

# Nominalization and Aspect

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## **Abstract**

This dissertation contains three studies, which explore various questions about verbal aspect and how it is affected by the process of nominalization. The first study examines the type of regular eventive nominalizations in Slavic and Germanic languages, which comprise verbal and resultative nouns. It is shown that the availability of these nominalization types depends on how the values of two aspectual parameters are set up in particular languages. The second study deals with English *-er*, and French *-eur* deverbal nouns, which denote external arguments. Four different types of reading are recognized for these nouns: episodic, habitual, dispositional, and occupational/instrument readings. The observed variation is accounted for by means of the notion of a stage of an individual or a kind. The last study investigates in more detail the meaning of resultative nominals. They are claimed to have a meaning which parallels that of the perfect aspect in the sentential domain. The overall conclusion is that aspect plays a significant role in the semantics of deverbal nominals.

## **Resum**

Aquesta tesi ofereix tres estudis que exploren diverses qüestions sobre l'aspecte verbal i com està afectat pel procés de nominalització. El primer estudi examina les nominalitzacions eventives regulars les llengües eslaves i germàniques, específicament els noms verbals i resultatius. Es mostra que la possibilitat d'aquests tipus de nominalitzacions depèn de com els valors de dos paràmetres aspectuals es configuren en llengües concretes. El segon estudi se centra en els noms deverbals en *-er* d'anglès i en *-eur* de francès, que denoten arguments externs. S'identifica quatre interpretacions diferents per aquests noms: episòdica, habitual, de disposició, i ocupacional / instrument. La variació observada s'explica mitjançant la noció d'estadi (stage) d'un individu o d'una classe d'individus (kind). L'últim estudi investiga amb més detall el significat dels nominals resultatius. S'argumenta que aquests nominalitzacions tenen un significat paral·lel a la de l'aspecte perfecte en el domini oracional. La conclusió global de la tesi és que aspecte juga un paper fonamental en la semàntica dels noms deverbals.



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# CHAPTER 1

## INTRODUCTION

### 1 The subject matter of the dissertation

This dissertation deals with the grammatical process of nominalization and the role verbal aspect plays in it. Verbs and nouns are two principal parts of speech in natural language. The prototypical function of nouns is to refer to stable entities in the world whose identity is conceived of as independent of time. On the other hand, verbs, intuitively, do not refer, but ascribe properties or relations to entities, and these properties are often temporally dependent. However, a pervasive characteristic of natural languages is the ability to refer to these properties and relations as to entities, and then to predicate of them other properties or relations. This is achieved through the grammatical means of nominalization. Nominalization is a morphological operation by which nouns are formed from other parts of speech, usually verbs and adjectives. Consider the following sentences.

- (1) a. Ovo privredno društvo se bavi investiranjem, izgradnjom  
This business company REFL deals investment construction  
i prodajom nepokretnosti.  
and trading real-estates.GEN  
‘This business company deals with investment, construction  
and trading of real estates.’
- b. Ovo privredno društvo investira, izgrađuje i prodaje  
‘This business company invests, constructs, and trades  
nepokretnosti.  
real estates.’

The sentences in (1) express the same thought, but in different ways. In Tanasić’s (1995) terms, the sentence (1a) is obtained by

means of the decomposition of the predicates of the sentence (1b). It contains nominalizations of verbs which are used in (1b), and a semantically bleached verb, which serves to supply the predication, lost in the process of nominalization.

The nominalizations in (1a) denote events of the same type as their base verbs. But this is not the only kind of denotation that nouns derived from verbs can receive. Another prominent deverbal derivational type produces nouns that denote external arguments in the event types denoted by their base verbs.

- (2) Jovan je investitor, graditelj i prodavac nepokretnosti.  
Jovan is investor builder and trader real-estates.GEN  
'Jovan is an investor, builder and trader of real estates.'

The deverbal nouns in (2) denote agents in the respective eventuality types denoted by the verbs in (1b). It can be noticed that these nouns are derived by different suffixes in Serbian. The above examples are derived respectively by *-tor*, *-telj*, *-ac*. In addition to these, there are also *-lac*, *-nik*, *-ač*, *-ar*, and their allomorphs. All these suffixes have semantic specificities which are difficult to determine. On the other hand, English only has the suffix *-er* (and to a much lesser extent its variant *-or*), and French only has *-eur*. For this reason I will not consider Serbian agent denoting deverbal nouns, but will focus on English, and French.

Given that prototypical properties of nouns and verbs are very different, the question arises what happens with temporal dependence of ascription of properties or relations to entities when a verb gets nominalized. In particular, the destiny of verbal aspect under nominalization will be the topic of the dissertation in hand. Verbal aspect is manifested in many different ways, but it can be said that it is always about the same thing: representing eventualities in two ways, either as unbounded, ongoing, potentially continuing forever, or as bounded, reaching a point over which it cannot continue anymore. In the rest of the introduction I present basic properties of deverbal nominalizations and aspect related

issues that are useful to be acquainted with before reading the dissertation.

## 2 Types of nominalization in Serbian

In Serbian, as is usually the case in other languages, too, there are a number of affixes at disposal for the purpose of nominalization. In the following examples, which feature some suffixes, nouns and the verbs from which they are derived are written with separated stems and suffixes to show their derivational morphology.

- (3)    a. ber-ba < ber-em;                      c. udis-aj < udis-ati;  
          harvest pick.PRES                      inhalation inhale.INF
- b. prekrš-aj < prekrš-iti;            d. uvid-ø < uvid-eti  
          offense offend.INF                    insight realize.INF

We see that different suffixes select for different verbal stems to produce nouns: the suffix *-ba* is added to the present stem, and the suffix *-aj* to the infinitival stem. The third example shows that a stem alone (or a root) can form a noun. Alternatively, one could say that the zero suffix is added. There are many such suffixes, and they are characterized by greater or lesser degree of productivity, and idiosyncrasy of the meaning of the derived nouns. So, *berba* does not denote just any activity of picking something, it must be the collecting of fruits, or vegetables as an agricultural activity. No such component of meaning is evident in the verb itself. As for *udisaj*, this noun singles out one single taking in of the air out of an activity which consists of repeated such actions. Note that the verb *udisati* is imperfective, and thus in principle able to denote repeated actions, but the noun cannot have this meaning. A noun of the same meaning cannot be derived by the same suffix from the perfective verb *udahnuti* ‘inhale’. The same suffix can however derive a noun from a perfective verb, as shown by the noun *prekršaj* ‘offense’, in which case it cannot be said that the suffix singles out one repetition out of

a series of them. The last noun, *uvid*, perhaps even does not denote an event in which somebody realizes something. Rather, its semantics drifted to mean the content of one's psychological act, it refers to what one comes to believe after an act of comprehension. We see that different suffixes have different meanings and that these meanings are only partly predictable from the meaning of their base verbs and suffixes. In addition, one and the same suffix may have different types of meaning with different verbs with which it combines.

Between the motley of different types of nominalizations stands out one type distinguished by its productivity and predictability of its meaning – these are traditionally so called *verbal nouns* (Serbian: *glagolske imenice*). Below I introduce verbal nouns the way they are described in classical grammars of Serbian language (especially Stevanović 1991).

### 3 The morphology of verbal nouns

Morphological structure of verbal nouns is quite complex and puzzling. They are built from the passive participle (Serbian: *glagolski pridev trpni*) on which is added the suffix *-je*. Thus, in contrast to derived nouns, which are built on verbal stems or roots, verbal nouns are derived from whole verbal forms, i.e., complete words. This participle signifies that the object it modifies, or of which it is predicated has undergone some action or change, and is used in the formation of the passive voice. As such, it is normally formed only from transitive verbs. However, for the purpose of creation of verbal nouns, passive participles are formed from intransitive verbs as well, although these forms do not exist independently<sup>1</sup>. For example, there is not a passive participle *\*plakan* of the intransitive verb *plakati* 'cry', but such a form is apparently present in the verbal noun *plakanje*, similarly as the passive participle *pisan* of the transitive verb *pisati* 'write' is

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<sup>1</sup>Passive participles are used in no other regular grammatical formations beside verbal nouns.

identifiable in the noun *pisanje*. We see that formation of verbal nouns is not precluded by the non-existence of independent forms necessary for their creation, which points to a great degree of regularity and productivity of this type of nouns – the vast majority of Serbian verbs have their corresponding verbal nouns. This fact characterizes verbal nouns as a part of the verbal paradigm, i.e., as inflectional, and not derivationalal creations.

On the other hand, since the existence of past participles of intransitive verbs looks like an arbitrary and weakly motivated postulation, one may argue that verbal nouns are not derived from the passive participle, and propose that the suffix is not *-je*, but the ready-made suffix *-nje*.<sup>2</sup> However, the opposite stance has a particularly strong counter-argument. The passive participle in Serbian, as in other Slavic languages, is built by two suffixes. For the majority of verbs it is the suffix *-n/-en*, but there is also the suffix *-t*. Verbal nouns follow this difference. Those ending in *-nje* are derived from the passive participle which ends in *-n*, and the nominal suffix *-je*. Then, *nj* in this suffix is obtained by iotation of *n* by *j*.<sup>3</sup> Likewise, in cases where the passive participle ends in *-t* verbal nouns have ending in *-će*, where *ć*<sup>4</sup> is obtained by the iotization of *t*, according to the same phonological rule as the iotization of *n*.

(4)	<u>verbal noun</u>	<u>passive participle</u>	<u>infinitive</u>	
	küvā-nje	küvā-n	küvati	‘cook’
	začē-će	zāčē-t	zāčēti	‘conceive’

Therefore, postulating suffixes *-će*, and *-nje* for exactly the verbs that have passive participles ending in *-t*, and *-n*, respectively,

<sup>2</sup>Babić (1986) postulates four suffixes: *-nje*, *-enje*, *-jenje*, and *-će*, while Stevanović (1991) claims that imperfective verbal nouns are derived from passive participles, and perfective from stems by the suffix *-nje*.

<sup>3</sup>The digraph *nj* stands for the soft frontal palatal nasal phoneme /ɲ/, *n* stands for /n/, and *j* for /j/.

<sup>4</sup>Ć stands for voiceless soft frontal palatal affricate obtained by the iotational softening of *t*.

appears ad hoc, but this matching in no way can be seen as accidental.

Unfortunately, although convincing on the first sight, the view that verbal nouns are built on passive participles receives certain challenges by some further complications. Namely, the accent of imperfective verbal nouns is inherited from the infinitive, and not from the passive participle, as could be expected given the passive participial ending. This can be seen from the cases where these two forms differ in accent.

(5)	<u>verbal noun</u>	<u>passive participle</u>	<u>infinitive</u>	
	kòpānje	kòpān	kòpati	‘dig’
	čûvānje	čûvān	čûvati	‘take care’

The examples in (5) show that the length on the passive participle suffix is preserved in the verbal noun, but the accent is that of the infinitive, which is rising in both of the given examples, and not that of the passive participle, which is falling<sup>5</sup>. The original length of the accented syllable is preserved, though. This suggests that the derivation does not proceed straightforwardly from the passive participle. The problem which these discrepancies present must remain unresolved here.

Although the meaning of the passive participle is related to aspect in non-trivial ways, taking stance on the question whether verbal nouns are derived from the passive participle will not be essential for this dissertation, where aspect is the central topic of the discussion. The moral to take is that the formation of verbal nouns has the productivity of a regular grammatical inflection, for the purpose of which even passive participles of intransitive verbs seem to be formed. The observed productivity sharply contrasts verbal nouns with other nouns derived from verbs, like the ones adduced in (3), for which I adopt the name *derived* or *deverbal nouns*,

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<sup>5</sup>The system of Serbian accents consists of four accents marked this way: short raising – à, long raising – á, short falling – ä, and long falling – â, and a non-accented length – ā.

suggesting that they belong to the domain of derivation, rather than inflection.

The suffix *-je* is itself composite. It consists of the proper derivational part *-j*, which can be considered the nominalizer in this morphological construction, and the neuter gender suffix *-e* (*-je* is related to the feminine suffix *-ja*, present in, e.g., *gradnja* ‘building’, *mržnja* ‘hatred’, and which is less productive). The suffix *-je* is in general very productive in the formation of nouns, even not counting verbal nouns. Apart from them, it is present in several other types of derived nouns, and, what is very important, it almost always brings in some sort of abstract meaning. Most numerous are derived mass nouns: *trnje* from *trn* ‘thorn’, *granje* from *grana* ‘branch’. Such nouns denote pluralities of objects – thorns, and branches in the given examples – but are grammatically singular, and they exist alongside regular plurals of nouns denoting given objects. There are also nouns derived from adjectives, which may be roughly said to denote the property, or the quality denoted by the respective adjectives: *zdravlje* ‘health’, *izobilje* ‘abundancy’, *poštenje* ‘honesty’. We see that *-je* is a suffix with a general applicability which derives nouns from all verbs, adjectives, and other nouns. Since its semantic import is minimal, its significance can be considered just to lay in the conversion of other parts of speech into nouns.

Let it be added here as a part of the general morpho-phonological description of verbal nouns that they bear a length on the penultimate syllable, the one preceding the nominal suffix *-je*, and coinciding with the passive participle suffix *-en/-n*, or *-t*. The origin of this length is again not clear. Although it can be presumed that it comes from the passive participle, which mainly ends in a long syllable, some verbal nouns have this length even though the corresponding passive participles lack it. For example, from the passive participle *sěčen* of the verb *sěći* ‘cut’, with the short vowel of the suffix, the verbal noun is *sěčēnje*, with the length on the same suffix.

## 4 Perfective and imperfective verbal nouns

In Serbian, as in other Slavic languages, all verbs have one of two possible aspectual values: perfective or imperfective. Since passive participles preserve the aspect of their verbs, deverbal nouns derived from them by the suffix *-je* inherit the aspectual opposition too.

There are a number of differences between these two types of verbal nouns. Accent is one thing that distinguishes the two sorts of verbal nouns. As was already mentioned, imperfective verbal nouns consistently inherit the type of accent and its placement from the infinitive of its base verb. Contrary to them, all perfective verbal nouns have a uniform prosodical pattern: with them, stressed is the penultimate syllable with the long rising accent irrespective of the way their base verbs are accented. As an illustration, see the verbs in (4) with marked accents, where *kùvati* is imperfective, and *zàčēti* is perfective.

Another distinguishing property is the degree of productivity with which imperfective vs. perfective verbal nouns are formed. While practically any imperfective verb is allowed to form a verbal noun, there is a significantly smaller share of perfective verbs in this type of nominalization. Compared to rampant imperfective verbal nouns, the building of perfective verbal nouns looks as if it occurs only by exception. It is argued in the dissertation that the nature of the restriction set on formation of perfective verbal nouns comes from resultative semantics of these nouns, which is compatible with only some perfective verbs.

