

Result States and Nominalization in Slavic and Germanic Languages

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Abstract. The paper discusses the type of *regular* nominalization in Slavic and Germanic languages, characterized by derivational productivity and semantic transparency. It offers a unified account of particular types of regular nominalizations found in these languages, and derives the variation in the availability thereof from two parameters pertaining to verbal aspect: the default aspectual value of a language, and the referential capacity of the perfective aspect. It is further argued that the type of deverbal nominals denoting *changes of states*, although not fully productive nor transparent, should be counted as regular, as well. Its special properties are explained employing a derivational step that is not available to ordinary regular nominalizations, namely, the incorporation of the phrase denoting a result state. In particular, the account covers Serbian Verbal and Resultative Nouns, West Slavic Verbal Nouns, German *-ung-*, and Dutch *-ing-*nouns, English Nominal Gerunds, and, possibly, English deverbal nouns ending in *-tion* and *-ment*.

Keywords: nominalization, aspect, change of state, result state, Slavic, Germanic.

1. Introduction

The observation that some words of human languages are in a way regular, and some irregular is probably as old as the study of language itself. Some words are formed according to a specific template and their interpretation is computed from the meaning of their constituents, and some other do not follow any particular model and have to be memorized as units. This paper deals with regularities found in the domain of deverbal nominalization in Slavic and Germanic languages. The overall claim is that these languages possess (in addition to many irregular) one regular means of derivation of deverbal nouns, but that that regularity can be partially outweighed by some grammatical processes giving rise to a specific type of nominals whose interpretation is not fully predictable from the meaning of their base verbs. The type in question are nominals whose core meaning can be described as *change of state*, but which can receive a number of related interpretations. A limited productivity, and partial transparency of these nominals are claimed to have the source in the way they are derived, namely, through the incorporation of the phrase denoting result state, a process which undermines full regularity of the derivation of deverbal nominals. I start with a discussion of data from Serbian, and then introduce data from other languages, to reach the generalization that particular types of deverbal nominalizations in Slavic and Germanic languages all belong to one and the same type of nominalization, viz. regular nominalization, despite striking differences between them.

Serbian deverbal nominalizations obtained from perfective past participles by means of the suffix *-je* are quite special morphological formations. They possess properties that distinguish them

from both fully productive and uniform Verbal Nouns on the one hand, and the multitude of idiosyncratic nominalizations obtained by means of various deverbal suffixes on the other. In this paper I will call this type of nominalization *Resultative Nouns* and attempt to provide an explanation for their special properties in which the notion of a result state will play major role. Before I start, let me lay out the landscape of Serbian nominalizations.

Serbian deverbal nominalizations form three classes: Verbal Nouns, Resultative Nouns, and Derived Nouns. Verbal Nouns are derived by the suffix *-je*, and they are the most productive means of nominalization: the only requirements they put on their input verbs are that they must be eventive,¹ and that they appear in their imperfective forms. Another characteristic of Verbal Nouns is that they are derived not from a stem, but from a full inflected form of a verb, namely the Passive Participle. This holds of all Verbal Nouns irrespective of whether the verb is transitive, or intransitive (and therefore lacking of the Passive Participle when used in a verbal context).

- (1) trč-a-ti → trč-a-n-je; pre-trč-áva-ti → pre-trč-áva-n-je
 run-theme-inf run-theme-pp-je over-run-impf-inf over-run-impf-pp-je
 ‘run’ ‘running’ ‘run across’ ‘running across’

The meaning of Verbal Nouns is fully recoverable from the meaning of their base verbs. Intuitively, they are names of the eventualities denoted by the verbs from which they are derived. Given their productivity and the transparency of their meaning, Verbal Nouns may be considered close analogues of English Nominal Gerunds.

In contrast to uniform Verbal Nouns, the class of Derived Nouns encompasses a motley of nouns derived by different suffixes each of which contributes a specific additional meaning to the noun it derives. In addition, these suffixes are not fully productive, in the sense that they do not attach to all verbs across the board, but rather apply only to some verbs, and the contribution of one and the same suffix may vary from one verb to another so that meaning shifts are often unpredictable. As a rule, these nouns are derived from stems or roots, and never from full inflected forms of verbs.

