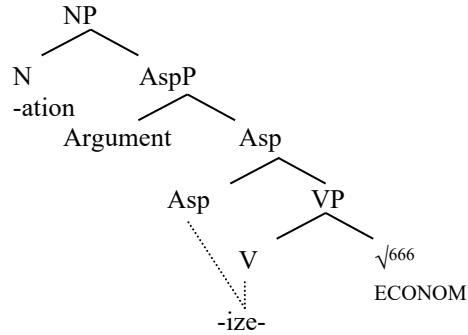


b.



Fábregas (116) describes his proposal as “lexical” because it is impossible to predict which morpheme will be capable of spelling out four or fewer heads. This analysis provides a straightforward account of the unacceptability of overt verbalisers in zero nominalisations: an overt marker under a verbaliser (V) breaks the unity of a syntactic constituent and blocks cumulative spell-out:

(23)



If there is an overt verbaliser, the morpheme *econom-* can only spell out the root. The morpheme *-ize* spells out V and Asp since it gives rise to a specific aspectual class of verbs. Consequently, an overt nominaliser is required for a nominal structure to arise.

To sum up, Fábregas accounts for AS-supporting root-based nominals with the aid of different specifications of lexical entries and the Superset Principle.

4.3 THE CATEGORISATION OF ROOTS AND THE FORMATION OF R-NOMINALS IN POLISH

Bloch-Trojnar (“A Neo-Constructionist Account”) implements Fábregas’ approach to Polish and demonstrates that morphologically null deverbal nouns can function as both AS-nominals and R-nominals (cf. the broad syntax of *ocena* in (18) above) or are confined to the R-nominal status (recall the discussion of *zapis* in section 3.2). It has transpired that the root or the extended root (i.e. a lexical/aspectual prefix+root combination) in Polish can synthetically realise an AS-nominal and an R-nominal (as in (24a–b) below) or an R-nominal when only the root merges with a classifier (as in (24c–d)). I would like to argue here that some roots are inherently classified as verbal, i.e. they contain a V layer in their structure (as in (24f–g)), and they will require an overt nominaliser.

- (24) a. *ocen* ↔ [N [v[Asp[V[√³³³]]]]]
 b. *o-pis* ↔ [N [v[Asp[V[√³³⁴]]]]]
 c. *za-pis* ↔ [√³³⁵]
 d. *na-pis* ↔ [√³³⁶]
 e. *słuch* ↔ [√⁴⁹⁰]
 f. *prze-słuch* ↔ [V[√⁴⁹¹]]
 g. *pis* ↔ [V[√³³⁰]]

Some morphemes (24a–b) can spell out an AS-nominal, i.e. a nominalised verbal stem, the verbal predicate or the root when it merges with a classifier to form an R-nominal. This explains why nouns such as *ocena* and *opis* can be ambiguous between argument-taking aspectual readings and idiosyncratic/resultative interpretations. Others, like those in (24c–e), can spell out the root and, depending on the type of extended functional structure that dominates them, will be verbs or nouns (R-nominals), i.e. *zapisać* ‘write down, record’, *napisać* ‘write down’, *szuchać* ‘listen’ or *zapis* ‘recording’, *napis* ‘inscription’, *szuch* ‘hearing’. Yet, other roots are lexically specified as verbal and their root cannot be directly merged with nominal functional structure. They require a nominaliser, and the default nominaliser that can merge with a VP is *-nie/cie*, i.e. it will be used when the relevant root is not in the list specifying the context for the merger with some other affix. It is pre-empted in *pis-mo* ‘(hand)writing, document’ but not in *przesłuchanie* ‘interrogation’.

Because some roots can spell out a noun (regardless of whether they can or cannot express AS) without any additional structure, the formation of a suffixed nominal would be a vacuous operation. Hence, they do not give rise to suffixed R-nominals. When the same root is verbalised, the presence of the theme vowel necessitates the merger with an overt lexical head (*-nie, -cie*) to form a nominalisation (i.e. *ocenienie, ocenianie, opisanie, opisywanie, pisanie, zapisanie, zapisywanie, napisanie*). In these, the verbaliser also spells out Viewpoint Aspect, and so *substantiva verbalia* cannot be aspectually ambiguous and they are AS-nominals.