The resultative semantics is argued also to be the common semantic ingredient that underlies diversity in the range of denotation types of perfective verbal nouns. It is observed that all imperfective verbal nouns have the meaning that is most close to the meaning of the related verbs – they denote that same eventuality type that their base verbs denote. So it can be said that the nominalizer *-je* has a minimal contribution to the overall meaning of



the noun, and serves the function of only converting other parts of speech into nouns, and nothing more. Some imperfective verbal nouns can have other types of meaning, but they are not very frequent. On the other hand, some, but not all, perfective verbal nouns resemble imperfective verbal nouns in denoting events of the same type as their base verbs, which is illustrated by the following example.

- (6) Jovan se otreznilo za pet minuta. → Jovanovo otrežnjenje je  
 Jovan REFL sober in 5 minutes      Jovan's sober.NOM is  
 nastupilo za pet minuta.  
 occurred in 5 minutes  
 'Jovan sobered in five minutes.' 'Jovan's sobering occurred  
 in five minutes.'

In addition to this, and again unlike imperfective verbal nouns, many perfective verbal nouns have other types of meaning, too. As Zlatić (1997) has shown, these are Grimshaw's (1990) result nouns. Among them, most often recognized are objects and states resulting in the event denoted by the base verb, exemplified by nouns in (7).

- (7) a. ras-polož-enje,      pre-da-nje,      ot-kri-će  
 dis-lay down.PP.NOM    over-give.PP.NOM    from-cover.PP.NOM  
 mood                      legend                      discovery
- b. Rešenje (postavljenog zadatka) nalazi se u udžbeniku.  
 solve.PF.NOM assigned.G problem.G locate in textbook  
 'The solution (to the assigned problem) is in the textbook.'

Markova (2011) deals with Bulgarian nominalization types that correspond to Serbian verbal nouns derived from perfective and imperfective verbs. It is interesting to note that in this language, similarly to English, the two nominalization types differ morphologically: the counterparts to Serbian imperfective nouns are derived by the suffix *-ne* (8), and the counterparts to Serbian perfective nouns are mainly borrowings from Russian Church Slavonic, and are derived by the suffix *-ie* (9).

- (8) pe-e-NE,                      uch-e-NE  
sing-E.TH.VOW-NE    study-E.TH.VOW-NE  
‘singing’                      ‘studying’
- (9) pi-t-ie,                              pis-a-n-ie  
drink-T.PASS.PRT-IE.NEUT.SG    write-A.TH.VOW-N.PASS.PRT-IE  
‘a drink’                              ‘a writing/a written thing’

Markova (2011) finds that the two types are very different. She observes that *-ie* derived nouns rarely have eventive semantics and proposes that they have passive participles as their bases, whereas imperfective verbs regularly form nouns with an eventive interpretation and proposes that they are derived by the suffix *-ne* added directly to an imperfective verbal stem.

In the majority of traditional accounts imperfective verbal nouns are described as process denoting. However, in this dissertation I argue to the contrary – that imperfective verbal nouns can describe both telic and atelic eventualities. First, note that achievement verbs can form imperfective verbal nouns and retain their interpretation of momentary eventualities. Since achievement verbs are perfective in the first step of their derivation, for the purpose of nominalization they must first undergo imperfectivization.

- (10) Jovan je zatvorio/??zatvarao    prozor.  
Jovan is closed.PF/IMPF              window  
‘Jovan closed the window.’
- Jovanovo zatvaranje/\*zatvorenje              prozora  
Jovan’s close.IMPF.NOM/PF.NOM    window  
‘Jovan’s closing of the window’

In (10) we see that a telic event, rendered by a perfective verbal form is nominalizable by a morphologically imperfective verbal

noun. Therefore, imperfective verbal nouns can denote both telic and atelic eventualities.

From imperfective verbs, verbal nouns are formed virtually without restrictions, and, as verbs denoting both telic and atelic eventualities have imperfective forms, that means that both telic and atelic eventualities can be expressed through imperfective verbal nouns. Thus, we see that the imperfective aspect of verbal nouns does not exclude telic eventualities from their denotation, or shift telic interpretations to iterative. It in fact makes it possible for such eventualities to be expressed at all through nominalization. This is because the majority of verbs that denote such eventualities are perfective, and as such would not be able to form verbal nouns since perfective verbs are heavily restricted in forming verbal nouns, and only a small number of them are able to form them. Imperfectivization is a necessary step for derivation of verbal nouns from verbs whose non-derived member of their aspectual pair is perfective. The role of grammatical aspect is crucial because imperfectivization enables many accomplishment and achievement verbs, which are usually perfective in the first step of their derivation, to be nominalized because as perfective they would not be able to form verbal nouns. Perfective verbs do not match the imperfective in ability to nominalize. Those perfective verbs that do nominalize have an additional component of resultative semantics, and besides denoting perfective eventualities, they often denote what could be described, in a broad sense of the word, as *results*.

Given that they are derived from the same base, the passive participle, and with the same suffix, *-je*, perfective and imperfective verbal nouns apparently belong to the same type of nominalization, but the described great differences between them may justify the opposite view. This view is backed up by the fact that corresponding nominalizations in English are not only semantically, but also morphologically differentiated, as will be described in the continuation. Even if only for the sake of simplicity, I make the following terminological decisions. Imperfective verbal nouns will be called simply *verbal nouns* because they are the most close to

verbs of all other nominalizations. Perfective verbal nouns will be called *resultative nouns* for the presumed resultative semantics thereof, and nouns derived by other suffixes will be *derived nouns*.

## 5 A comparison with English nominalizations

In the preceding text we drew a distinction between Serbian verbal nouns as inflectional, and all other types of nouns formed from verbs as derivational. The same distinction can be drawn for English nominalizations, too. As the most productive, morphologically regular and semantically transparent type stand on the one side nominal gerunds, and on the other are a heterogeneous group of nouns derived by various idiosyncratic suffixes of limited productivity.

Nominal gerunds are formed with the suffix *-ing* added on the verbal stem. Since in English there is no opposition *perfective* vs. *imperfective* lexically built into verbs like in Slavic languages, nominal gerunds do not exhibit overt aspectual specifications. But in other respects English nominal gerunds are quite like Serbian verbal nouns. In particular, they can encode both perfective and imperfective eventualities. Consider the following examples.

- (11) a. Mary's writing up of the paper (\*up)  
b. John's washing of the car

The nominal in (11a) is built from a phrasal verb, in which the particle *up* is a means of delimitation of the event. In this it resembles Serbian achievements obtained by prefixation, and is normally understood as denoting a complete event, parallel to Serbian example (10). It is difficult to construe the eventuality otherwise because the presence of the particle lexically specifies the base phrasal verb for perfectiveness. On the other hand, the nominal in (11b) is derived from an accomplishment verb, and can be understood in both ways, either as denoting a perfective or an imperfective eventuality. Thus, we see that aspectual information

lexically encoded in the base verbs shows up in nominal gerunds too.

Although the primary function of nominal gerunds is to denote the same event types as their base verbs, they can have some interpretations other than their canonical eventive meaning. These secondary interpretations seem rather systematic and denote things or stuff that is the object of the activity denoted by the verb.

(12)     sewing, building, reading, opening

Among the nouns in (12), *building* passed the longest way away from its original meaning. It came to denote an entity, and that, independently of the situation in which it is viewed as the object of the activity denoted by the base verb. Serbian verbal nouns also have this type of denotation, which is another correspondence between the two languages.

(13)     šíce,     oranje,     jedenje (dialectal)  
           sewing, plowing, eating

We see that the suffix whose primary function is to form nouns denoting their base verbs' eventualities allows also these nouns to denote objects of these eventualities. It is not possible however that these nouns denote agents of the eventualities, and for this function is designated a distinct suffix.

English also has resultative nouns. This class of nouns is made up of various loan nominalizations from Latin. This fact however makes it difficult to determine some unambiguous criterion of membership in this class, for example, the way a morphological one exists for Serbian resultative nouns. It can be said approximately that the most typical English resultative nouns are those ending in *-ion* and *-ment*, but there are other Latinate suffixes like *-ance*, and *-al*, which seem to form nouns with more idiosyncratic meanings. *-ion* and *-ment* nouns exhibit a number of similarities in common with Serbian resultative nouns. First of all,

verbs they are derived from are mainly prefixed, and a great number of them contain an adjectival or nominal stems within themselves. This is in connection with their meaning: they denote events of change in which the result of the change is such as the noun or the adjective in the base suggests. Another common trait with Serbian resultative nouns is a high degree of idiosyncrasy in the meaning and existence of multiple meanings for one noun, in which they contrast nominal gerunds and verbal nouns, whose meaning is more uniform. So, in addition to denoting eventualities, which could be intuitively described as changes of state, they also denote objects and states resulting in these events of change. Often their meaning can shift in an extent that the connection with the base verb meaning is almost completely lost (cf. the example in (14b)).

The most striking fact about English resultative nouns is that they are not native Germanic words but loans from Latin (mainly through French). As words borrowed into English from a foreign language, resultative nouns exhibit a considerable degree of irregularity. Take the following examples.

- (14) a. motion, but: \*mote; tuition, but: \*tuit  
b. profess ‘claim openly’, but: profession ‘occupation’  
c. denigrate – denigration; Latin: denigrare – denigratio

In (14a), the verbs from which nouns should be derived do not in fact exist. In (14b), the meaning of the verb seems not to be related at all to the meaning of its nominalization. In (14c), etymologically looking, it is the verb which looks derived from the noun, and not vice versa. This is because the Latin source verb does not contain the element *-t-*, but its original nominalization does. In English the verb does contain this element, which suggests that it is not a direct borrowing, but a back-formation from the loan nominalization.

Concluding this contrasting of various Serbian and English nominalization types, we can say that they are remarkably alike. Both languages have a multitude of idiosyncratic suffixes on the one side, and one fully productive and regular nominalization type

on the other. In addition, they both have a type of resultative nouns, which are somewhere in between of the two before mentioned classes. Since Serbian and English are structurally very different languages, the observed correspondences between the two in the semantics of the discussed nominalizations are indicative of the existence of a deeper “logic of language” common to both of them, and presumably universally holding. Contrasting the grammatical properties of nominalizations across different languages will allow us to shed light onto this generic regularity, which underlies the diversity of expression realized through different grammatical means available across languages.

## **6 An overview of the dissertation**

The contents of the following chapters of this dissertation is as follows. In chapter 2, I discuss how the availability of verbal and resultative nouns, and their counterparts in other languages, is conditioned by the aspectual properties of the verbal system of a language. I explore Slavic and Germanic languages, and establish that there are two aspectual parameters which allow or prevent the formation of the two types of nominalization. Chapter 3 deals with English *-er/or* and French *-eur* deverbal nouns which denote external arguments in the sentences with their base verbs. I show that there are (at least) four different readings of these nouns, the main distinction being that between readings entailing event actualization and that without such entailments. An account of the relevant behavior of these nouns is offered in terms of event kinds and event tokens. In chapter 4 I discuss the properties of resultative nouns in Serbian and English with the aim of determining what their specificity is. I propose that in addition to being derived from perfective verbs, resultative nouns are also perfect. Positing this additional requirement explains that only some perfective verbs, namely those that have perfect, i.e. resultative, semantics, form resultative nouns. In the last chapter I present the conclusions to the thesis.







## CHAPTER 2

# THE CROSS-LINGUISTIC ASPECTUAL VARIATION IN NOMINALIZATION<sup>6</sup>

## 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 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.

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<sup>6</sup>This chapter is a slightly revised version of Ignjatović (2013).

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<sup>7</sup>, 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) a. trč-a-ti → trč-a-n-je;  
run.theme-inf run-theme-pp-*je*  
‘run’ ‘running’
- b. pre-trč-áva-ti → pre-trč-áva-n-je  
over-run-impf-inf over-run-impf-pp-*je*  
‘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

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<sup>7</sup>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.

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 to only 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;                      br-a-ti        →    ber-ba;  
 fall-inf fall-ø                      pick-theme-inf    pick-ba  
 ‘fall’ ‘a fall’                      ‘pick’                      ‘harvest’

- za-vesl-a-ti    →    za-vesl-aj  
 for-row-theme-inf    for-row-aj  
 ‘make a stroke of rowing’ ‘a stroke of rowing’

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. 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) a. pre-trč-a-ti    → \*pre-trč-a-n-je;  
           over-run-theme-inf  
           ‘run across’
- b. pre-korač-i-ti    →    pre-korač-én-je  
           over-step-theme-inf    over-step-pp-je  
           ‘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 (Arsenijević 2010). 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 the object resulting from the event and, to a lesser extent, states obtained in these events.

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 *-ion* suffixed deverbial nouns, belong to this same nominalization type.

## **2 Verbal and 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* derived 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. Given these properties of *-ung* nouns, it is reasonable to suppose that they belong to the same (cross-linguistic) type as Serbian resultative nouns, and that their formation is governed by the same principles. In their discussion of the 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:

- (4) a. den Teller sauber wischen; \*den Teller rein säubern  
       ‘to wipe the plate clean’    ‘to clean the plate pure’
- b. er wischt und wischt; ?er säubert und säubert  
       ‘he wipes and wipes’    ‘he cleans and cleans’

- c. \*wischung; die Säuberung eines Tisches  
wipe-*ung* the clean-*ung* a-*gen* table-*gen*

Verbs that give rise to nouns derived with 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 *adjective*”. 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 in the course 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 bi-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 the 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 that it have not reached the culmination, but are 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 naoblacenje  
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  
conclusion contract.gen with goal.instr enhancement.gen  
odnosa  
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* nominalizations<sup>8</sup> 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  
I was busy my article into the English to translate, when I  
werd onderbroken door de telefoon.  
was interrupted by the phone
- b. Ik was bezig met de vertaling van mijn artikel in het  
I was busy with the translation of my article into the  
Engels, toen ik werd onderbroken door de telefoon  
English, when I was interrupted by the phone
- (11) a. Ik maak het vernederen van mijn kamergenoot  
I make the humiliate.inf of my roommate  
dagelijks mee  
daily with
- b. Ik maak de vernedering van mijn kamergenoot

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<sup>8</sup>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.

I make the humiliation of my roommate  
dagelijks mee  
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<sup>9</sup>.

### 3 Towards 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, have 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,

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<sup>9</sup> Unfortunately, I am not in a position to give more examples from Germanic languages to strengthen the thesis.

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 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 phrase, XP, where the core lexical information is represented, and the higher phrase, vP, which contains a light verb that acts as a verbalizer, and/or provides the default aspectual value of a verb phrase. The higher phrase 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 phrase of the total 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 this 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<sup>10</sup>. The complete verb phrase than have the following global structure<sup>11</sup>:

(12) [<sub>VP</sub> V [<sub>XP</sub> 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 (13b) is derived from an independently existing verb of manner of motion. Its prefix originates as a preposition in the positional phrase which expresses the final point of the motion event denoted by the base verb. The preposition is said to incorporate into the lexical verb, thereby giving rise to telic interpretation and perfective aspect of the derived verb.