- (2) pas-ti → pad; za-vesl-a-ti → za-vesl-aj; br-a-ti → ber-ba
 fall-inf fall-∅ for-row-theme-inf for-row-aj pick-theme-inf pick-ba
 ‘fall’ ‘a fall’ ‘make a stroke of rowing’ ‘a stroke of rowing’ ‘pick’ ‘harvest’

Resultative Nouns are morphologically similar to Verbal Nouns: they are derived from Passive Participles, and by means of the suffix *-je*. Unlike Verbal Nouns, however, they are derived from perfective verbs, and are highly limited: only some perfective verbs can form Resultative Nouns.

1 The requirement that the verb be eventive cannot call into a question the generalization about regularity of these nouns, and will not be addressed here since it does not have bearing to the subject of the paper.

Thus, the imperfective verb *pretrčavati* ‘run across’ can form a Verbal Noun (1), but its perfective mate *pretrčati* cannot form a Resultative Noun (3). On the other hand the perfective verb *prekoračiti* ‘step over’ can host the suffix *-je*, that is, it can form a Resultative Noun.

(3)	pre-trč-a-ti	→	*pre-trč-a-n-je;	pre-korač-i-ti	→	pre-korač-én-je
	over-run-theme-inf			over-step-theme-inf		over-step-pp-je
	‘run across’			‘step over’		‘violation’

The most conspicuous difference between *-je*-nouns derived from perfective and imperfective verbs is the placement of stress: while Verbal Nouns have it on the same syllable as the underlying verb, with Resultative Nouns the stress has a fixed position on the penultimate syllable irrespective of the stress of the base verb, as indicated in the above examples. The meaning of Resultative Nouns is, unlike with Verbal Nouns, unpredictable: their denotation includes what intuitively can be recognized as events of transition into a state, and objects and, to a lesser extent, states obtained in these events (Arsenijević 2010).

Due to the non-uniformity of the meanings of Resultative Nouns, and other differences that set them apart from Verbal Nouns, the suffix by which they are derived might be plausibly considered, on a par with suffixes of Derived Nouns, an idiosyncratic suffix which happens to be phonologically identical to the regular suffix *-je* of Verbal Nouns. However, this line of approach would leave us without an important insight into the connection between the two types of nominalization; I argue that this is one and the same suffix, and ultimately, that the two types of nouns are one and the same nominalization type despite all obvious differences. In addition, I suggest that Verbal and Resultative Nouns are two guises of the same nominalization type available to all Slavic languages, and furthermore that German *-ung*, Dutch *-ing*, English Nominal Gerunds (also known as *ing-of nominals*, Abney 1987), and possibly English *-tion* suffixed deverbal nouns, belong to this same nominalization type.

2. Resultative Nouns

We see that the suffix *-je* does not set any restrictions when the base verb is imperfective, but is not so permissive when it comes to perfective verbs. A natural question to ask then is: Is there any principle that governs selection of verbs for Resultative Nouns, or are these nouns indeed just lexicalized collocations of randomly chosen verbs with the suffix? I believe that there is such a principle, and that it is actually identified by Rossdeutscher and Kamp (2011) for German *-ung*-nouns. These nouns are similar to Serbian Resultative Nouns in a number of ways. Most importantly, the range of possible meanings of these nouns involves events of transition into a state, states resulting from these transitions, and objects created in the events of transition. In addition, a vast majority of German *-ung*-nouns is derived from prefixed verbs, but not all prefixed verbs are able to serve as a basis for the derivation of these nouns. It is then reasonable to suppose that these nouns belong to the same (cross-linguistic) type, and that their formation is governed by the same principles. In their discussion of formation and interpretation of German *-ung*-nouns, Rossdeutscher and Kamp (2011) identify the constraint that *-ung*-nouns can only be

derived from verbs with a bi-eventive structure, that is, the structure in which are represented an event, its result state, and a node in which they are combined, which contains a condition of the form ‘e CAUSE s’, with *e* event, and *s* state variables. For these authors bi-eventive verbs are core-transitive verbs in the sense of Levin (1999), verbs which involve an affected theme that undergoes change in the course of the event. Mono-eventive, non-core-transitive, verbs would be those that may implicate a telos of the event, or a state resulting from it, but whose objects are not described as undergoing change. As an example they give verbs *säubern* ‘to clean’, a core-transitive, and *wischen* ‘to wipe’, a non-core-transitive verb. Unlike *wischen*, *säubern* and related verbs are not felicitous with conjunctive predicates of the type *to work and work*, they cannot form resultative constructions, but they do derive *-ung*-nouns:

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|-----|--|--|
| (4) | a. den Teller sauber wischen;
‘to wipe the plate clean’ | *den Teller rein säubern
‘to clean the plate pure’ |
| | b. er wischt und wischt;
‘he wipes and wipes’ | ?er säubert und säubert
‘he cleans and cleans’ |
| | c. *wischung;
wipe- <i>ung</i> | die Säuberung eines Tisches
the clean- <i>ung</i> a-gen table-gen |

Verbs that give rise to nouns derived with the help of the suffix *-ung* are themselves derived. As candidates for the derivation of these verbs come adjectives, nouns and verbs. In the case of deadjectival verbs, the adjective denotes a property of an individual, and the meaning of the verbs is, approximately, “cause to become a”. Verbs with nominal roots denote events in which an entity of the sort described by the noun is added to the object of the sentence, where the entity added does not have to exist before the event, but may be created as a part of the event itself. Particularly are interesting verbs derived from other verbs. Rossdeutscher and Kamp postulate that in the case of verbs like *bearbeiten* ‘deal with’, which are derived from manner denoting roots, a coercion takes place so that these roots are reclassified as property roots. In all three cases it is clear that base phrases that derive be-eventive verbs (consisting of an adjective, a noun, or a verb, plus a prefix) denote states of objects that are the themes of the derived verbs.

I suggest that bi-eventive verbs, identified by Rossdeutscher and Kamp as a source for the derivation of *-ung*-nouns, are the same verbs that have been claimed in the Distributed Morphology literature (Harley 2005, Arsenijević 2011) to originate through the incorporation of whole result prepositional phrases into the verb. This observation will serve as the basis for here presented analysis of the nouns derived from these verbs.

I present several tests which show that when a Resultative Noun has an eventive interpretation, it denotes the very component of a transition into a state described by the adjective, noun, or the verb that forms a part of the verb from which the noun is derived, while the process component of the total event is not available.

Compatibility with aspectual-temporal modifiers clearly shows that Resultative Nouns do not

refer to durative eventualities (examples in (5)). They are incompatible with adjectives that specify duration of an event and imply it not having reached the culmination, but compatible with *in* adverbials that imply culmination. On the other hand, Verbal Nouns derived from imperfective forms of the same verbs are perfectly compatible with durative adjectives. They are also free to occur with *in* adverbials, which suggests that they may denote culminations of the underlying eventualities, too, but this is not a question to address here.

- (5) a. petominutno *uskladištenje/uskladištavanje namirnica
5-minute.adj store.pf.je/store.impf.je food-products.gen
'5-minute-lasting storing of food products'
- b. petominutno *uništenje/uništavanje grada
5-minute.adj destroy.pf.je/destroy.impf.je city.gen
'5-minute-lasting destruction of the city'
- c. uskladištenje/uskladištavanje namirnica za pet minuta
store.pf.je/store.impf.je food-products.gen in 5 minutes
'the storing of the food products in 5 minutes'
- d. uništenje/uništavanje grada za pet minuta
destroy.pf.je/destroy.impf.je city.gen in 5 minutes
'the destruction of the city in 5 minutes'

In examples like (6) where there are durative adjectives, what is modified is not the event, but the state resulting from it, that is, in such cases the noun receives a stative interpretation.

- (6) prolazno/dvodnevno naoblačenje
passing/two-day-adj on-cloud.pf.je
'brief/two-day-long cloudedness'

Non-felicitousness with the adjective *postepen* 'gradual' is understood on the assumption that *gradual* presupposes a process which it can modify; there is no way for instantaneous events to be gradual. Again, imperfective counterparts of Resultative Nouns are good with this adjective.