However, if the root is inherently verbal, an overt exponent is necessary to effect category change. With such verbs, if the suffix dominates extended projections responsible for the licensing of AS an AS-nominal emerges, and if there is no AspP in the structure and the theme vowel spells out only the verbaliser, we can have an R-*nie-cie* nominal as in *przesłuchanie*.

Moreover, the presence of an overt verbaliser with a root merged with a nominal or adjectival functor blocks the formation of root-based nominals (e.g. *równ-a-nie* vs. **równ(a)*, *chami-e-nie* vs. **cham(a)*) and opens the way for the formation of AS- and R-*nie-cie* nominals.

Bloch-Trojnar (*The Mechanics* 269) notes that gradual transition verbs such as those in (25a) below cannot give rise to morphologically null deverbal nouns since they themselves arise by the merger of a verbaliser with a root categorised as an adjective. Furthermore, verbs which incorporate nominalised roots, are ruled out:

(25)	Base	Verb	Deverbal noun	R-<i>nie/cie</i> nominal
a.	<i>równ-y</i> ‘smooth, even’	<i>równ-a-ć</i> ‘level, even out’	–	<i>równanie</i> ‘equation’

<i>grub-y</i> ‘fat’	(z) <i>grubi-e-ć</i> ‘get fatter, thicker’	–	<i>zgrubienie</i> ‘thickening’
<i>plugaw-y</i> ‘filthy’	(s) <i>plugaw-i-ć</i> ‘befoul’	–	
<i>chud-y</i> ‘lean, slender’	(s) <i>chud-ną-ć</i> ‘lose weight’	–	
b. <i>gromada</i> ‘gathering’	(z) <i>gromadz-i-ć</i> ‘gather’	–	<i>zgromadzenie</i> ‘gathering, crowd’
<i>oliw-a</i> ‘oil’	(na) <i>oliw-i-ć</i> ‘to oil’	–	
<i>pilot</i> ‘pilot’	<i>pilot-ow-a-ć</i> ‘to pilot’	–	

This state of affairs is in line with Borer’s (“Derived Nominals” 75) observation that “AS-nominals always embed a real, attested verb”, i.e. the root must have a licit V spell-out. Root-based deverbal nominals are not possible, whereas stem-based verbal nominals terminating in *-nie/-cie* are possible with these bases, i.e. *równanie* ‘levelling’, *grubienie* ‘getting fatter’, *plugawienie* ‘befouling’, *chudnięcie* ‘slimming’, (z)*gromadzenie* ‘gathering’, *oliwienie* ‘oiling’ and *pilotowanie* ‘piloting’. Notably, the nominalising suffixes in such cases are preceded by thematic vowels which act as verbalisers. No verbalising elements are possible in root-based deverbal nouns, since the lack of overt verbalising morphology is a prerequisite for a portmanteau spell-out. In these nominals, in principle, the suffix could dominate a less complex structure giving rise to an R-nominal, some of which also arise, e.g. *równanie* ‘equation’, *zgrubienie* ‘thickening’, *sprostowanie* ‘correction’. More examples of such R-nominals include: *odmrożenie* ‘frostbite’, *zaczernienie* ‘reddening’, *zranienie* ‘injury’, *zgromadzenie* ‘gathering’, *znaczenie* ‘meaning’, *schronienie* ‘shelter’, *oskarżenie* ‘accusation’, *przejęzyczenie* ‘slip of the tongue’.

The verbaliser layer must be present in the R-*nie/cie* nominal structure, since its spell-out is crucial for the selection of the appropriate allomorphic variant of the nominaliser. Furthermore, the theme element that appears in nominalisations is the variant that does not appear in verbs inflected for tense.¹⁵ Consider the distribution of morphological markers in (26).