The other is the class of prefixed verbs that express a transition into a state, in which this state is expressed by the core lexical component of the verb itself. Therefore, only the result component is present in the verb, but not the process component that is delimited by this result.

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<sup>10</sup> 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.

<sup>11</sup> I am not concerned here with the word order, and it is disregarded in the syntactic representations.





b. [<sub>NP</sub> je<sub>NOM</sub> [<sub>VP</sub> avan [<sub>VP</sub> u-skladist-i [<sub>XP</sub> t t]]]]

Notice that the structure in (17a) is symmetric: the whole body of the verb is adjacent to the nominalizing suffix *-je*. The structure in (17b) is, however, asymmetric: the body of the verb is divided in two parts, only one of which is adjacent to the nominalizer. Arsenijević (2010) discusses deadjectival nominalization in Serbian, where the same phenomenon can be observed. He proposes that the stress comes to the most deeply embedded element that projects functional structure, and that with nouns that preserve original stress, this element is the stem, and with nouns that are stressed on the penultimate syllable, this element is the suffix. The way in which Arsenijević proposes to obtain the symmetrical configuration is through truncation of the built up structure so that there is nothing remaining between the suffix and the input verb. This however deprives us of possibility to establish any relation between the two types of nouns (verbal and resultative nouns), and to see them both as regular outputs of the syntactic computation. More importantly, it is not clear why the same suffix would apply to two very different constituents: a full-fledged predicational phrase, and an adjectival stem obtained by truncation. I do not attempt here to provide an account of the stress-patterns of Serbian regular nominalizations, but point out that if stress is a phonetic means to mark groupings of linguistic elements (Halle 1997), then difference in the structures of the two types of nouns provides basis for the difference in their phonology too. The account of the structure of the resultative nouns 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 Nikola.dat  
'John presented the prize/salt to Nikola.'

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.

(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<sup>13</sup>. In all likelihood, something like this also happens with resultative nouns. The lower part of the verb phrase is not necessarily always interpreted as denoting a result state (i.e., target state in Parsons' terms), but in order to form a resultative noun it has to receive such an interpretation. This is easy when the verb nominalized is itself derived from an adjective or a noun, but less so when it is derived from another verb. In any case, this state has to be seen as a condition of an object substantially different from the one in which

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<sup>13</sup> For further discussion of the phenomenon see Gehrke 2010.

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 nominalizations 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 the 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 imperfective, as well as 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 *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<sup>14</sup>. 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 Serbian examples (21a,b) non-derived verbs are used. They 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 the compatibility with *in/for* prepositional phrases. Although in Serbian examples elements that specify end-points for the described

<sup>14</sup> 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’, *reći* ‘say’, *dati* ‘give’, etc.

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 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 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) [<sub>VP</sub> ing<sub>NOM+IMPF</sub> [<sub>XP</sub> 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)<sup>15</sup>. 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 some property other than perfectivity itself. The answer can be found in aspectual properties of West Slavic languages. Dickey (2000) characterize the meaning of East Slavic perfective aspect as more complex than that of West Slavic. Namely, while West Slavic perfective has only the meaning of

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<sup>15</sup> 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.

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) aa. Každýj den' on \*vyp'et/vypivaet po odnoj rjumke vodki.  
 every day he drink.PF/IMPF on one glass vodka
- ab. Vypije<sub>pf</sub> denně jednu skleničku vodky.  
 drinks daily one glass vodka  
 'He drinks a glass of vodka every day.'
- ba. Odnadždy on uže polučal vygovor za opozdanie.  
 once he already received.IMPF reprimand for late-arrival
- bb. Jednou už dostal/\*dostával napomenutí za zpoždění.  
 once already received.PF/IMPF 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 ((23aa)) 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 ((23ab)) 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 subject 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 ((23ba)) 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 ((23bb)), on the

other hand, perfective does not clash with indefiniteness required by general-factual sentences, and is only available option in cases like (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. Of course, resultative nouns present an exception. 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 phrases<sup>16</sup> 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

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<sup>16</sup> Unless further projections are added.



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.

## CHAPTER 3

### ON THE READINGS OF *-ER* NOMINALS

#### 1 Introduction

This paper deals with the interpretations that deverbal nominals derived by the suffix *-er* may receive. The *-er* derived nominals are traditionally called “agentive nominals”, but this generalization cannot stand up in the face of examples in (1) with different thematic roles. This led some researchers to propose that they denote external arguments (Rappaport Hovav and Levin 1992), and are not limited to the agent thematic role.

- |     |  |               |
|-----|--|---------------|
| (1) | a. John is a teacher.                  | [agent]       |
|     | b. a great defuser of pent-up emotions | [causer]      |
|     | c. a holder of a Visa card             | [holder]      |
|     | d. a dazzled admirer of Washington     | [experiencer] |
|     | e. a grinder                           | [instrument]  |
|     | f. a receiver of compliments           | [beneficiary] |

However, this generalization is not correct either. Alexiadou and Schäfer (2010) discuss exceptional examples of the following type.

- |     |   |
|-----|---|
| (2) | a. baker (a baked potato)                         |
|     | b. scratcher (a lottery ticket that is scratched) |
|     | c. diner (a place to dine in)                     |

d. sleeper (a train one can sleep in)

Among all of these possible types of *-er* nominals I will focus in this paper on those that are derived from eventive verbs, and are not exceptions to the external-argument generalization.

Grimshaw's (1990) seminal study establishes a three-way distinction among deverbal nominals: Complex Event Nominals (CEN), Simple Event Nominals (SEN), and Result Nominals (RN). The classification is based on a cluster of properties characteristic of CENs, but not the other two types of nominal. Most importantly Grimshaw shows that the properties of the projection of arguments and of the "strong" eventive interpretation are always correlated. By "strong" eventive interpretation is meant that it is grammatically encoded and detectable through various syntactic tests. Concretely, while both CENs and SENs denote events, only the former accept 1) modification by frequency adjectives such as *frequent* without the need to pluralize, 2) aspectual modifiers like *in three hours*, 3) subject oriented modifiers like intentional clauses, e.g. *in order to document their disappearance*, and adjectives like *intentionally*, and 4) *by* phrases which denote arguments. These properties determine the nominals in (3) as CENs and those in (4) as SENs.

- (3) a. the frequent collection of mushrooms in order to document their disappearance
- b. the destruction of the city in a day
- c. the examination of the students by the teacher
- (4) a. the (\*frequent) collection (\*in order to document the disappearance of mushrooms)
- b. the destruction (\*in a day)
- c. the examination (\*by the teacher)

These examples (from Borer 2003) show a tight correlation between the presence of the argument structure and grammatical eventive interpretation (for a recent challenge to Grimshaw's generalization cf. Grimm and McNally 2013).

Rappaport Hovav and Levin (1992) observe that a distinction similar to the described can be also drawn within *-er* deverbal nominals.

- (5) a. the mower of the lawn  
b. the transmitter (\*of the message)

The nominal in (5a) refers to an individual associated with a particular event, the mowing of the lawn, and displays the argument structure, as predicted by Grimshaw. The nominal in (5b), on the other hand, refers to a device for transmission of electromagnetic waves. Since the device does not have to be associated with an event, the argument structure is excluded, again in accord with the generalization.

Much research following Grimshaw sought to explain the observed correspondence positing different syntactic structures for CENs and SENs (Halle and Marantz 1993, Marantz 1997, Alexiadou 2001, Borer 2003). The main idea of this research is that the internal syntactic structure of SENs does not involve verbal functional projections which license argument projection and entail the existence of an event. The event semantics comes about only with the projection of special functional heads so that verbs are not lexically specified to denote events. This clashes with a Davidsonian approach to verb denotation, according to which verbs denote properties of events.

In this paper I try to draw attention to a possible way out of this problem by taking that the basic meanings of verbs, as well as nouns, are properties of event kinds (cf., for example, Landman and Morzycki 2003, Espinal 2010, Espinal and McNally 2011, Gehrke

2012, Gehrke and McNally 2015). In addition, I provide an account of a more elaborate typology of *-er* nominals comprising four classes and two subclasses.

In the section 2 I discuss findings of two previous works on *-er* nominals: Alexiadou and Schäfer 2010, and Roy and Soare 2014, and establish the mentioned typology of the nominals. In the section 3 I analyze *-er* nominals using the notion of a stage of an individual (Carlson 1977) and the idea that verbs describe event kinds, relying on Gehrke and McNally (2015).

## **2 Previous work on *-er* nominals**

### **2.1 Rappaport Hovav and Levin (1992)**

As mentioned in the introduction, Rappaport Hovav and Levin (1992) show that Grimshaw's generalization holds of *-er* derived nominals as well. That is, these authors state that an *-er* nominal will have an argument structure if and only if it has an eventive interpretation. For instance, the examples in (6) correspond structurally and semantically to Grimshaw's Simple vs. Complex Event Nominals, respectively.

- (6) a. life saver; fly catcher  
b. saver of lives; catcher of flies

For a person to be described as a life saver there do not have to be any concrete events in which he or she saved anybody's life, it is enough that the person's profession is saving lives or that he or she is trained for saving lives. On the other hand, a *saver of lives* must have been engaged in a real event of saving somebody's life – mere training will not suffice, and in fact is not necessary either. Similarly, *fly catcher* normally denotes an instrument designed for the eponymous purpose (world knowledge prevents us from construing it as agent denoting although such interpretation is not

excluded on grammatical grounds), but it could have never been used to catch flies. In contrast, the construction *catcher of flies* implies existence of events of catching flies<sup>17</sup>. The standardly used test to show that a nominal is associated with an eventive interpretation, the compatibility with adjectives which are taken to modify events like *frequent*, *constant*, confirms Rappaport Hovav and Levin’s conclusions about *-er* nominals. Addition of *frequent* to a nominal forces obligatory projection of the argument structure, as seen in (7). On the other hand, if the argument structure cannot be projected, as is the case with synthetic compounds in (8), the addition of *frequently* leads to ungrammaticality, which is explained by their non-eventive interpretation (cf. also Borer 2012).

(7) a. the constant defender \*(of the government policies)

b. a frequent consumer \*(of tobacco)

(8) a. \*a constant policy defender

b. \*a frequent lawn mower

Another important thing noted is that argument structure projecting nominals cannot denote instruments, but that synthetic compounds denote both instruments and animate referents. This means that non-eventive nominals denote either occupations like *life saver*, *fire fighter*, *teacher*, or instruments like *orange crusher*, *mixer*, *transmitter*, and that eventive ones only denote true agents, that is, individuals as performers of actions.

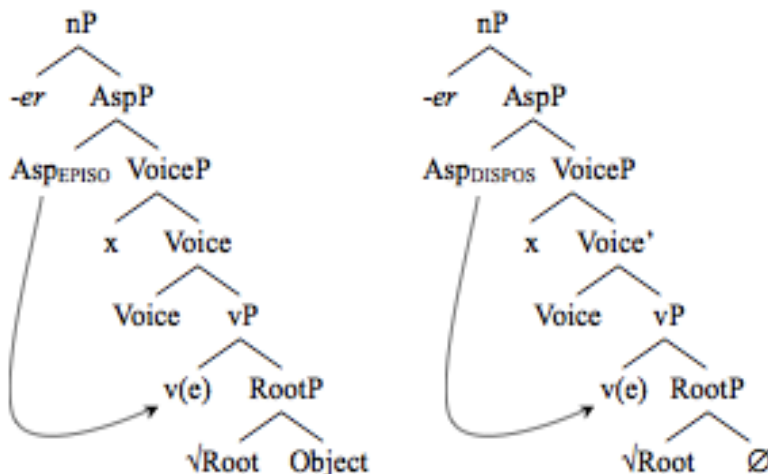
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<sup>17</sup>McNally (personal communication) notes an interesting fact that might support such a contrast between the nominals in (6a) and (6b). The fact is that the (b) examples do not easily have a metaphorical use (as when you tell someone who has brought you a cup of coffee when you are very tired “You’re a life saver/??? saver of lives”).

## 2.2 Alexiadou and Schäfer (2010)

The distinction between the two classes of *-er* nominals is maintained by Alexiadou and Schäfer (2010), but for them they are both eventive. They posit the source of difference in the type of the aspectual head that binds the event variable: an episodic one is responsible for event entailing reading and argument structure, and a dispositional one gives rise to the readings characteristic of synthetic compounds. Their analysis represents a departure not only in the understanding of the semantics of these nominals, but also from the way nominalizations are commonly approached in the syntactic literature. As discussed in the introduction, syntactic approaches to word formation (van Hout and Roeper 1998, Marantz 1999, 2001, Alexiadou 2001) explain differences in properties of different kinds of nominalization in terms of presence vs. absence of different functional layers in the syntactic structure of the nominals. Somewhat simplified, such approaches would have as a leading idea that complex event nominals involve one or more verbal functional projections, which secures eventive interpretation and projection of argument structure, while simple event nominals and result nominals would be built directly from roots uncategorized as verbs, nouns or adjectives, and would accordingly lack properties characteristic of complex event nominals. Alexiadou and Schäfer's account is couched in the Distributed Morphology framework, but does not use these common ways of dealing with nominalizations. Instead, they assign the same syntactic structure to both synthetic compounds and argument structure *-er* nominals:

- (9) a. [+event]-er-ASP<sub>EPISODIC</sub> b. [-event]-er-ASP<sub>DISPOSITIONAL</sub>



In these structures the nominal head is the nominalizer, its function is to introduce a referent, which it finds in the Specifier of the Voice-projection. According to Kratzer (1996), external arguments are severed from verbs and are introduced by this separate head. So, little *n* picks up the external argument and is spelled out as *-er*. Both types of nominals contain a verbal projection *vP* which introduces the event variable. This is a necessary ingredient of eventive nominals, but not sufficient for actual event entailment and argument structure, according to Alexiadou and Schäfer. The locus of difference is in the aspectual head, which is filled with different aspectual operators, episodic and dispositional, as indicated in (9), and which differentiate the two types of nominals.

The motivation the authors provide for such an analysis is threefold. The first is the presence of verbal morphology, i.e. suffixes like *-ize*, *-ate*, *-ify*, both in argument structure nominals and synthetic compounds.