- (7) a. postepeno *oslobođenje/oslobađanje grada
gradual free.pf.je/free.impf.je city.gen
'the gradual liberation of the city'
- b. postepeno *ustoličenje/ustoličavanje svih vladika
gradual enthrone.pf.je/enthroned.impf.je all bishops
'gradual enthronement of all bishops'

Resultative Nouns can denote changes caused internally, or by agents. In the later case the

presence of an agent can be attested by agent-oriented adjectives, *by*-phrases expressing agents (8a), or prepositional phrases expressing purposes of the modified eventualities (8b).

- (8) a. nevoljno povišenje plata od strane upravnika
reluctant rise salaries.gen from side manager
'the reluctant rise of salaries by the manager'
- b. zaključenje sporazuma sa ciljem unapredjenja odnosa
conclusion contract.gen with goal.instr enhancement.gen relations.gen
'the making of a contract with the goal of the enhancement of relations'

However, the total event denoted by a Verbal Noun is not wholly represented by the corresponding Resultative Noun as the process stage of the total event systematically escapes reference by this type of nouns. This is further illustrated by the following examples.

- (9) a. Izvršeno je *dodeljenje/dodeljivanje nagrade.
committed is allocate.pf.je/allocate.impf.je award.gen
'The allocation of the award is committed.'
- b. Uzivam u *uručenju/uručivanju nagrada.
enjoy.1sg in hand.pf.je/hand.impf.je awards.gen
'I enjoy handing out awards.'

In (9a), the verb *izvršiti* 'commit', which takes an event nominal as an argument, and says not merely that the event denoted by the nominal occurred, but also that it is brought about by an agent, requires a Verbal Noun, which does not exclude the part of the event in which actions of an agent are involved. This is not possible with a Resultative Noun. Imagine the sentence (9b) is uttered by an official that has the duty of handing out awards. He cannot use a Resultative Noun to name the kind of event in which he is a participant to express his attitude toward it, he must use a Verbal Noun, which does not exclude the event-component in which he is an agent.

Dutch *-ing* nominalizations go along with Serbian Resultative Nouns with respect to aspectual properties. Van Hout (1991) makes a remark that *-ing* nominalizations² are always delimited, while their base verbs may not be marked for delimitedness.

- (10) a. Ik was bezig mijn artikel in het Engels te vertalen, toen ik werd onderbroken door de telefoon.
I was busy my article into the English to translate, when I was interrupted by the phone.
Phone

2 Van Hout's remark is in fact about derived nominals in general, so it holds of *-ing* nouns as well. Anyway, almost all of her examples are *-ing* nouns.

- b. Ik was bezig met de vertaling van mijn artikel in het Engels, toen ik werd onderbroken
I was busy with the translation of my article into the English, ...
door de telefoon
- (11) a. Ik maak het vernederen van mijn kamergenoot dagelijks mee (sic)
I make the humiliate.inf of my roommate daily with
- b. Ik maak de vernedering van mijn kamergenoot dagelijks mee
I make the humiliation of my roommate daily with

Van Hout reports that the sentence (10a), with an infinitival complement to *bezig* ‘busy’, does not, but the sentence (10b), with an *-ing* noun, does imply, or at least suggests, that the translation has been carried out to the end. Also, the nominalized infinitive in (11a) is compatible with there being repeated events of humiliation during one day, but with the *-ing* nominalization in (10b) the humiliation is one delimited event.

The examples adduced here show that Resultative Nouns denote changes of states to the exclusion of processes that may be associated with these changes. This is expected if Resultative Nouns are derived by the incorporation of phrases that denote result states, states into which a theme comes to be after it underwent a change, as proposed above.³

3. Toward an analysis

The sketch of an analysis offered here, is partly inspired by the Distributed Morphology (DM) approach to the morphological structure of words (Marantz 1997), and especially verbs and deverbal nominalizations, but I will not strictly follow analytical tools developed in this framework. In particular, my notion of incorporation, although reminiscent of the notion of incorporation found in DM literature, has properties that come from particular needs of the account at hand. Here is given an approximate syntactic structure of the nominalization, which is assumed to be common for all languages that have the type of regular nominalization we are concerned with here. The account has two main goals: first, to show that Serbian Verbal Nouns and what I have here dubbed Resultative Nouns belong to one nominalization type, the type of productive and syntactically regular nominalization; and second, to show that this type of nominalization is found in other Slavic and Germanic languages, with cross-linguistic variation due to two parameters pertaining to the aspectual structures of these languages.