¹⁵ Laskowski (231–36) distinguishes between the basic and extended stem. The basic stem equals the root or the root plus the theme vowel. The extended stem contains the suffix *-ną-*. Due to alternations, basic stems can assume one of two shapes: full and shortened. Compare the 3rd pers.pl.ind. forms and their corresponding infinitive forms in ‘feel’ *czuj-ą*—*czu-ć* and ‘read’ *czytaj-ą*—*czyta-ć*.

(26)	Verb class				Verbal Noun
	VS1, VS2				root+theme element+nominaliser
a.	∅	<i>paś·ć</i>	‘graze’	<i>pasi-e-nie</i>	
b.	-i-	<i>tocz-y·ć</i>	‘roll’	<i>tocz-e-nie</i>	
c.	-e-	<i>krzycz-e·ć</i>	‘shout’	<i>krzycz-e-nie</i>	
d.	-e(j)-	<i>łysi-e·ć</i>	‘go bald’	<i>łysi-e-nie</i>	
e.		<i>pi·ć</i>	‘drink’	<i>pi-∅-cie</i>	
f.	-nɔ-	<i>kop-nɔ·ć</i>	‘kick’	<i>kop-nię-cie</i>	
g.	-ow-a-	<i>bud-ow-a·ć</i>	‘build’	<i>budow-a-nie</i>	
h.	-a-	<i>pis-a·ć</i>	‘write’	<i>pis-a-nie</i>	
i.	-a(j)-	<i>koch-a·ć</i>	‘love’	<i>koch-a-nie</i>	

The theme element is realised as *-e-* when the root ends in a palatalised or iotated consonant (26a–d), and as *-a-* after other consonants (26g–i). It is spelt out as ∅ when the root ends in a vowel (26e). When the theme vowel is overtly realised, the nominaliser *-nie* is merged and if it is silent *-cie* is merged. When the stem is extended and terminates in *-nɔ* the nominaliser *-cie* is selected to avoid the haplogical sequence **nię-nie* (26f).

5. CONCLUSIONS

R-nominals can have the structure in which the *-nie/cie* suffix dominates a VP or the VP with the first merging ExP segment, which is InnerAsp⁰. The verbaliser contributes category only and does not endow the root with grammatical event properties. Ultimately, the functional head licensing the object, i.e. Asp₀P, is not present in the structure, which opens up the way for a single en-search. We noted that an equally plausible path to pursue is to merge lexical and empty prefixes below the categorising head. Both accounts will automatically exclude the markers of secondary imperfective, semelfactive *-nɔ* and superlexical prefixes from R-nominal structures. On the first approach, they do not constitute the first merging projection, whilst on the second, they are above the VP and the outer cycle attachment rules out non-compositionality.

However, I would like to propose an account which unifies the two analyses, to the effect that it opens the way for the existence of prefix+root combinations which

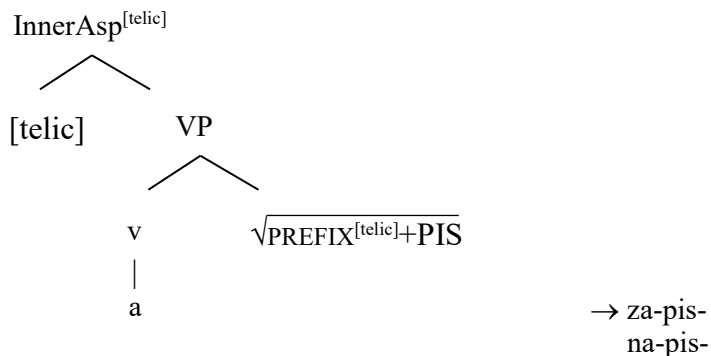
The shortened stem forms *czu-* and *czyta-* are employed in verbal noun formation, giving *czu-cie* and *czyta-nie*, respectively. Since the function of the morpheme *-nɔ* is the same as that of theme vowels in category changing operations, it will also be part of a verbal stem which merges with a nominaliser.

may, but need not, be verbalised. In my account, certain roots will qualify for only verbal or nominal spell-out or both. In addition, there appears to be a systematic difference in the way prefixes and suffixes are incorporated into the root. This may have to do with the fact that when suffixes are merged they act as categorisers and may additionally be implicated in aspectual marking. By way of contrast, prefixes do not combine an aspectual function with a change of verb class (*pis-a-ć—napis-a-ć, rob-i-ć—od-rob-i-ć, głupi-e-ć—z-głupi-e-ć*).¹⁶