- (10) a. colon-ize – coloniz-er; dict-ate – dictat-or  
 b. humid-ify – humidifi-er; calcul-ate – calculat-or



However, Roy and Soare (2014) state that this argument is not convincing since the verbalizing/causative morphology is not necessarily associated with compositional causative meaning. For example, French verb *diplomatiser* means ‘act as a diplomat’ (Martin and Piñón 2013). The second motivation Alexiadou and Schäfer find in the fact that these nominalizations are totally productive and non-idiosyncratic. In the Distributed Morphology approach, idiosyncrasy is linked to root formation because in such cases interpretation is not restricted in any way as it is when functional projections are present. However, this is not correct. Borer (2012) adduces examples of non-compositional synthetic compounds, which she relates directly to the absence of event properties:

- |      |              |                    |
|------|--------------|--------------------|
| (11) | war mongerer | *to monger (a) war |
|      | baby-sitter  | *to sit (a) baby   |
|      | face lifter  | #to lift (a) face  |

The third argument comes from the modification by adjectives such as *beautiful* and *good*, which are claimed by Larson (1998) to have an event related reading, entailing the presence of an event variable in the logical representation of the nominal. Alexiadou and Schäfer claim that this reading is available for both types of nominals, and provide these examples of instrument denoting nominals modified by such adjectives.

- (12) fast calculator; fast elevator

The availability of the modification by *fast* is taken as a proof of the presence of an event argument in the structure of the nominal. That the adjective *fast* really modifies an event is corroborated by facts from Romance languages. In these languages the distribution of event related modifiers is not as free as that of non-event-related ones when the noun does not provide an event variable. Namely, Romance pre-nominal position is associated with non-intersective

(i.e. event related, in our case) readings, while post-nominal position allows for both intersective and non-intersective readings.

(13) a. Un buon attaccante [Italian, from Cinque 2003]  
A forward good at playing forward  
#A good-hearted forward

b. Un attaccante buono  
A forward good at playing forward  
A good-hearted forward

(14) a. \*o rapida masina; o masina rapida [Romanian]  
a fast car a car fast

b. un rapid calculator; un calculator rapid  
a fast calculator a calculator fast

The noun in (13) certainly contains the event argument and consequently an event related adjective is possible in the prenominal position. On the other hand, in (14a) event related reading is not available and the adjective is not possible in the prenominal position. We see, however, that in (14b) instrument denoting noun is modifiable with this kind of adjective in the prenominal position. This is taken by Alexiadou and Schäfer to prove the presence of event argument with dispositional *-er* nominals, as well as with episodic ones.

The Distributed Morphology theory takes it that roots are uncategorized and that what is recognized as a noun, verb or adjective is always a product of a syntactic formation, i.e. it is a complex item and not an atom. This is a stance adopted by Alexiadou and Schäfer too. Thus, they explain eventive modification of nouns by the presence of event introducing layers in the syntactic structure of the nouns. However, when confronted with examples like

(15) just king, fast horse

they assume that these nouns do not contain a layer introducing events and that they are associated in some other way with the nouns. But, on assumption that postulates of Distributed Morphology about language architecture are right, there does not seem to be a reason following entirely from the postulates of the theory why not to take that the nouns in (15) contain events too<sup>18</sup>. They further provide an German example ((16)) suggested by Antje Rossdeutscher to support the view that eventive adjectival modification is only possible with nouns involving syntactically represented events. The noun *Strahler* ‘spotlight’ is derived from *strahlen* ‘to shine’ and the noun *Lampe* ‘lamp’ is root derived.

- (16) a. heller Strahler, scharfer Strahler,  
           bright shiner   sharp   shiner
- weiter Strahler, breiter Strahler  
           ample shiner   wide   shiner
- b. helle Lampe, #scharfe Lampe,  
           bright lamp   sharp lamp
- \*weite Lampe, #breite Lampe  
           ample lamp   wide lamp

But why is *Lampe* root derived and *Strahler* verb derived? Why can *Lampe* not be embedded under a vP and why can *Strahler* not be derived directly from the root? I do not see other answer than that roots prefer to occur in one context, verbal or nominal, in order to avoid ambiguity. But this comes down to the hypothesis, lexicalist in nature, that roots carry with themselves their syntactic category. I conclude from this that it is more plausible to accept the common sense claim that verbs are words which denote events, and that it is they who introduce verbal structure in nouns derived from them and not an independent verbal projection which may or may not be

<sup>18</sup>Here I only discuss the Distributed Morphology theory and do not make any assumptions on what the syntactic structure of various types of nouns should be.

there. From the event denoting semantics of verbs would follow their grammatical properties and nouns derived from them would inherit their semantics but also modify it and possibly enrich it. Distributed Morphology is practically falsified by the most obvious fact that some roots belong to one and other to another syntactic category and that this is at least partially determined by their conceptual meaning. Alexiadou and Schäfer do not use the means that are designed in Distributed Morphology to account for precisely the phenomena that they deal with since for them both argument structure nominals and synthetic compounds contain all the same verbal projections. This makes their account only formally related to the Distributed Morphology framework, and not relying on it essentially because they could have safely said that the source of the event is the verb from which the noun is derived itself and not the vP projection. The only reason in fact why they want to have a separate functional head introducing an event variable is to differentiate episodic and dispositional *-er* nominals from another type of *-er* nominals that they discuss. These are *-er* nominals not obeying the “external argument generalization” (non-subject *-er* nominals) like *baker* ‘a baked potato’, or *scratcher* ‘a lottery ticket that is scratched’ and which are not the subject of our interest in this chapter. The use of the theory boils down to an ad hoc device for classification of different types of nominals. Since according to the authors non-subject *-er* nominals are non-productive and show a high degree of semantic idiosyncrasy, they assign them a simple syntactic structure involving only the root and the nominalizer nP to the exclusion of any verbal projections. However, it is not a right course of action to devolve an account of this type of nominals to root nominalization and call upon idiosyncrasy because it is clear that these nominals too make reference to an eventuality type denoted by their base verbs. Furthermore, as we will see, Roy and Soare (2014) recognize another class of *-er* nominals, distinct from non-subject ones, which they present as candidates for the same derivational type. So it seems that the theory does not provide enough sophisticated tools to do justice to the whole range of subtypes of *-er* nominals, and that is why alternative means have to be resorted to.

As I showed, Alexiadou and Schäfer’s account to a large extent represents a departure from the Distributed Morphology theory, and I believe that this is in fact a desirable aspect of their work. I will try to pursue this direction of thought to its final consequences rejecting altogether independent event introducing functional heads and locating the source of all variation in the type of quantification over the event variable introduced by the verb itself. Before doing that I want to discuss the important contribution of Roy and Soare (2014).

### 2.3 Roy and Soare (2014)

Roy and Soare’s (2013, 2014) account, based on French data, accords with Grimshaw’s generalization, but introduces some further refinements. They partition *-er/-eur* nominals in a different way than Alexiadou and Schäfer, and determine three classes thereof: one non-eventive (to which instrument denoting nominals belong), and two eventive: dispositional and episodic nominals, which are always animate. The distinction within the class of eventive nominals is based on compatibility with adjectives that modify the event internal to the nominals. The adjectives of the type *big* are compatible with both types of eventive nominals (18a,b), but are not compatible with instruments in the intended eventive reading (18c). The frequency adjectives like *frequent* are compatible only with episodic nominals (17a).

- (17) a. un consommateur fréquent de LSD  
           a consumer frequent of LSD
- b. ?? un vendeur fréquent de voitures  
           a seller frequent of cars
- c. \*un aspirateur fréquent de la poussière  
           a suck.ator frequent of the dust  
           intended: ‘a frequent vacuum-cleaner of dust’

- (18) a. un heureux/gros consommateur de LSD  
 a happy/big user of LSD
- b. un petit vendeur de voitures  
 a small seller of cars
- c. un grand/gros mixeur  
 a big blender  
 ‘a big blender’ –/ blends much

They claim that the episodic meaning is available only when internal arguments are specific (definite expressions, demonstratives, etc.), and that the dispositional meaning arises with non-specific arguments (bare singulars, indefinite plurals, etc.). Therefore, according to Roy and Soare the distinction between episodic vs. dispositional is not based on presence vs. absence of argument structure, but on the nature of the arguments involved. They establish a scale of the strength of event entailments of deverbal nouns depending on the specificity of their internal arguments: the more specific an argument that a deverbal noun has, the stronger the event entailment is that it gives rise to. Of course, the entailments cannot vary in strength, a nominal either entails actual occurrence of an event or does not, there cannot be anything in between. What is meant is simply the variance in compatibility with different adjectives considered to be modifiers of events. They illustrate the correspondence with these examples from French.

- (19) a. Particular event (specific DP object)  
 souffler ce/ le/ mon verre  
 blow this/ the/ my glass
- b. Episodic *-eur* N  
 le souffleur de ce/ du/ de mon verre  
 the blower of this/ of.the/ of my glass
- (20) a. Particular event (specific quantity object)

souffler des verres  
blow of.the glasses  
'blow some (specific) glasses'

b. Episodic *-eur* N  
le souffleur des verres  
the blower of.the glasses  
'the blower of the glasses'

(21) a. Non-particular event (non-specific quantity object)  
souffler des verres  
blow of.the glasses  
'blow glasses'

b. Dispositional *-eur* N  
le souffleur de verres  
the blower of glasses  
'the blower of glasses'

(22) a. Non-particular event (non-specific mass object)  
souffler du verre  
blow of.the glass  
'blow glasses' [sic]

b. Dispositional *-eur* N  
le souffleur de verre  
the blower of glass '  
the blower of glass/glass-blower'

The tight correspondence in interpretation of *-er* nominals and verbal phrases is taken as a compelling argument that they are derivationally related. For this reason Roy and Soare posit that all nominalization types in (19) – (22), that is both dispositional and episodic agentive nominals, are eventive and involve argument structure. The difference lies in the type of quantification over the internal event variable: the existential for episodic and the generic for the dispositional nominals, the difference which is conditioned

by the specificity of the internal argument, as described above. They offer the following logical representations.

- (23) a.  $\exists$ [<sub>DP/NP</sub>N[<sub>AspEvP</sub>-er[<sub>AspEv</sub>e][<sub>AspQP</sub>DP<sub>specific</sub>[<sub>AspQ</sub>][<sub>rootP</sub>]]]]  
 b. GEN[<sub>DP/NP</sub>N[<sub>AspEvP</sub>-er[<sub>AspEv</sub>e][<sub>AspQP</sub>DP<sub>non-specific</sub>[<sub>AspQ</sub>][<sub>rootP</sub>]]]]

Like in Alexiadou and Schäfer's account these nominals contain complex verbal structures within them, but in contradistinction to Alexiadou and Schäfer, in Roy and Soare's account, instrument denoting nouns are directly derived from roots, which accounts for the lack of event entailments and argument structure. The authors are not explicit on the status of occupational nominals, which, as is already said, denote animate beings, but pattern with instruments rather than with eventive nominals. Given these properties thereof, it follows that they should be as well analyzed as non-eventive nominals, i.e. differently from what in Roy and Soare's analysis are French dispositions.

Upon a closer look at the classification of nominals in (19) - (22) we may see that the authors put verb phrases with the partitive *de* construction in the object position as counterparts of *-eur* nominals with bare complements. But partitive phrases are not non-specific in the same way as bare (plural or singular) nouns. They are normally used in episodic sentences, when they imply existence of a certain quantity of the stuff or objects in question. This is also supported by Serbian data.

- (24) a. Jovan kupuje hleb i prodaje ga po višoj ceni.  
 Jovan buys.IMPF bread.ACC and sells it at higher price  
 'Jovan buys bread and sells it at a higher price.'  
 b. ??Jovan kupuje hleba i prodaje ga po višoj ceni.  
 Jovan buys.IMPF bread.GEN and sells it at higher price

The sentence in (24b), which has an intended generic interpretation, is not good with an object in the genitive case (the so



called partitive genitive), but is good with an object in the accusative case. This must be so because the accusative does not carry specificity entailments characteristic of the genitive. With partitive genitives specificity is implied of the quantity of stuff denoted by the noun, but not of the identity of the same stuff. Notice also that the verb of the sentence in (24b) is in the imperfective aspectual form, which licenses the generic interpretation of the sentence. But if we refer to a specific event of buying some (quantity of) bread, we have to use a perfective aspectual form of the verb and in that case the object NP in the genitive becomes acceptable.

- (25) Jovan je kupio hleba.  
 Jovan is bought.PF bread.GEN  
 ‘John has bought some bread.’

The French sentence in (26) has a generic interpretation and a partitive NP in the object position. However, without the prepositional phrase *avec du lait* ‘with milk’ the generic interpretation does not survive and the sentence has to receive an episodic interpretation, referring to an ongoing eventuality in the time of speech.

- (26) Jean boit du café avec du lait.  
 Jean drinks PART coffee with PART milk  
 ‘Jean drinks coffee with milk.’

Thus the sentence is best understood along the lines of the paraphrase ‘Whenever Jean drinks coffee he drinks it with milk’. So it is this conditional structure that enables the generic interpretation of the sentence and the clauses of the conditional are not generic. In this way the partitive phrases occur with episodic events embedded in the clauses of a conditional so they are also embedded in the conditional and are not interpreted on the same level where the generic interpretation obtains. We thus see that partitive noun phrases are compatible with episodic eventualities, but not with generic ones. This discussion points to the conclusion that the

complements of the nominals in (21) and (22) are not derived from the verb phrases Roy and Soare proposed for them. This raises the question of what bare noun phrases in the *de* complement to the nominalizations are, which is an all the more surprising fact given that bare noun phrases are prohibited in argument positions in French.

Similarly to French, the bare plural complement gives actuality entailments of “intermediate” strength in English too. Consider the following examples (based on Ignjatović 2012):

- (27) a. John teaches deaf children.  
b. John is a teacher of deaf children, #but he has no students.  
c. John is a teacher, but he has no students.

In the generic sentence in (27a) the object NP does not refer to any specific deaf children as it would in an episodic sentence, but there must have been instances of John teaching which involved deaf children. This implication is preserved under nominalization as shown by the infelicity of the second clause in the sentence (27b) which denies the existence of the students. On the other hand, if there is no complement to the noun, no implications arise either, as is evident from (27c). This suggests that in English only nominalizations without complements can have a purely occupational reading, the one of a kind with instrument denoting nominals.

It is a very curious phenomenon that in French, a language which is generally considered to strongly forbid bare noun phrases in argument positions, constructions like (21b) and (22b) are possible. Bare complements in (21b) and (22b) are plural and mass singular. Since the grammatical behavior of plurals and mass terms is similar (and they received uniform treatments in most analyses so far, cf. Link 1983, Chierchia 1998) the examples do not really represent separate classes. Considering that these types of noun

phrases can also occur in the same position in English, this may be a not so big surprise. But notice, however, that in French not only bare plurals and mass terms may occupy this position, but also bare singulars of countable nouns are allowed, which is impossible in English, although English is more permissive of bare noun phrases (bare plurals, specifically) in argument positions than French. Roy and Soare do not discuss specifically this class of complements (and do not single it out as distinct), but mention some examples ((28)).