As pointed out in the introduction, there can be distinguished (at least) two types of nominalization, the regular and the idiosyncratic. The regular type is principally characterized by

3 Unfortunately, I am not in a position to give more examples from Germanic languages to strengthen the thesis.

productivity (in sense that no specific restrictions are set on the input verbs), and morphological and semantic uniformity. In the DM literature (cf. Alexiadou 2001) this is captured by the idea that the nominalization affects not just the root, but a more extended structure which includes various verbal and aspectual projections. The presence of this complex structure, which is built in the syntax, and hence unvarying, within the nominalization precludes idiosyncratic information from the root to have an impact on the overall construction, and creates morphologically uniform and semantically transparent linguistic items. This basic idea I follow here, too, and show furthermore how in the case of Resultative Nouns some space for unpredictability is open despite overall regularity.

For the particular purposes of the present account I assume that the suffix that derives regular nominalizations attaches to the complete verb phrase. The specification that the verb phrase be complete ensures that the affix always gets a complex structure for its input, necessary for the effect of regularity. Thus, the complete verb phrase must be conceived of as consisting of minimally two parts. These two parts I take to be: the lower, where the core lexical information is represented, and the higher, which contains a light verb that acts as a verbalizer, or effectuates its default aspectual value. The higher part can be added recursively and in Slavic languages this is the case when superlexical prefixes are added, or secondary (and tertiary) imperfectivization is carried out. The core lexical information in the lower part of the verb phrase may be carried by different lexical categories, verbs, adjectives, or nouns, and, in addition, an optional prefix or a particle can be included in the lower part of the verb phrase. This prefix, or particle, belongs to the class of lexical prefixes/particles, on the account given in Svenonius (2004). These prefixes originate in the prepositional complement of the verb, and have resultative meaning.⁴ The complete verb phrase then has the following global structure:⁵

(12) [v [X P]], where X=A/V/N

Into this structure fit all verbs when used predicatively. Of interest for us are prefixed verbs because they involve a result component. These fall in two groups, as shown in Arsenijević (2011). The first group is illustrated by the example in (13):

(13) a. Jovan je trčao. b. Jovan je u-trčao u kucu.
 John is run John is in-run in house
 ‘John ran.’ ‘John ran into the house.’

The prefixed verb in (13. b) is derived from an independently existing verb of manner of motion. Its prefix originates as a preposition in the prepositional phrase which expresses the final point of

4 The other is the class of Slavic *superlexical* prefixes which are similar to adverbs or auxiliary verbs, and whose meaning is aspectual and quantificational. The class of superlexical prefixes does not have immediate significance for the account in hand.

5 I am not concerned here with the word order, and it is neglected in the syntactic representations.

based on incorporation that I present here, coupled with an appropriate set of phonological rules could in principle derive differing phonological properties of the nouns preserving the idea of regularity of the two types of nominalization.

The interpretation of Resultative Nouns, and of resultative verbs, does not always follow strictly from the composition of their parts. The incorporation presumably leaves space for interaction with pragmatic factors. Consider the following example:

- (18) Jovan je uručio nagradu/*so Nikoli.
 John is in-handed prize/salt.acc Nicolas.dat
 ‘John presented the prize/salt to Nicolas.’

The verb *uručiti* is derived from the noun *ruka* ‘hand’ and the preposition *u* ‘in’. However, the verb cannot denote just any eventuality that involves putting something into somebody’s hands. In this particular case, it cannot mean *to hand over* (the salt), but it can mean *to give somebody something officially* (a prize, or a letter, etc.). Similarly, the mere putting of the food products into a warehouse does not by itself constitute the event of storing them. Additional conditions have to be met in order to felicitously use the verb *uskladištiti* ‘store’, in particular, to put them somewhere with an intention of preserving them, or of using them at some future time, or the like. These effects are even stronger with nouns derived from these verbs.