Let us recall that in Łazorczyk’s proposal, as illustrated in (7) above, the lexical prefix is merged above the VP, which would imply that the root must be verbalised prior to prefixation. In the case of ‘empty prefixes’, only a telic feature is merged on top of VP. Alternatively, we can assume that first a prefix is merged with a categoryless root giving rise to another categoryless root with an idiosyncratic negotiated meaning. When this sequence is verbalised, the VP layer always comes with the InnerAsp⁰ layer dominating it. This is the lowest of the aspectual layers—it is insufficient to license the internal argument, but its presence in the structure is a necessary prerequisite for its realisation.

When the prefix+root combination undergoes categorisation, the telic feature contributed by the prefix percolates to the InnerAsp functional node. It is a semantic feature with functional significance. In the case of aspectual prefixes, it will be the only element of meaning that they introduce to the structure. In principle, when a bare root undergoes categorisation, VP will also project InnerAsp⁰, which can be specified as atelic or telic.

(27)



¹⁶ As rightly pointed out by the anonymous reviewer, there is another important property differentiating prefixes and suffixes. Namely, prefixes are specifiers or adjuncts, while suffixes (at least those that affect category) are heads. This might mean that prefixes are spelled out in a different space (à la Uriagereka) and therefore that they do not interrupt the sequence of heads for spell-out, or that they are inserted already spelled out and therefore they do not compute in the spell-out algorithm that deals with the suffixes.

In this way, Borer's proposal to regard the first merging ExP segment as the upper boundary for en-search still holds. The InnerAsp head can be filled with an overt prefix when the verbalised complex consists of a root+ov, e.g. *o-pak-ow-a-ć* 'wrap' (cf. (16b) above). Since in Polish the properties of the object have no effect on the *Aktionsart* interpretation of the predicate, Łazarczyk (99) assumes that the direct object is merged in Spec, VP, and then moves up to Spec, InnerAsp for case, following the movement of the verb from under VP to InnerAsp^{0,17}. The point is that in R-nominals there is no higher Aspectual projection to where the object could move.

Our approach will allow us to better understand the interaction between different types of R-nominals. We have established that an R-*nie/cie* nominal is not possible if there exists a morphologically null or suffixed R-nominal based on the same root. This would mean that for a given root the grammar will generate two types of nominal—the nominal with functional structure and the nominal without it.

(28) Verbs	R-nominals	
<i>przesłuchać</i> ^{PFV} —	* <i>przesłuch</i>	<i>przesłuchanie</i>
<i>przesłuchiwać</i> ^{IPFV}		'interrogation'
<i>zatrzymać</i> ^{PFV} —	* <i>zatrzym</i>	<i>zatrzymanie</i>
<i>zatrzymywać</i> ^{IPFV} 'stop'		'detention'
<i>pokazać</i> ^{PFV} —	<i>pokaz</i> 'show'	* <i>pokazanie</i>
<i>pokazywać</i> ^{IPFV} 'show'		* <i>pokazywanie</i>
<i>odczytać</i> ^{PFV} —	<i>odczyt</i> 'lecture'	* <i>odczytanie</i>
<i>odczytywać</i> ^{IPFV}		* <i>odczytywanie</i>
'read out'		
<i>pisnąć</i> ^{IPFV} — <i>napisać</i> ^{PFV}	<i>pis-mo</i> 'handwriting, letter'	* <i>pisanie</i>
'write'	<i>na-pis</i> 'inscription'	* <i>napisanie</i>

Let us summarise the ramifications of the different lexical specifications of roots, as proposed in (24). The inherently categoryless root *słuch* ↔ [$\sqrt{490}$] can be merged with N and V, giving rise to *słuch* 'hearing' and *słuch-a-ć* 'listen'. Since the verbalised root is atelic, only one ASN will be available and no R-*nie/cie* nominal is possible. The root *prze-słuch* ↔ [$\sqrt{491}$] is categorised as a verb only. Thus when it is nominalised, depending on the amount of verbal structure that the nominaliser dominates we can have an AS-nominal in two aspectual variants or an R-*nie/cie* nominal. By contrast, a complex root *pod-słuch* ↔ [$\sqrt{492}$] is categoryless, which means that it