- (28) le dresseur de lion; le vendeur de voiture;  
the trainer of lion; the seller of car;
- les conducteurs de camion vers Paris  
the drivers of truck to Paris

It remains to be looked more closely into this type of complements to see what its individual properties are. Here I offer some preliminary remarks. Knittel (2010) shows that with indefinite event nominalizations, bare complements display a number of syntactic and semantic properties characteristic of pseudo-incorporated nominals in the sense of Massam (2001). I will not illustrate these properties, but only mention them here: non-referentiality, weak degree of individuation, number neutrality (i.e., independently of their morphological number marking they may receive both singular and plural interpretation), low scope with respect to negation and modals, discourse opacity, adjacency to the head into which they incorporate, lack of determiners, lack of case-marking, ability for coordination, compatibility only with “classifying” modifiers. Knittel’s investigation shows that these properties are not any peculiarity of deverbal nominalizations, but are characteristic of simple nouns with *de* complements too, and she analyzes them as possessional DPs. These properties clearly liken French nominalizations that possess them to English synthetic compounds. If this is so, then it should be asked whether French *-eur* nominals with bare complements lack eventivity entailments as English synthetic compounds were claimed to lack? Roy and Soare think that they do not, and that differentiates them from English synthetic

compounds. For Roy and Soare all animate *-eur* nominals are dispositional or episodic, that is, they have event entailments, whereas instrument nominals are non-eventive. They claim that complements with instruments are not arguments, but modifiers as they cannot be definite NP, but only bare singulars and plurals.

- (29) a. Le photocopieur (\*de l'article)  
the copy-er of the article  
The copy-machine (\*of the article)
- b. concasseur de maïs; distributeur de cartes  
crusher of corn distributor of cards  
corn crusher; card distributor

However, they are not explicit on whether animate *-eur* nominals with bare singular complements can be modified with *grand/gros* 'big', which would be a decisive test for their exclusive belonging to dispositional nominalizations. I did not investigate this question, but I doubt that nominals like *un gros conducteur de camion* will be felicitous. Although it presumably has some effects, the nature of the complement probably is not the only factor that decides on availability of the modification with *big* type adjectives. Even English synthetic compounds may receive this type of modification (*a big tobacco consumer*), which suggests that they should not all be lumped together, as is usually done. I will not explore this question in detail; the important thing here is that there is a division between event entailing nominals and those which are not event entailing. Knittel (2010) also shows that bare plural complements may, but need not be interpreted as incorporated. This fact leads me to propose that among French nominals with bare plural and singular complements there are two types of reading: one dispositional, with bare plural complements and modifiable with *grand/gros*, and the other which is like instrument nominals, which does not accept modification with *grand/gros* and with complements both bare plurals and bare singulars.

A further important, and again surprising, thing to note is that bare *de* complements are interpreted quite regularly as objects of the underlying verbs of *-eur* nominals as would be interpreted object noun phrases in the sentential context. The same is true of English bare *of* complements and the first constituent in synthetic compounds. They also do not involve any high degree of idiosyncrasy otherwise expected of bare nouns in languages which generally ban them. For example, Espinal and McNally (2011) show that when a bare singular occurs in an argument position in Spanish and Catalan, it is always with severe lexical restrictions on the verb (viz. only with verbs of possession) and with additional semantic effects that are difficult to unambiguously pin down. Nothing like this is seen with complements of *-er/-eur* nominals. So the conclusion is that bare nouns are precluded from argument positions in sentential contexts, but not in non-sentential, i.e. nominal contexts.

Above I proposed that the classes in (21) and (22) should be collapsed due to the similarity of bare plurals and bare mass nouns. Another point about Roy and Soare's systematization of *-er/-eur* nominals that I want to draw attention to is that the classes in (19) and (20) do not in fact behave uniformly with respect to the test proposed for episodicity. Although both of these nominals entail actual instantiation of event types whose agents they denote, only the first one is episodic in the exact sense of the word because only it implies the existence of one event while the other implies a plurality of events. A similar point is made by Alexeyenko (2012). This is readily seeable from the incompatibility of (30b) with the adjective frequent, and (30a)'s compatibility with it.

(30) a. John is a frequent smoker of marijuana.

b. #John is a frequent smoker of that cigarette.

(30a) and (30b) feature a nominal derived from a verb of consumption. When such verb is used with a quantized theme NP, as is the NP *that cigarette*, it cannot be used to report a repeatable

event, but only an episodic one, hence an incompatibility with *frequent* (for more on interaction of frequency adjectives with verbs of creation/consumption see Gehrke and McNally 2013). On the other hand, combining it with a kind denoting term provides different theme objects which are instantiations of that kind which can serve as themes in different events of consumption. This is the case with *marijuana*, which should be understood as a name of a kind. Roy and Soare (2010) provide this example of an episodic *-er* nominal.

- (31) Le vendeur de ce tapis aux puces  
*the seller of this carpet at the flea market*

We see that in (31) the use of the nominal is justified solely on the basis of the participation in one particular event of the *selling* type in contradistinction to (30a), where we have to be acquainted with John's behavior on more than one occasion. Thus, the test with *frequent* not only sets apart nominals with "strong" actuality entailments (called episodic by Roy and Soare), but also differentiates two subclasses within them: one of them is incompatible with adjectives of frequency and can be described as truly episodic, non-repeatable, and one which refers to repeatable events and can be modified by frequency adjectives. I will call this latter class *habitual nominals*, preserving the label *episodic* for proper episodic nominals. In Alexiadou and Schäfer's account the two classes are also lumped together, and under the same label.

## 2.4 Conclusions

The two accounts discussed both recognize the variation in the availability of argument structure and accompanying event interpretation across different types of *-er/-eur* nominals and try to account for it using similar analytical tools. There are however some differences. For Alexiadou and Schäfer dispositional nominals are those which do not have eventive interpretation, although they have complex internal structure just like dispositional nominals, and

comprise instrument denoting and occupational nominals. Roy and Soare do not call occupational and instrument denoting nominals dispositional, nor do they posit a complex internal structure for them, but instead propose that they are derived directly from roots.

The label *dispositional* Roy and Soare use for nominals which were not recognized by Alexiadou and Schäfer as a distinct class. These are nominals with bare NPs as complements, whose event entailments are of “intermediate” strength, which is evidenced by their incompatibility with the adjective *frequent*, and compatibility with other adjectives like *happy* and *big*, which can receive specific event related readings as illustrated above. The proposal of this class is at the same time an innovation with respect to Grimshaw (1990), who made only a two-way distinction between result and complex event nominals (and which Rappaport-Hovav and Levine (1992) showed can be recognized within *-er* nominals too).

The class of episodic nominals is the same in both accounts, but, as I showed, this class comprises two different subtypes: episodic proper, and habitual nominals, only the latter of which is compatible with the adjective *frequent*.

While Alexiadou and Schäfer’s account does not depend substantially on the premisses of the Distributed Morphology, Roy and Soare revive its techniques, but only for formal reasons. Namely, since the non-eventivity of instrument and occupational nominals is accounted for with Alexiadou and Schäfer by invoking a dispositional aspect that quantifies over events (in contrast to an episodic aspect), they did not have the need of root derivation to explain non-eventivity of these nominalization types. But Roy and Soare assume that dispositional quantification does entail event actualization, although not the same way as an episodic one, and they postulate the dispositional quantification for nominals with bare NP complements. Given that this possibility is taken up, they had to resort to some other way to characterize truly non-eventive nominals, and they found it in root derivation.

I considered it a virtue of Alexiadou and Schäfer that they avoid direct nominalization of uncategorized roots for this idea flies in the face of the blatant intuition that these nouns are derived from verbs. In the next section I make a proposal how non-eventive nominals can be accounted for while keeping assumption that they are derived from verbs, i.e. words which are lexically predetermined to refer to events. At the same time, I will give a more precise account of the event entailing nominals which clearly distinguishes their respective specificities.

### 3. The analysis

In this section I expound an analysis of the above identified readings of *-er* nominals. Since it draws on to a large extent on Gehrke and McNally's (2015) treatment of this type of nominals, I will in parallel provide an extensive discussion of this work here.

#### 3.1 The meaning of frequency adjectives

According to the syntactic and semantic assumptions of the framework used by Gehrke and McNally, all nouns and verbs denote in the subdomain of kinds. For example, a bare common noun like *car* denotes all the different kinds of car. This is represented in (32a) by having the property *car* predicated of the variable over kinds. From this type of denotation other types of denotation are derived such as properties of singularities and pluralities. This is done by the introduction of the functional projection for number above the core of the construction which represents the bare noun. The semantic effect of this is shown in (32b). There, the *R* represents Carlson's (1977) realization relation, while the variable over kinds is bound off by the existential quantifier.

- (32) a.  $[[_{NP} [_{N} \text{car}]]]: \lambda x_k [\text{car}(x_k)]$



b.  $[[\text{NumP}[\text{NP car}]]]: \lambda y \exists x_k [\text{car}(x_k) \wedge R(y, x_k)]$

Similar is the conception of verbs. They are represented as properties of event kinds, or relations between event kinds, and kinds or individuals. In (33), the subscript  $\alpha$  is a variable ranging over two types of subscript which indicate either kinds of events or event tokens.

(33) [strolled by]:  $\lambda x_\alpha \lambda e_k [\text{strolled by}(e_k, x_\alpha)]$

However, faced by exactly the type of nouns that interest us, this general conception of the denotation of different types of nominal phrases cannot be upheld. Namely, I maintain that while this assumption may be considered perfectly reasonable for natural kind terms (and probably some other sorts of noun denotations), this cannot be the case for all nouns in general. In particular, I hold that nouns that describe participants in eventualities (and in virtue of that, in the concrete case of our interest, deverbal *-er* nominals) do not have kind denotations for participants on any layer in their syntactic structure. This is an important property of participant nominals, which distinguishes them from sortal nouns and the account put forward here is intended to acknowledge the need to draw this deep conceptual difference between these classes of nouns. Reasons for this will become obvious in the text to come, and at this point I point to other key ingredients and workings of Gehrke and McNally's analysis. An innovation, and the crucial part of the account is the idea that kinds can be realized not only by token individuals but also by sets of token individuals. This is also an idea that I question and reject. I will posit that frequency adjectives always need concrete pluralities of token realizations of a kind, which they would distribute, rather than realizations that are pluralities. This way of looking at the things is more natural and is a means to avoid creation of *frequent* event kinds. To understand why the notion of the kind realization by sets of tokens is necessary in this work, it should be known that the main objective of the article is to provide the semantics for frequency adjectives such as *frequent*, which, as we saw, serves as a test to distinguish the

habitual reading of *-er* nominals. Then, sets of tokens as realizations of kinds are necessary because only pluralities provided by the sets, and not individual tokens, can be meaningfully described as *frequent*, *rare*, or whatever.

Gehrke and McNally's (2015) proposal for the semantics of frequency adjectives has a general form as the following.<sup>19</sup>

$$(34) \quad [[FA_{temp}]]: \lambda e_a[FA_{temp}(e_a)]$$

This means that frequency adjectives apply equally well to kinds of events as to event tokens and in cases when they apply to kinds they effectively produce a subkind of the given event kind. In each case the satisfaction conditions are similar, as represented in (35). In these conditions **R** stands for Carlson's (1977) realization relation and *dist* is the particular value of the temporal distribution specified by each adjective. The index *i* is a temporal interval so that multiple realizations may occur in one index.

$$(35) \quad a. \forall e_k, i[FA_{temp}(e_k) \text{ at } i \leftrightarrow \text{distribution}(\{e : \mathbf{R}(e, e_k) \text{ at } i\}) = \text{dist}]$$

$$b. \forall e, i[FA_{temp}(e) \text{ at } i \leftrightarrow \text{distribution}(\{e' : \text{atomic-part-of}(e', e) \text{ at } i\}) = \text{dist}]$$

(35a) says that the distribution of the realizations of a kind has a certain value, and (35b) asserts the same of the atomic parts of a plural event. This dichotomy makes it possible to form subkinds of event kinds in terms of how frequent the realizations of that kind are, and also to express the frequency of atomic events, parts of some event. In the second case this means that the adjective must combine with a plural noun in order to get a plurality of atomic events to which to attribute the distribution. Singular nouns that denote in the domain of event tokens will not do because the

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<sup>19</sup>The quoted formula is only for the "temporal" frequency adjectives, which are one of the two types of frequency adjectives these authors distinguish. The other type is not of interest for us here.

demands of the distribution function would not be satisfied. This effect of the formalization corresponds to the fact that there is no sense in which one atom could be distributed. Consequently, if the adjective combines with a singular noun, that noun must denote a kind, and the composition with the frequency adjective will always produce a subkind of the kind denoted by that noun. In their paper Gehrke and McNally focus on the case when an adjective modifies a kind denoting noun (as in 37b), and do not discuss in large extent modification of composite events (as in 38), those which consist of other atomic events. But this is just what I claim is needed for the account of *-er* nominals. I will show that Gehrke and McNally's system in fact does not work for these particular purposes.

An aspect of the semantics of frequency adjectives that I find somewhat counterintuitive is the fact that a kind is determined by what is normally taken as an accidental characteristic, namely, the frequency of the occurrence. When in the everyday language we say that something happens often, what we have in mind is a property of concrete occurrences of some type, and not a property of the type itself. A view to the contrary also seems to run counter to Grimshaw's claim that frequency adjectives always force the complex event reading of the nominals it combines with, because this is saying in other words that there are concrete events of the given type, which are then characterized as often, frequent etc. Gehrke and McNally suggest that there is nothing extraordinary in the idea that frequency adjectives can describe event kinds given such natural examples as *daily news*, for instance. However, while fixed frequency adjectives, as *daily*, *weekly*, and similar (Stump 1981) are obviously able to produce event subkinds, this is not what one usually encounters with relative frequency adjectives, as *frequent* or *rare*, and instead of generalizing this possibility to all the adjectives, it seems a more desirable a task to in fact find out what it is that makes the said difference between the fixed and relative frequency adjectives.

Another, related thing that leaves me doubtful is that the system Gehrke and McNally provide excludes the possibility to

express the distribution of the set of event tokens by means of a singular noun without doing it through the reference to event kinds at the same time. Take for example *the frequent bombardment of the city*. Why couldn't we just conceive the particular bombardments in question as realizations of the *bombardment* kind and in addition describe them as frequent instead of imposing a subkind defined by the frequency of the realizations of its superkind? And is that not what we actually do? Then the recourse to *frequent* event kinds is not always called for, but only when the frequency of occurrence constitutes an essential property of the event type in question. In other words, even though such event (sub)kinds as frequent bombardments are theoretically possible, they are not (for some reasons the discussion of which will not concern us in this paper) felt as natural as, for example, *daily news*. This is an opposition strongly reminiscent of the case in (36) (quoted from Krifka et al. 1995) that illustrates the difference between well established kinds and those which are not.