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|--|---|
| (19) a. Jovan je o-slobodio grad/Mariju.
John is around-freedom.pst city/Mary
‘John liberated the city/Mary.’ | Oslobođenje grada/*Marije
liberation city/Mary.gen
‘The liberation of the city/Mary’ |
| b. Pukovnik je s-kratio vojni rok.
Colonel is off-short.pst military term
‘The colonel reduced the military term.’ | Skraćenje vojnog roka
reduction military term
the reduction of the military term |
| c. Marija je s-kratila nogavice.
Mary is off-short.pst legs-of-trousers
‘Mary shortened the legs of the trousers.’ | *Skraćenje nogavica
reduction legs-of-trousers.gen
‘the shortening of the legs of trousers’ |

These examples give an impression that Resultative Nouns have to denote more abstract, or more important changes of states. In her discussion of German adjectival passives Kratzer (2000) employs the distinction between target states and resultant states borrowed from Parsons (1990). The term ‘target state’ corresponds to our result states, states that objects stand in after they underwent a change of state, and which are typically transitory. Parsons’ resultant state is the state of an event having culminated, which is eternal. So, for the event of my throwing a ball onto the roof, there will be the target state of *the ball being on the roof*, and also the resultant state of *my having thrown the ball onto the roof*. While all eventive verbs have Parsons’ resultant states, not all have his target states. Kratzer remarks that availability of target states can be contextually conditioned so that verbs which usually do not allow target states, in the right

context can be given a target state interpretation (that is, their *be*-passives). Kratzer gives the following example.

- (20) Die Katze ist schon gestreichelt.
The cat is already petted.

She observes that the sentence in (20) is odd out of the blue, but it improves in a context where the speaker's duty is to pet the neighbor's cat once a day while he is away.⁷ In all likelihood, something like this also happens with Resultative Nouns. The lower part of the verb phrase must be interpreted as denoting a result state (i.e. target state in Parsons' terms), which does not necessarily have to be the case. This is easy with adjectives and nouns, but less so with verbs. In any case, this state has to be seen as a condition of an object substantially different from the one in which it was previously if it is to serve as a basis for a resultative verb. This reinterpretation is presumably what provokes incorporation, and allows pragmatic factors to influence word formation.

4. Regular nominalization cross-linguistically

The analysis of resultative verbs given in the previous section allows us to determine points of divergence between Slavic and Germanic languages with respect to the type of regular nominalization. In particular, I show that this divergence is due to two aspectual parameters: the default aspectual value (perfective/imperfective) of the verbs of a language, and the referential potential of the perfective aspect.

Among the possible shapes of verb phrase mentioned in section 3, a language typically only nominalizes a subset of them. Serbian nominalizes imperfective verbs and resultative perfective verbs; German and Dutch nominalize only resultative verbs; in English, all nominalizations are imperfective; and, finally, Czech nominalizes all imperfective, as well as all perfective verbs.

Let me start with the difference between Serbian on the one hand, and German and Dutch on the other. As already suggested in the introduction the difference between these languages may stem from the general aspectual constitution of verbs of the languages of Slavic and Germanic groups. This difference can be briefly characterized as follows. The default aspectual value of Slavic verbs is imperfective, and the default aspectual value of Germanic verbs is perfective. While space precludes providing a detailed account of the contrast in question, a rough presentation of it can be given. The default aspectual value of verbs of a language is manifested in those verbs, or verb phrases, that can receive both telic and atelic interpretation, that is, verbs which are not lexically, or otherwise, specified for telicity, but whose telicity value emerges solely through the grammatical design of a given language. These are accomplishment verbs, or verb phrases, like

7 For further discussion of the phenomenon see Gehrke (2010).

bake the cake and *run to the store*. To detect the default aspectual value we also have to take care not to take into consideration complex or derived verbs. I have in mind verbs supplemented by particles and prefixes that may themselves license a particular telicity value. Simple (non-derived) achievement verbs must be excluded, too, because they are lexically specified for perfectivity.⁸ The following examples feature accomplishment verb phrases with basic verb forms.

- (21) a. Jovan je trčao do prodavnice \emptyset /*za pet minuta.
 J. is run to store for/in 5 minutes.
 ‘John ran to the store for/in 5 minutes.’
- b. Jovan je pekao taj kolač \emptyset /*za pet minuta.
 J. is baked that cake for/in 5 minutes
 ‘John baked that cake for/in 5 minutes.’
- c. John ran to the store in/*for 5 min.
- d. Anne soll heute Handschuhe stricken. (from Kratzer 2002)
 Anne should today mittens knit
 ‘Ann is supposed to knit mittens today.’