¹⁷ The completion or termination of an event does not depend on the presence of the incremental theme argument, which can be omitted in context (Śmiech, *Funkcje* 44; Młynarczyk 103–6).

can be nominalised or verbalised. In the latter case only two ASNs will arise. The roots *pyt* \leftrightarrow $[V[\sqrt{380}]]$ and *za-pyt* $[V[\sqrt{381}]]$ which are inherently verbal can have an AS- and R-*nie/cie* nominal. However, the fact that an R-*nie/cie* nominal is not attested for *wy-pyt* $[V[\sqrt{382}]]$ and *prze-pyt* $[V[\sqrt{383}]]$ means that such forms are potential. The root *pis* \leftrightarrow $[V[\sqrt{330}]]$ is inherently verbal, but the morpheme *pis* can also spell out a categoryless root. The formation of a nominal structure can be accomplished by the merger of a nominaliser with a bare root to give an R-nominal or with a verbalised root, in which case only an ASN is possible. Finally, *o-pis* is lexically specified as a noun incorporating the verb with its ExP segments *o-pis* \leftrightarrow $[N [v[Asp[V[\sqrt{334}]]]]]$ to the effect that *opis* can spell out as an AS-nominal and R-nominal without any formal marking or, when it spells out the root, it can be merged with an overt V to feature in verbal contexts or to give rise to a doublet of aspect marked ASNs.

(29) Root	Root-ASN	Nominalised root R-nominal	Verb	AS- <i>nie/cie</i> -nominal	R- <i>nie/cie</i> -nominal
<i>sluch</i> \leftrightarrow $[V[\sqrt{490}]]$		<i>sluch</i>	<i>sluch-a-ć</i>	<i>sluchanie</i>	–
<i>prze-słuch</i> \leftrightarrow $[V[\sqrt{491}]]$		–	<i>prze-słuchać</i> <i>przesłuchiwać</i>	<i>przesłuchanie</i> <i>przesłuchiwanie</i>	<i>przesłuchanie</i>
<i>pod-słuch</i> \leftrightarrow $[V[\sqrt{492}]]$		<i>podsluch</i>	<i>podsluchać</i> <i>podsluchiwać</i>	<i>podsluchanie</i> <i>podsluchiwanie</i>	–
<i>pyt</i> \leftrightarrow $[V[\sqrt{380}]]$		–	<i>pytać</i>	<i>pytanie</i>	<i>pytanie</i>
<i>za-pyt</i> $[V[\sqrt{381}]]$		–	<i>zapytać</i>	<i>zapytanie</i>	<i>zapytanie</i>
<i>wy-pyt</i> $[V[\sqrt{382}]]$		–	<i>wypytać</i> <i>wypytywać</i>	<i>wypytywanie</i> <i>wypytywanie</i>	? <i>wypytywanie</i>
<i>prze-pyt</i> $[V[\sqrt{383}]]$		–	<i>przepytąć</i> <i>przepytywać</i>	<i>przepytanie</i> <i>przepytywanie</i>	? <i>przepytanie</i>
<i>pis</i> \leftrightarrow $[V[\sqrt{330}]]$	–	<i>pis-mo</i>	<i>pisać</i>	<i>pisanie</i>	–
<i>o-pis</i> \leftrightarrow $[N [v[Asp[V[\sqrt{334}]]]]]$	<i>opis</i>	<i>opis</i>	<i>opisać</i> <i>opisywać</i>	<i>opisanie</i> <i>opisywanie</i>	–

When the root alone is merged with nominal functional structure, its interpretation will be provided from the encyclopedia. When a verbalised root alone is nominalised, it may have non-compositional meaning, because there is no functional structure to license an internal argument, which is associated with the existence of a grammatical event. Borer (“In the Event” 125) underlines the fact that the compositionality of the derived nominal hinges on its relationship with the fully verbal/argumental complex, not with the verb. Thus, the presence of verbalising morphology in the nominal structure does not necessitate compositional semantics.