- (36) a. \*the green bottle  
b. the Coke bottle

When the adjective combines with a bare noun, the semantics given in (34) and (35) does not allow us to distribute event tokens without at the same time producing a subkind of the kind corresponding to the noun modified. This is because a bare noun denotes a kind. The authors say explicitly that in adding the intersective condition on the kind the adjective effectively forms a subkind. They give the following example.

- (37) a. [frequent]:  $\lambda e_k[\text{frequent}(e_k)]$   
b. [frequent downdraft]:  $\lambda e_k[\text{downdraft}(e_k) \wedge \text{frequent}(e_k)]$   
=  $\lambda e_k[\text{downdraft}(e_k) \wedge \text{distribution}(\{e : R(e, e_k) \text{ at } i\}) = \text{high}]$

However, the adjective does not have to modify an event kind, it is possible to apply it directly to event tokens. This can be done once

bare nouns are extended by the number phrase, which introduces the realization relation, i.e., a set of entities, for a singular number phrase, or a set of sets of entities, for a plural number phrase, that are instantiations of the kind denoted by the bare noun. The authors provide the following example.

$$(38) \quad \begin{aligned} & [[[_{\text{NumP}} \text{frequent } [_{\text{NumP}} \text{downdrafts}]]]]: \\ & \lambda e \exists e_k [\text{downdrafts}(e_k) \wedge R(e, e_k) \wedge \text{frequent}(e)] \end{aligned}$$

To account for the habitual reading of *-er* nominals, I will not use either of these two strategies. Instead, I will do this through stages of individuals and kinds. Before that, I turn to the simpler cases of episodic and occupational/instrument readings.

### 3.2 The episodic and occupational/instrument readings

The discussion of the previous accounts made it clear that the deepest divide between various readings of *-er* nominals is that between occupational and instrument readings and the rest. It is because these nominals do not entail that the person or the instrument referred to by them actually participated in an event of an appropriate type. All other types of nominals (dispositional, habitual and episodic) have such entailments. I propose in this subsection that this distinction be captured by having the representation of occupational and instrument readings involve kinds of agents, the way Gehrke and McNally's (2015) semantics for bare NPs does, and the other readings involve agents in token events, and not kinds of agents.

As is already stated, Gehrke and McNally assume a particular view on the general structure of the noun phrase that postulates various correspondences between different syntactic layers and semantic values. According to this view bare nouns denote kinds. Since bare nouns are parts of every nominal, the use of kinds is unavoidable. This has the implication that a bare *-er* noun will denote a kind. And, indeed, this is the proposal of the

authors. For an *-er* deverbal noun, as the one appearing in (39), they provide semantics as in (40).

(39) John is a frequent sailor.

(40)  $[[_{NP}_{[N]} \text{ sailor}]]]: \lambda x_k \lambda e_k [\text{sail}(e_k) \wedge \text{Agent}(x_k, e_k)]$

The semantics of agentive nominals that could be extracted from this is the following:

(41)  $[[\text{-er}]]]: \lambda P \lambda x_k \lambda e_k [P(e_k) \wedge \text{Agent}(x_k, e_k)]$

We see from this that the denotation of this morpheme after the saturation of the first argument is in the subdomain of kinds. The addition of the Number Phrase introduces the set of individuals who are the realizations of the kind in question. Concretely for our example it will be:

(42)  $[[_{Nump}_{[NP]} \text{ sailor}]]]: \lambda y \exists x_k, e_k [\text{sail}(e_k) \wedge \text{Agent}(x_k, e_k) \wedge R(y, x_k)]$

The consequence of this analysis is that every use of the noun *sailor* will imply that the individual of which it is predicated is a realization of the kind *sailor*.

Such an outcome is undesirable for at least two reasons. The first is that even one single engagement of an agent in an event of any type automatically makes him or her a realization of a kind of agent, namely, the kind of agent that is associated with the event kind in whose realization he or she is engaged. For example, we cannot use the designation *sailor* for someone who has sailed only once without considering him a realization of the kind *sailor*. But this does not accord with the conceptual purposes with which the notion of *kind* is devised. Kinds are postulated so that we can class entities as having certain essential properties in common, in contrast to accidental properties which cannot constitute a basis for establishing a kind.

The second reason why the semantics in (42) is undesirable is because it allows us to say of somebody to be a sailor even if he never saw the sea. This is because the event kind variable is only existentially bound, but it is not stated that it is realized. Even the introduction of a frequency adjective cannot force actualization of events, as is expected, because according to the specific semantics proposed for frequency adjectives they can modify both kind and token events. Consider the following representations.

- (43) a.  $[[_{\text{NP}} \text{ frequent sailor}]]$ :  
 $\lambda x_k \lambda e_k [\text{sail}(e_k) \wedge \text{Agent}(x_k, e_k) \wedge \text{frequent}(e_k)]$
- b.  $[[_{\text{NumP}} \text{ frequent sailor}]]$ :  
 $\lambda y \exists x_k, e_k [\text{sail}(e_k) \wedge \text{Agent}(x_k, e_k) \wedge \text{frequent}(e_k) \wedge \text{R}(y, x_k)]$

The fact that the event kind is described as frequent does not entail that it is instantiated. Therefore the account allows for the implausible possibility to call someone a sailor even if he does not actually sail, and nothing forces that the adjective be applied to a set of the realizations of the kind, which is the only way to avoid this consequence.

In (43b) the realization relation is introduced only for the kind that is the agent of the event kind. But the sentence has a conspicuous reading on which John sails frequently, that is, the sailing events are also realized. Therefore, the theory would undergenerate in this case if not supplied with additional means to capture this interpretation. How is the reading of (39) which says that John sails frequently to be derived? And more generally, how is any reading that entails actual realization of events derived?

Gehrke and McNally do not specifically address this question but we can imagine an answer they would give. To answer this question, let us first consider the much simpler case of episodic nominals, which also have actuality entailments, as the one in (44).

- (44) Jean est le vendeur de ce tapis aux puces.  
Jean is the seller of this carpet at the flea market

This sentence features an episodic nominal, which is a nominal whose formation is justified by the existence of just one event token of a given kind. The consequence of this is that the nominal entails the existence of a selling event, i.e. that John sold the carpet. The logical representation of this sentence that would observe the proposed semantics for *-er* nominals would have to be as follows.

- (45) John =  $\iota y \exists x_k, e_k, e_t [\text{sell}(e_k, \text{the carpet}) \wedge$   
 $\text{Agent}(x_k, e_k) \wedge R(y, x_k) \wedge R(e_t, e_k) \wedge \text{Agent}(y, e_t)]$

The formula in (45) is inelegant because it has to state that John is both a kind level agent and an object level agent. This strikes as an artificial maneuver to secure the correct meaning of the sentence, and it cannot be avoided because without the additional condition actuality entailment would be left out. Notice that in cases with episodic sentences like (44) too the theory predicts the possibility to interpret them without implying actual realization of events because of the availability of the analysis in terms of event kinds in (42). However, there is no interpretation for the sentence without such implications. So, the theory overgenerates. Furthermore, the addition of extra conditions in (45) is not motivated by the semantics of any constituent in the sentence.

The objections to the semantics in (42) that I have raised here turn out not to affect it in an essential way, however, because the authors seem not to hold it necessary that the agent argument be always a kind, but can be also an ordinary individual (although the theoretical assumption that bare nouns denote kinds must be abandoned). If we consider the semantics the authors propose for transitive verbs, repeated here,

- (46) [strolled by]:  $\lambda x_\alpha \lambda e_k [\text{strolled by}(e_k, x_\alpha)]$



we see that the object argument can be either a kind or an individual ( $\alpha$  varies over both types of entities). It is a minor move then to introduce the same option for agents. The postulation of the kind variable for agents seems to have only reflected the idea that nouns start out as denotations of kinds. This I showed not to be a plausible assumption for at least participant nouns (I cannot consider here other types of nouns, for example relational nouns, of which participant nouns may be a subtype). For such nouns I propose predication directly over individuals. The sentence (44) would then be represented the following way.

$$(47) \quad \text{John} = \iota y \exists e_k, e_t [\text{sell}(e_k) \wedge R(e_t, e_k) \wedge \text{Theme}(\text{the carpet}, e_t) \wedge \text{Agent}(y, e_t)]$$

The representation in (47) has the desirable properties: first, that the correct actuality entailment obtains, and, second, that John is not considered an instantiation of the kind *seller* just in virtue of participating in one selling event. Furthermore, this manner of treating participant nominals clearly distinguishes them from genuine occupational nominals, which was not attainable with the indiscriminate treatment through kinds.

Gehrke and McNally's analysis of the nominal *frequent sailor* described above is based on adjectival modification of event kinds, but they, as already stated, allow frequency adjectives to apply equally well to event tokens. I proposed here that episodic *-er* nominals denote agents in event tokens, and not event kinds. It is then straightforward to extend this method to nominals modified by frequency adjectives. The nominal *frequent sailor* would denote agents in event tokens of the sailing event kind that are frequent.

$$(48) \quad [[_{\text{NP}} \text{frequent sailor}]]: \\ \lambda x \exists e_k, e_t, [\text{sail}(e_k) \wedge R(e_t, e_k) \wedge \forall e [\text{atomic-part-of}(e, e_t) \rightarrow \text{Agent}(x, e)] \wedge \text{frequent}(e_t)]$$

This analysis allows us to do things not possible with the analysis in (43a). First, the referent does not have to be seen as a realization of

a kind, which was the case in the previous analysis. Second, the actuality entailments are fittingly captured without reduplication of conditions on the kind and individual levels. From this can be concluded that positing that frequency adjectives modify only token events avoids the described undesirable consequences of having it modify kinds as well. Rejecting kind analysis of frequency adjectives guarantees actuality entailments for events that support calling someone a sailor. This way the opposition between occupational and event entailing readings is obtained. However, I reject this way of dealing with event entailing readings because of its lack of flexibility necessary for capturing some further meaning effects with *-er* nominals. Namely, I will show that *-er* nominals exhibit also the distinction betweenthetic and categorical interpretations, and I propose that it is most naturally captured by the employment of the notion of stages of individuals and kinds, as will be done below.

The examination of the properties of the semantics of *-er* nominals proposed by Gehrke and McNally makes it clear that for those readings of *-er* nominals that entail actual occurrence of events it is better to avoid the use of kinds for the Agent participant role, and instead to predicate directly over individuals. In such a manner also the double condition for a subject to be an agent both of kind and token eventualities is avoided.

On the other hand, the semantics in (42) apparently has exactly the properties we need for another reading of *-er* nominals, namely the occupational and instrument reading. What makes Gehrke and McNally's semantics in (42) for the noun *sailor* a fitting candidate for the meaning of occupational nominals is, foremost, the absence of the actuality entailments, which is a defining property of this type of nominal: a professional sailor is allowed not to sail at all without losing by that the qualification that he is a sailor. This is aptly reflected in the given semantics because the realization relation can only be asserted of the agent kind argument leaving event kind existentially bound, but not realized. For this reason I propose that the semantics of occupational and instrument

readings of *-er* deverbal nominals is like the one provided by Gehrke and McNally in (42).

The properties of *-er* nominals with event actuality entailments pointed out here indicate that they are complex grammatical formations and cannot be analyzed on a par with sortal nouns. They presumably do not have the core which is a root or a bare noun, that is characteristic of sortal nouns, and consequently they cannot denote properties of kinds on any level of their internal makeup. Rather, they must exhibit a structure characteristic of sentences, as is commonly held in the syntactic approaches to nominalization. I propose though that the reference to kinds is available with occupational and instrument nominals. This is obtained only when a sentence is fully nominalized, and that happens after the incorporation of a kind denoting NP has taken place. This will be described in more detail below.

### 3.3 The realization relation

In the following subsection I offer an account of the habitual reading of *-er* nominals. Since it relies on the notion of the stage of an individual, in order to facilitate the understanding of the text, I have to say here more on how this notion should be understood. Before doing that I need to comment on a related aspect of Gehrke and McNally's work. Recall the semantics of nouns that they propose.

- (49) a.  $[[_{NP} [N \text{ car}]]]: \lambda x_k [\text{car}(x_k)]$   
 b.  $[[_{NumP} [NP \text{ car}]]]: \lambda y \exists x_k [\text{car}(x_k) \wedge R(y, x_k)]$

(49a) gives the denotation of a bare noun, which is the set of kinds. The reference to real objects that are cars is achieved only through the realization relation introduced by the Number projection. This realization relation is conceived on the model of Carlson's (1977) realization relation. What is by Gehrke and McNally taken as the

realization of a kind are ordinary individuals, that is, entities that are classically taken to make up extensions of property terms. But Carlson had two realization relations. One is like the one in (49b), which relates kinds to individuals that realize them. The other, instead, relates kinds and individuals to their *stages*. This latter relation is crucial for the account I develop here. Stages, in their turn, are conceived of as spacio-temporal slices of individuals, and individuals, in Carlson's (1977a) own words, are "whatever it is that ties all these stages together to make them stages of the same thing". The motivation for the introduction of stages is the observation made by Milsark (1974) that predicates fall broadly into two categories distinguished by the possibility to act as coda phrases in existential sentences, such as *eating the corn* and *being interesting* in (50).

- (50) a. There were bugs eating the corn. (from McNally 2011)  
 b. \*There were bugs interesting/being interesting.

Those predicates that are felicitous in such contexts are called stage-level predicates, and those which are not are individual-level predicates. This set-up has consequences for the formal representation of sentences, as illustrated in (51).

- (51) a. Some dog is running.  
 $\exists x \exists y_s [\text{dog}(x) \wedge R(y_s, x) \wedge \text{run}(y_s)]$   
 b. Dogs are running.  
 $\exists x_s [R(x_s, d) \wedge \text{run}(x_s)]$   
 c. Dogs are intelligent.  
 $I(d)$

An important thing to note here about these formulas is how the reference to individuals is established. In (51a) individuals are values of the variable  $x$ , which is restricted by the predicate *dog*. In contrast, in order to restrict variables range only over individuals of

a particular kind Gehrke and McNally use the realization relation – this relation relates individuals to kinds and kinds are directly restricted by predicates. In (51a,b), the realization relation is reserved for stages – it is the stages that are realizations of kinds, as in (51b), or of individuals, as in (51a). Therefore, the sentence (51b) does not make any reference to an individual whatsoever, but only to stages, things that are better described by saying that they happen than that they *are*. It is only our impression that the sentence is about particular dogs because the existence of a stage implies the existence of an individual whose part that stage is. So, the realization relation in the first sense I will use only as the meaning of the Number functional projection, as do Gehrke and McNally themselves, but the second conception of this relation is the crucial component on which the account relies.