These examples show the basic aspectual difference between Slavic and Germanic languages. All sentences involve basic, non-prefixed and non-suffixed forms of verbs, but while they give rise to a telic interpretation in English and German, they fail to do so in Serbian. In the Serbian examples (21a,b) non-derived verbs are used, which are imperfective (the default aspect for Slavic verbs), and hence, since the verbs in question are accomplishments, receive an atelic interpretation in reports of single episodic eventualities. The Germanic examples also involve basic verb forms, but their interpretation is telic and perfective. These differences are indicated by compatibility with *in/for* prepositional phrases. Although in the Serbian examples elements that specify end-points for the described eventualities are present – a path phrase in (21a) and a definite object noun phrase in (21b), *in*-phrase is not allowed. On the other hand, the German example (21d) involves an indefinite object noun phrase, but nevertheless the interpretation is telic: Ann would not fulfill her obligations if by the end of the day there would not be any mittens done. I take this to prove that Germanic verbs are by default perfective, while Slavic verbs are by default imperfective.

This result then explains the absence of the whole class of regular nominalizations in German and Dutch on the assumption that the regular nominalizing suffix requires imperfective verbs as its input. In absence of imperfective verbs in German and Dutch, no regular nominalization is possible. The exception are however resultative verbs, which have the ability to override the

8 These verbs are not numerous because the majority of achievement verbs are derived, but they nevertheless exist in Slavic languages and include, e.g., Serbian *pasti* ‘fall’, *reci* ‘say’, *dati* ‘give’, etc.

requirement of the suffix, and this is the case both in Serbian, and German and Dutch. At this point selectional restrictions of the regular suffix are stipulated, but in the continuation it will receive a natural explanation.

The state of affairs in English is the exact opposite of that in German, but it in fact fits well in the picture drawn for Serbian and German and Dutch, and further supports it. English suffix *-ing*, the counterpart of German *-ung*, underwent substantial historical changes (Poutsma 1923). It assumed the role of an imperfectivizing verbal suffix, and began to form a participle that contributes to the progressive periphrastic verbal construction. Being at the same time both a nominalizer and imperfectivizer, the suffix *-ing* gained the ability to build the type of nouns which are not available in German, the type of fully productive and regular nominalizations whose meaning is the closest to that of the underlying verb. These are Nominal Gerunds, the counterparts of Serbian Verbal Nouns. This gain is however obtained at the cost of Resultative Nouns: as soon as the suffix attaches to the verb, it deprives it of perfectivity, which is a necessary property to build Resultative Nouns, as witnessed by Serbian and German. The representation of English Nominal Gerunds will be something like the following, with the conflated nominalizer and imperfectivizing light verb.

(22) [ing_{NOM+IMPF} [run into]]

Though I cannot go into this question in detail here, it looks as though the gap corresponding to Resultative Nouns in English has been taken over by derived nouns ending in *-tion*, and *-ment*. As shown in Harley and Noyer (1998), these nouns exhibit the main properties of Resultative Nouns: they are derived from prefixed verbs (bipartite, in Harley and Noyer's words), they are derived only from some, not all verbs, and the range of their meanings includes that of Resultative Nouns: events of transition to a state, and states and objects obtained in these events. They are derived primarily from Latinate verbs, a fact whose explanation would have to rely on a theory of how the loan lexicon interacts with the morphology of a language, a topic which is far beyond the scope of this paper.

I have shown how variation in availability of the regular nominalization in Serbian, German, Dutch and English follows from the structure of verb phrase and specificities of aspectual systems of these languages. There is however further variation, found in Slavic languages. West Slavic languages systematically derive Verbal Nouns from both perfective and imperfective verbs, which is not the case in East Slavic languages, as reported in Dickey (2000).⁹ This means that there is in fact no principled incompatibility of nominalization with perfective aspect, and that the lack of perfective nominals in German, Dutch, and East Slavic languages has a source in