Borer's model is quite dexterous in ruling out illicit results, but the proposed constraints still allow for a considerable degree of overgeneration, in that R-*nie/-cie* nominals do not always arise where they are possible. This, however, is not a major concern for syntactic models of morphology.

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THE STRUCTURE OF R-NOMINALS IN *-NIE/-CIE* IN POLISH AND THE FACTORS CONDITIONING THEIR EMERGENCE

Summary

The aim of this paper is twofold: to establish the structure of deverbal nominals in *-nie* and *-cie* which lack argument structure and function as Simple Event and Result nominals, and to specify the factors conditioning their emergence. The proposed analysis is framed in Borer's exoskeletal model supplemented by elements of the nanosyntactic approach. The Polish data are puzzling since R-nominals in *-nie/-cie* show morphological evidence of the verbalising layer in the guise of a theme element alongside aspectual marking. The proposed account includes the aspectual projection of inner aspect in their structure and argues that the licensing of the internal argument is not related to the presence of verbalising morphology or of the inner aspect projection, which in the case of Polish can be multi-layered. For an R-nominal to emerge, the structure must not contain the projection of viewpoint aspect responsible for the licensing of the full argumental complex. The presence of the VP layer accounts for the ambiguity between simple event and concrete reading. A stem-based R-nominal will arise if there is no root-based R-nominal, e.g. *(s)kaleczyć* 'hurt' — **(s)kalecz* — *skaleczenie* 'wound' vs. *(po)dzielić* 'divide' — *podział* 'division'. Only R-nominals in *-nie* and *-cie* will be possible where the presence of an overt verbaliser with a root merged with a nominal or adjectival functor blocks the formation of root-based nominals, e.g. *łysy* 'bald' — *(wy)łysieć* 'go bald' — *wyłysienie* 'a bald patch' — **(wy)łys*.

Keywords: R-Nominals; deverbal nominals; argument licensing; AspectP licensing; Polish.

STRUKTURA ORAZ CZYNNIKI WARUNKUJĄCE POWSTAWANIE NIECZYNNOŚCIOWYCH RZECZOWNIKÓW ODCZASOWNIKOWYCH ZAKOŃCZONYCH NA *-NIE/-CIE* W JĘZYKU POLSKIM

Streszczenie

Celem artykułu jest określenie struktury oraz czynników warunkujących powstawanie rzeczowników dewerbalnych zakończonych na *-nie* i *-cie*, które nie posiadają struktury argumentowej oraz nie mają kategorialnego znaczenia czynnościowego. Analizę przeprowadzono w modelu egzoskeletalnym Hagit Borer wzbogaconym o elementy podejścia nanosyntaktycznego. Dane z języka polskiego są problematyczne gdyż analizowane rzeczowniki zawierają morfologiczne wykładniki tematyczne i aspektowe, które charakteryzują nominalizacje posiadające strukturę argumentową. Zaproponowana struktura zawiera projekcję aspektu leksykalnego (Asp_0), która może być wielowarstwowa oraz projekcję werbalizującą (VP), której obecność tłumaczy dopuszczalność znaczenia zdarzeniowego. Nie zawiera natomiast projekcji aspektu gramatycznego (Asp_{Ev}), która w przyjętym modelu odpowiada za licencjonowanie pełnej struktury argumentowej. Omawiane nominalizacje tematyczne powstają gdy nie istnieją spokrewnione nominalizacje rdzeniowe *(s)kaleczyć* — **(s)kalecz* — *skaleczenie*, *(po)dzielić* — *podział*) lub gdy nominalizacje rdzeniowe nie mogą powstać gdyż czasowniki bazowe są derywowane od rzeczowników lub przymiotników (*łysy* — *(wy)łysieć* — *wyłysienie* — **(wy)łys*).

Słowa kluczowe: rzeczowniki dewerbalne nieczynnościowe; struktura argumentowa; licencjonowanie projekcji aspektowych; język polski.