The notion of a stage of an individual has a desirable property not shared with ordinary individuals. The property is that stages of an individual are temporally ordered. It is true that stages may overlap with one another, but discrete stages have the property that any two of them stand in a precedence relation, that is, one is before the other. If this is not the case, then the two stages are in fact one and the same stage. This property I will use in defining the specificity of habitual *-er* nominals. The crucial characteristic of habituals is that they are repeatable, and for repeatability is necessary reference to a temporally ordered set. That set is readily available in the stages of the participants in the relevant habit. By the same token, frequency adjectives can be characterized in terms of stages of individuals.

Stages are similar to events in being perduring rather than enduring entities, that is, they are entities dependent on time, and consequently, are temporally ordered among each other. As perduring entities, events are also constructs which are convenient to model habits and frequency adjectives, and Gehrke and McNally use them in their account of frequency adjectives. However, as we saw, their system has some inconvenient consequences when the distribution of event tokens by frequency adjectives proceeds

through creation of event subkinds, and in the next section I will show that the thetic vs. categoric dichotomy is manifested in *-er* nominals too, which is not treatable with the direct modification of event tokens. The recourse to stages I believe gives us a way to escape these pitfalls.

### 3.4 The habitual reading

Given that stages of individuals are entities that are inherently temporally ordered, that makes them suitable arguments for frequency functions. Every stage of an individual comes with a temporal interval, which practically makes it an index to which reference can be established. In contrast, if we talk about plural realizations, every such realization is linked to a particular index unique for it, which leaves elements that make up this plural realization without their individual indexes. We would have to come up with subindexes for these atomic events in order to be able to describe their distribution. Stages of individuals allow us to do this directly<sup>20</sup>.

Therefore, I propose that frequency adjectives denote functions that take a subset of the stages of an individual (or a kind) and describe how densely they are distributed on the time line. The stages whose distribution is described are determined by the property which distinguishes them from other stages of the same individual. Normally, that would be an event of a certain type in which every individual stage bears some thematic role<sup>21</sup>.

For illustration, the logical representation of the sentence (52a) is given in (52b).

(52) a. John is a frequent bombarder of this city.

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<sup>20</sup>See however Gehrke and McNally (2014), who treat sentences as *We received frequent letters from Mary* in a rather different manner than in their (2015) paper. Unfortunately, I will not be able to discuss that work here.

<sup>21</sup>Schäfer (2007) also uses stages in his analysis of frequency adjectives, although he addresses different questions from the ones in this chapter.

b.  $[\lambda y[\text{distribution}(\{x: R(x, \text{this city}) \wedge \exists e[\text{bombard}(e, x) \wedge \text{agent}(e, y)]\}) = \text{frequent}](\text{John})$

I chose a form of representation with an unsaturated lambda term in order to make the predicational structure of the sentence more transparent. After the saturation, the formula is read: The distribution of stages which are the stages of this city and are bombarded by John is frequent.

The lambda term in (52b) is the logical representation of the nominal *a frequent bombarder of the city*. Obviously, this term is directly derived from a formula which represents a sentence with the habitual aspect and the adverb *frequently*. This correctly reflects the intuition that the nominal describes agents of habitual events as in (53).

(53) John frequently bombards the city.

The two sentences seem to be exact synonyms. Thus, the nominal is a direct nominalization of the sentence and it is habitual in virtue of its base sentence being habitual. These nominals then inherit their properties from their base sentences and they do not describe individuals as realizations of kinds.

But this is not all there is to this nominal and its corresponding sentence. There is a subtle ambiguity for the sentence in (53), which is again inherited by the nominal! Namely, the sentence has what was named *thetic reading* (Ladusaw 1994, McNally 1998) and a *categorical reading*. The formula in (53) I propose to represent the *thetic reading*. Such a reading is a neutral description of an eventuality, in our case, of the habitual eventuality of bombarding the city. In contrast, *categorical reading* is about an individual, and its form has a clear predicational structure. When our sentence is in question, the *categorical reading* ascribes the property of frequently bombarding the city to John, and the *thetic* would simply state that there are frequent bombardments of the city.

The two readings are however difficult to tease apart, which may leave some in doubt that they really exist. I would suggest that they may be distinguished by the fact that the adjective *frequent* may provide different values in each case. Namely, it is very plausible that the adjective is relative, i.e., that it does not have a fixed value in every case it is applied. This would be in line with the behaviour of other scalar adjectives which always express a property relative to a standard, which may vary from situation to situation. What I suggest here is that the adjective *frequent* describes the distribution of relevant stages relative to different standards depending on whether the sentence isthetic or categorical. On thethetic reading the expected standard would be what it means for a city to be bombarded frequently, and on the categorical reading – what it is for a bombardier to frequently bombard a city. The two standards may differ.

The logical representations ofthetic and categorical sentences of course differ. The first is represented as an existential claim about an event, and the second as an ascription of a property to an entity. However, the representation which I intended for thethetic reading of (53) is not an existential claim about events. Instead, it is an existential claim about stages of an individual. Notwithstanding the obvious inadequacy of the representation, I believe it is not essentially mistaken. I assume here Kratzer's (1996) idea that transitive verbs are lexically specified to take two arguments, the event argument and the patient or theme argument, while the external argument is severed from it, and need an additional functional projections in order to be introduced into the sentence. Thus, the event and the internal arguments are tightly connected to each other. After all, stages of individuals are event-like entities, and their role in Carlson's theory may be understood to be a substitute for the Davidson's (1967) event argument. The discussion of the nature of the connection between an event and its internal argument and of the question in what exactly it consists is outside of the scope of this paper, but confirmation of the existence of the tight relationship between events and their internal arguments



can be found in the intuition that, indeed, when the sentence is asserted from the point of view of the object, rather than the subject, it has athetic interpretation.

For the sentence (53) on the categorical reading I propose the following representation.

$$(54) \text{ distribution}(\{x: R(x, \text{John}) \wedge \exists e[\text{bombard}(e, \text{the city}) \wedge \text{agent}(e, x)]\}) = \text{frequent}$$

In this representation, the stages which are described as frequent are John's, not the ones of the city. This correctly captures categorical reading. The effect is that although the relevant stages of the city and the relevant stages of John's completely overlap, and thus must have the same absolute frequency, that frequency may be described differently depending on to whom it belongs and on whether the standards are different for the two entities. This produces different truth conditions for the two logical forms, i.e. the two sentences.

Consider now how this is reflected on the nominalization. The nominal *a frequent bombarder of the city* on the categorical reading has the following representation.

$$(55) \lambda y[\text{distribution}(\{x: R(x, y) \wedge \exists e[\text{bombard}(e, \text{the city}) \wedge \text{agent}(e, x)]\}) = \text{frequent}]$$

The lambda term in (55) correctly captures the fact that the nominal reflects the semantics of the sentence on its categorical reading, which is ascribing an individual level property to its subject. Individual levelhood of such predicates is captured in Carlson's theory by the operator **Gn**. It is a device that generalizes of an individual as a whole a particular stage level property. The result is a characterizing sentence. For instance, in (56a) is a predicate in the progressive form, which makes it true of a temporal stage of the subject of the sentence. In (56a) is a present simple predicate which characterizes an individual as a whole and its formal representation

is  $Gn(\text{smoke})$ , which is derived from the particular predicate in (56a).

- (56) a. Mary is smoking.       $\text{smoke}(\text{Mary})$   
      b. Mary smokes.           $Gn(\text{smoke})(\text{Mary})$

The effects of the **Gn** operator are achieved in the representation of a categorical sentence in (54) by having stages of an individual described a certain way. Concretely, (a subset of) the stages of the individual John are described as agents in bombarding events. Consequently, the description represented in (55) selects individuals that are bombardiers of the city by virtue of the properties of their own stages. This is not so with the lambda term in (52b): it is the nominalization of the correspondingthetic sentence and it selects individuals by virtue of their participation in the relevant events. Therefore the nominal in (52b) makes direct reference to events, and is truly eventive, while the one represented by (55) uses them to form a property of an individual, and although entails the existence of the relevant events, it does not make a direct reference to them.

### 3.5 The dispositional reading and incorporation

Let us turn now to the reading of *-er* nominals that is named *dispositional* by Roy and Soare. This name is not very fortunate: Because the defining property of dispositions is the absence of actuality entailments, it suggests that the nominal is applicable to individuals that do not have to be involved in an eventuality of the relevant type. In contrast, nominals like (57) do entail actual instantiation of events.

- (57) Jean est un gros consommateur de drogue.  
      Jean is a big user                      of drogue  
      ‘Jean is a big drug user.’

(57) entails that Jean really uses drogue. However the fact that the nominal in the predicate of this sentence does not accept modification with frequency adjectives, as Roy and Soare report on these data from French, gives the impression that it is less eventive. The same holds of the sentence from which the nominal is presumably derived.

(58) Jean consomme drogue beaucoup.  
Jean uses drogue a lot.

How does this effect come about?

Roy and Soare observe that this interpretation of *-er* nominals is correlated with the type of the nominal complement to the verb from which the *-er* nominal is derived. Namely, it is the bare plural noun or a bare mass noun, as in (57). They claim that the non-specificity of this type of noun phrases makes the sentences themselves non-specific, i.e. dispositional, in their words. According to the widely accepted view, bare plural noun phrases neither denote nor quantify over entities. Instead, they are analyzed as names of kinds (Carlson 1977), or as properties (Link 1983, Chierchia 2010, Farkas and de Swart 2010, to name but few references). Chierchia (2010) for example takes plurals to denote plural properties, as pictured in (59).

(59) a.  $\left( \begin{array}{c} a \cup b \cup c \\ a \cup b \quad b \cup c \quad a \cup c \\ [a \quad b \quad c] \end{array} \right) \leftarrow \begin{array}{l} \text{cats} \\ \text{cat} \end{array}$

b. Pluralization: for any P,  $*P = \lambda x \exists Q [Q \subseteq P \wedge x = \cup Q]$

The plural property, according to this view comprises all the subsets (including singletons and the maximal subset) of the set of atomic individuals denoted by the corresponding singular form. Such an analysis however poses a problem for the composition of bare plurals in argument positions of verbs which take complements of the type *e*. But in English, sentences with bare plural complements

to such verbs are normal. Van Geenhoven (1998) proposes that bare plural complements of verbs undergo what she calls “semantic incorporation”. More concretely, she posits two representations for transitive verbs: one ordinary, which combines with entity type expressions, and one which takes a property as an argument, as is given in (60).

- (60) a.  $\lambda w_s \lambda y_e \lambda x_e [\text{Verb}_w(x, y)]$   
 b.  $\lambda P_{s,et} \lambda w_s \lambda x_e \exists y [\text{Verb}_w(x, y) \wedge P_w(y)]$

The process of semantic incorporation, however, remains poorly understood. Since Van Geenhoven, there have been proposed a number of different models of semantic incorporation designed for specific purposes (Farkas and de Swart 2003, Dayal 2003, Dobrovie-Sorin et al. 2006, Espinal and McNally 2011). The exact nature of semantic incorporation is not of decisive interest for our purposes. What matters is that bare plurals denote properties, and that Van Geenhoven’s account correctly predicts existence entailments characteristic of sentences, and their derivative nominals likewise, with bare plural objects.

The fact that bare plurals denote properties is an important thing for the account I propose. If they denoted individuals, the stages of the individuals could serve as arguments of frequency adjectives. Instead, they only describe the individuals (or, in cases like (58), quantities) involved in events as their themes or patients. The sentences then do not make reference to stages, but relate events to individuals. I propose that the sentences like (58) say that the size of quantities or sets of objects that participate in the relevant eventualities is big. Although this property is not predicated directly of events, it gives rise to the correct inferences: Jean is considered a big drug user if the quantities of drugs he uses are big. The representation of the sentence (58) is as follows.

- (61)  $\text{size}(\{q: \text{drogue}(q) \wedge \exists e[\text{use}(e, q) \wedge \text{Agent}(e, \text{Jean})]\}) = \text{big}$

The representation of the corresponding *-er* nominal is in (62).

$$(62) \quad \lambda x.\text{size}(\{q: \text{drogue}(q) \wedge \exists e[\text{use}(e,q) \wedge \text{Agent}(e,x)]\})=\text{big}$$

An interesting thing to note here is that the French nominal is most naturally translated in English with a synthetic compound. Synthetic compounds then are not limited to name occupations and instruments. A correct generalization would be that they denote individual level properties. The nominal in (57) used predicatively denotes an individual level property. It seems not to exhibit the ambiguity we noticed for episodic and habitual nominals. The reason for this is again that plurals denote properties. It is not possible to predicate frequency of stages of the agent argument because there is no predicate that could serve to select a subset of Jean-stages which would be described as frequent (and it does not make sense to describe all stages of an individual as frequent). This is so because every event of drug consumption involves a different quantity of drug so that every event has different identity conditions with respect to the theme argument. With the bombardment of the city (cf. example 52), the patient argument remains the same for every eventuality so that the identity of the event does not change with respect to that participant. This gives means to select a subset of the agent's stages on the basis of a unique property of that stages, which allows the application of the frequency adjectives.

Individual level reading of *-er* nominals is possible with all four identified types, but with dispositional and occupational nominals it is forced by the process of semantic incorporation. The strength of the incorporation undergone differentiates the two types. The incorporation of bare plurals is weaker and creates nominals with actuality entailments. Incorporation of bare nouns is stronger in the sense that what gets incorporated is a kind. Kinds are even more inappropriate arguments than properties of individuals. The only way to avoid the mismatch is to eliminate all functional projections that encode the realization relation from all constituents of the sentence. As a result, all the constituents will denote kinds. Following Gehrke and McNally's representation of a nominal

derived from an intransitive verb, here is an analogous representation for a nominal derived from a transitive verb by object incorporation.

- (63)  $[[_{NP}[N \text{ truck driver}]]]:\lambda x_k \lambda e_k [\text{drive}(e_k, y_k) \wedge \text{truck}(y_k) \wedge \text{Agent}(x_k, e_k)]$

At the same time, this explanation of what occurs during the process of kind incorporation seems to correctly entail that a sentence in which the incorporation took place is not sayable at all! Every assertion presupposes inflection, which is necessary to situate the sentence in a discourse and relate it to the world. In the syntactic literature this usually represented as a functional projection INFL (Haegeman 1994), which only projects in sentences and not noun phrases. To illustrate this consider a conversation where John, a truck driver, receives a phone call from his wife while driving a truck as a part of his job.

- (65) Q: What are you doing?  
 A1: \*I am truck driving.  
 A2: #I am driving a truck.  
 A3: I am on work/I am working.