9 The situation in East Slavic is represented here by Serbian, i.e., Serbo-Croatian, although Dickey (2000) places this language somewhere in between the two poles. Nominalization in Bulgarian and Macedonian has the same properties as it does in Serbo-Croatian. The status of Russian is not clear probably because of great influence of Church Slavonic. See Schoorlemmer (1995), who claims that Russian lacks the type of Verbal Nouns characteristic of Polish.

some property other than perfectivity itself. The answer can be found in aspectual properties of West Slavic languages. Dickey (2000) characterizes the meaning of East Slavic perfective aspect as more complex than that of West Slavic. Namely, while West Slavic perfective has the meaning of totality, East Slavic perfective has an additional component of temporal definiteness. I take this to essentially mean that East Slavic perfective has referential/anaphoric properties that West Slavic lacks. The data from the languages clearly attest this. The following examples are from Dickey (2000).

- (23) a. Každyj den' on *vyp'et_{pf}/vypivaet_{impf} po odnoj rjumke vodki. (Russian)
 every day he drink on one glass vodka

Vypije_{pf} denně jednu skleničku vodky. (Czech)
 drinks daily one glass vodka
 'He drinks a glass of vodka every day.'

- b. Odnazdy on uže polučal_{impf} vygovor za opozdanie. (Russian)
 once he already received reprimand for late-arrival

Jednou už dostal_{pf}/*dostával_{impf} napomenutí za zpoždění. (Czech)
 once already received reprimand for late-arrival
 'He has already once received a reprimand for being late.'

The sentences in (23a) are intended to have habitual interpretation. In Russian this meaning is not possible to convey by a perfective verb because perfective aspect binds the eventuality to a specific point in time, which clashes with the meaning of a habitual sentence, the generic repeatability of a situation. In contrast, Czech allows use of a perfective verb form because it only encodes totality, indivisibility of a described situation, and does not have referential abilities of the eastern perfective. Sentences in (23b) are traditionally called general-factual (Švedova 1970). They basically mean that the speaker have in her/his experience a type of eventuality described by the verb, without implications as to how many times (s)he participated in this type of eventuality. The sentences in (23b) however explicitly specify that the type of eventuality happened once. Russian sentence necessarily involves an imperfective verb because reference to a specific event, generated by the perfective aspect, would clash with general-factual meaning imposed by the adverb *already*. In Czech, on the other hand, perfective does not clash with indefiniteness required by general-factual sentences, and is only available option in cases as (23b) where the *totality* of a unique event cannot be rendered by the imperfective aspect.

The conclusion then can be drawn from these examples is that reference to specific eventualities is not necessarily realized, as usually assumed after Partee (1973), by tense, but by aspect. This does not have to be a controversial claim given that many languages lack tense, but are still able to localize events in time (Smith 2008). More contentious is an assumption that I need here, and that is that not only in East Slavic, but also in Germanic languages, reference to specific eventualities is realized with help of the perfective aspect, the default aspect for these languages, as shown above. That this actually could be the case is not inconceivable, though. Anyhow, this

is not a place for the execution of this idea. Given that perfective verb phrases are referential in East Slavic and Germanic languages, impossibility of perfective regular nominalization in these languages follows on assumption that referential expressions cannot be nominalized. An answer to the question why this should be the case will not be attempted here. Exception are, of course, Resultative Nouns. On the account presented here these nouns are derived from verbs that are, in turn, derived through the incorporation of the result state phrases into the highest light verb of the verb phrase. This makes them unlike other perfective verbs because the process of incorporation requires loss of any referential/anaphoric features, so such verb phrases will be the only perfective and nonreferential verb phrases¹⁰ in languages with a referential perfective aspect, and hence licit input to nominalization.

5. Conclusion

The paper offered an explanation of the variability in the cross-linguistic availability of the type of regular nominalization in terms of aspectual differences in verbal systems of individual languages. As a crucial linguistic property that precludes regular formation of deverbal nouns is identified referentiality associated with the perfective aspect in some languages. In the case of the nouns formed from resultative verbs, it is demonstrated that the clash between referentiality and the requirements of nominalization cannot arise because of the loss of any referential features that takes place after the incorporation of the result state phrase.

Acknowledgments: I am extremely thankful to Louise McNally, Boban Arsenijević and Henriette de Swart for their help during the preparation of this paper.

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¹⁰ Unless further projections are added.

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