The only good answer to the question Q from (65) is A3. A1 is ungrammatical because bare singular countable nouns are ungrammatical as arguments of verbs because they denote kinds. A2 belies John's true situation, it is not fully informative since it suggests that the driving of the truck is not part of his job. A3, on the other hand, gives the full necessary description of John's situation. In spite of the fact that it is not possible to assert a sentence which would have an incorporated constituent, it is possible to form a nominalization from it. Agentive and event denoting nominals are fully derivable from such sentences. These nominals will be inevitably understood as kind denoting, unlike all other types discussed in this paper. Consequently, Number morphology introduced to such *-er* bare nouns will create properties of individuals which are realizations of kinds defined by the type of

events they are agents of. This gives occupational and instrument denotations for these nominals. Finally, such nominals will not have any entailments as to the realization of the relevant events because kinds do not have to be realized. The only participant that is realized is the agent or the instrument itself. This is easily perceivable from the formula in (65).

$$(65) \quad [[_{\text{NumP}}[_{\text{NP}}\text{truck driver}]]]:\lambda z.\exists x_k, e_k[\text{drive}(e_k, y_k) \wedge \text{truck}(y_k) \wedge \text{Agent}(x_k, e_k) \wedge R(z, x_k)]$$

## 4 The conclusion

In this paper I discussed various readings that *-er* derived deverbal nominals may receive. The main result is that the examination points to the fact that these nominals are all derived from sentences. The key finding that supports this conclusion is that the nominals faithfully reflect different aspectual characteristics of the sentences they are derived from, and in this conclusion the present study concurs with Roy and Soare (2014). The four main readings that are recognized are episodic, habitual, dispositional, and occupational and instrument denoting. Since occupational and instrument denoting nominals lack entailments that events of relevant types are actualized, they are often analyzed in the literature as not derived from verbs, but from roots. I showed how all these nominals can be considered derivations from verbs, while keeping their individuality intact. This is achieved by using the notion of a stage of an individual (Carlson 1977), and taking roots to denote kinds (Espinal 2010, Gehrke and McNally 2015).

## CHAPTER 4

### THE MEANING OF RESULTATIVE NOMINALIZATIONS

#### 1 Introduction

The first chapter of this dissertation dealt with cross-linguistic variation in the availability of different types of deverbal nominalizations as determined by aspectual parameters, and established the existence of two main types of productive nominalization, which were defined in semantic terms. One is the type of process and activity denoting nominals, to which belong Serbian verbal nouns, i.e., *-je* nominals derived from imperfective verbs, and English nominal gerunds, also known as *ing-of* nominals, and the other is the type of nominals which were claimed to denote changes of state and the result of this change, which gave a cue to call them resultative nominals<sup>22</sup>. To this latter type belong Serbian *-je* nominals derived from perfective verbs and English Latinate nominalizations derived by the suffixes *-ion* and *-ment*. However, the story told there remained unspoken on many details, particularly those surrounding resultative nominals. The aim of this chapter is to explore in more detail semantic and syntactic properties of resultative nominals. I will consider Serbian *-je* nominals derived from perfective verbs, and English *-ion* and *-ment* derived nominals.

The literature commonly holds that both main nominalization types in English, nominal gerunds and *-tion/-ment* nominals, simply denote events without bringing into connection the fact that there are two, and not one nominalization type, and that grammar should be considered to obey some economy principle

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<sup>22</sup>The term verbal nouns is a term common to Slavic linguistics for a common Slavic nominalization type. Here I use it in a narrowed sense to refer to nominalizations of imperfective verbs only, whereas the term resultative nouns designates nominalizations of perfective verbs.



which would prevent excessive redundancy in the language system: if there are two different forms, it should be that they exist because they serve different purposes. Harley and Noyer (1998), for example, discuss unavailability of *-ing* nominals for Latinate verbs.

(1)	destroy	destruction of	?destroying of
	inspect	inspection of	?inspecting of
	admire	admiration of	?admiring of

Their idea is that this is a case of blocking: *-ing* is an elsewhere suffix which is inserted just in case no other suffix is. Since nouns in (1) select the suffix *-ion*, *-ing* is blocked. On the other hand, *-ing* is not blocked by a specific suffix if the Encyclopedia<sup>23</sup> provides a special meaning for the special noun. In that case *-ing* is possible in order to derive the regular meaning for a deverbal noun denoting roughly “the activity of”.

(2)	mix	mixture of	mixing of
	move	movement of	moving of
	marry	marriage of	marrying of

This explanation presupposes that the meaning of *-ion* and *-ing* nominals does not differ. But, as we have shown, resultative nominals cross-linguistically display a range of properties which distinguish them from process nominals. Then, if the two types of nominals differ syntactically and/or semantically, it would be desirable to relate the source of the unavailability of the *ing-of* form to the specific grammatical properties of resultative nouns. I will show that the two types of nouns encode different types of events which are differently syntactically expressed, and which explains their different behavior under nominalization.

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<sup>23</sup>In Distributed Morphology (Halle and Marantz 1993, 1994) Encyclopedia is conceived of as a repository of conventional information associated with roots, in the first place idiomatic meanings, and non-linguistic knowledge, but also factors such as frequency, register, collocation.

Thus, resultative nouns are said to express events of change of state. However, this is a very vague determination because it can be said of many verbs that, intuitively, they denote a change of state, and yet not all of them form resultative nouns, either in Serbian or in English. Take for example such different change of state verbs like *cut*<sup>24</sup>, *clean*, *widen*, *close*, *warm*, *redde*n – none of them gives a resultative noun. The conclusion of this chapter is going to be that resultative nouns must denote, not just any, but *substantial* changes of state, such changes which produce lasting results. This is itself a vague description, but at this point I cannot offer a more precise characterization. My idea is that resultative nouns express on lexical or phrasal level what is on a higher, functional level conveyed by the perfect (not perfective!) aspect, which is encountered, for example, in English Present Perfect Tense forms. While there is a consensus that the Present and Past Perfect Tenses express events whose consequences are in some sense relevant for the time of evaluation of the sentence, it is still a much debatable subject how the relation of relevance for the current evaluation time is to be understood. I believe that the notion of a substantial change of state, that I use for the description of the meaning of resultative nouns, is not more elusive than the notion of current relevance needed for English perfect tense forms. A substantial change of state would be such a change which produces results that are somehow considered relevant or important for the entity affected by the change.

I further show that nominal gerunds and verbal nouns denote simple telic and atelic eventualities, i.e. processes/activities and events proper, which parallels aspect of the English Progressive and Simple Tenses. By this I establish a one-to-one correspondence between aspectual categories encoded on different linguistic levels (phrasal or lexical and sentential) and in different domains (verbal and nominal).

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<sup>24</sup>The verb *cut* produces the noun *cut*, which is a result noun in sense of Grimshaw (1990). This notion should be distinguished from the notion of a resultative noun, which this chapter is intended to describe.

In the rest of this chapter, I first adduce in section 2 empirical data about Serbian resultative nominals which show that their meaning differs from that of verbal nouns, and at the same time highlight its resultative, i.e., perfect character. Then in section 3, I discuss several interrelated theories about the encoding of resultative meaning and about nominalization, which will lead to likening Latinate verbs to resultative constructions. This will serve as a basis for the characterization of resultative nouns that I give in section 4. In this section, I also point to the problems that the analysis introduced in the first chapter faces. Section 5 is a conclusion.

## 2 The characteristic traits of Serbian resultative nouns

The majority of Serbian resultative verbs have imperfective counterparts, and, accordingly, the majority of resultative nouns have corresponding verbal, i.e. imperfective nouns. This way a system of parallel derivational forms is obtained. On the assumption that the grammar does not produce redundant forms, the question arises what justifies the existence of such a system, i.e., whether there is a difference in the function and meaning of resultative and verbal nouns, and what that difference is. The aim of this section is to answer this question.

The difference between the resultative and verbal nouns is very difficult to show because in the majority of cases in which one is used, the other can be used too without a perceivable difference in meaning. Dickey (2000: 247) quotes a military order in which the perfective noun *izvršenje* ‘execution’ and its imperfective counterpart *izvršavanje* occur alternately in the identical context, and with, apparently, identical meaning.

- (3) a. Rok za izvršenje ove zapovijedi je...  
 deadline for execute.PF.NOM this.GEN order.GEN is

- b. Rok za izvršavanje                      ove zapovijedi je...  
 deadline for execute.IMPF.NOM this.GEN order.GEN  
 ‘the deadline for the execution of this order is...’

Dickey regards cases like this as evidence that the aspectual opposition of the verbs is neutralized in deverbal nouns in spite of the presence of the aspectual morphology. At a similar conclusion arrives Schoorlemmer (1995) for Russian. However, although it is most frequently possible to use nouns of different aspects in the same context without a noticeable difference in meaning, this should not be taken as indication that their meaning is the same. Rather, one should find context in which the difference is not neutralized. In this section I review examples which differentiate resultative nouns in several respects from verbal nouns.

## 2.1 The aspectual properties of Serbian verbal and resultative nouns

In this subsection I present various examples which show that resultative nouns differ aspectually from verbal nouns. The main conclusion will be that resultative nouns can only denote complete telic events, while verbal ones denote both telic and atelic eventualities.

Dickey quotes an example in which a noun is modified by the adjective *stalno* ‘constant’. This adjective differentiates verbal and resultative nouns. We can add an example with *neprestano* ‘incessant’ with an even stronger effect.

- (4) a. Stalno   povišavanje/ \*povišenje   cena    dovodi do  
 constant raise.IMPF.NOM/ raise.PF.NOM   prices.GEN leads to  
 nezadovoljstva među ljudima.  
 discontent   among people  
 ‘The constant raising of prices leads to the discontent  
 among the people.’

- b. *Neprestano ispunjavanje/ \*ispunjenje želja detetu*  
 incessant fulfill.IMPF.NOM/PF.NOM wishes child.DAT  
 opterećuje roditelje.  
 burdens parents  
 ‘The incessant fulfilling of a child’s wishes weighs down  
 the parents.’

To understand these examples it is not sufficient to say that the adjective *stalno* and *neprestano* create an imperfective context, and that a perfective noun is not felicitous because of this. I think that it is rather the difference between denoting an activity vs. denoting a change of state, and not between a perfective vs. imperfective eventuality. The notion of change of state I have in mind for resultative nouns I will attempt to describe below, and the reason why it is not the perfective vs. imperfective distinction is this. The noun *ispunjavanje* (although imperfective) cannot have the meaning of a process, a durative eventuality, because it is derived from a verb which is lexically specified to denote a momentary eventuality, an achievement in Vendler’s (1967) classification. That it is an achievement is witnessed by its oddness with the ongoing interpretation of the present tense.

- (5) ??*Jovan mi sada ispunjava želju.*  
 Jovan to-me now fulfills wish  
 Jovan is now fulfilling me a wish.

Also, in the sentence (4b), *ispunjavanje* cannot denote one particular achievement because it would clash with the meaning of the adjective *neprestano*. This context requires an iterative interpretation of the verbal noun, which it satisfies. However, such a requirement is not possible to satisfy with a resultative noun.

Not only is a verbal noun, a noun derived from an imperfective verb, capable of referring to an iterative eventuality, it can also refer to a unique perfect eventuality. In the majority of traditional accounts imperfective verbal nouns are described as process denoting (Stevanović 1991, Babić 1986). In modern

literature the same view is often upheld with respect to the analogous nominalizations in English (Borer 1984 , Alexiadou 2001). I give here several pieces of empirical evidence to the contrary – that imperfective verbal nouns can denote both telic and atelic eventualities.

First, note that achievement verbs can form imperfective verbal nouns and retain their interpretation of momentary eventualities. Since achievement verbs are perfective in the first step of their derivation, for the purpose of nominalization they must first undergo imperfectivization by addition of the secondary imperfective suffix *-ova-*, *-eva-*, or some other, or by means of suppletion, as in the next example.

- (6) a. Nakon pronalaženja zgodnog mesta, izviđači su  
 after find.IMPF.NOM suitable.GEN place.GEN scouts are  
 počeli da dižu šator.  
 started to erect tent  
 ‘After they found a suitable place, the scouts started to erect a tent.’
- b. Nakon što su pronašli/\*pronalazili zgodno mesto, izviđači  
 After COMP are found.PF/IMPF neat place, scouts  
 su počeli da podižu kamp.  
 are began to set-up camp  
 ‘After they found a neat place, the scouts began to set up a camp.’

The verbal noun *pronalazenje* ‘finding’ in (6a) is derived from an imperfective verb *pronalaziti* ‘to find’, but still, since it denotes an achievement, its reference is a non-durational eventuality. As an imperfective verb which denotes achievements, it in principle can receive an iterative interpretation, on which it would denote the repetition of the achievement events. But in the sentence (6a) the verbal noun cannot have such an interpretation because the sense of the sentence does not allow that. This is confirmed by the behavior of its base verb in the paraphrase of the sentence in (6b). Here, the

form used is perfective, as is appropriate for a single non-durational eventuality. It would be ungrammatical to use the imperfective form of the verb since the imperfective form can neither refer to a durative event, nor to a perfective event. It cannot refer to a durative event because achievements are instantaneous. The possible iterative interpretation is excluded because the sentence asks for a single event and not for a repetition of events. Also, it cannot refer to a perfective event, a single achievement, because reference to such eventualities is made by perfective verbs. So, since the verb *pronaći* ‘to find’ belongs to achievements, its imperfective form *pronalaziti* cannot denote a single such eventuality, but, instead, receives an iterative interpretation. However, the nominalization of this verb can refer to a single achievement, as in (6), although it is derived from an imperfective verb. Therefore, both verbal and resultative nouns can refer to a single event. This is why these nouns can be used in every context in which there does not come to a clash between the durative interpretation (imposed either pragmatically, or by linguistic means, as in (4)) and lexically encoded instantaneity of the verbs of achievement class.

Another piece of evidence that supports the view that verbal nouns do not (exclusively) denote processes comes from accomplishment verbs. Imperfective verbal nouns made from them can be understood as denoting either a completed event, or a developing event. The following examples feature the verbal noun *ispijanje* ‘drinking up’ from the imperfective verb *ispijati*, which is obtained by imperfectivization from the perfective verb *ispiti* ‘drink up’. The accomplishment character of the verb is emphasized by the prefix *iz-* ‘from’, but the same tests are applicable to the noun *pijenje* ‘drinking’ from the non-prefixed verb *piti* ‘drink’, too.

- (7) a. Ispijanje čaše piva je teklo neometano.  
 drink-up.IMPF.NOM glass.GEN beer.GEN is flowed.IMPF undisturbed  
 ‘The drinking up of a glass of beer went on undisturbed.’
- b. Ispijanje čaše piva je izvedeno za pet minuta.

drink-up.IMPF.NOM glass.GEN beer.GEN is performed.PF in five minutes

‘The drinking up of a glass of beer is done in five minutes.’

c. Trčanje pored reke je teklo neometano.

run.IMPF.NOM next-to river is flowed.IMPF undisturbed

‘Running by the river went on undisturbed.’

d. ??Trčanje pored reke je izvedeno za pet minuta.

run.IMPF.NOM next-to river is performed.PF in five minutes

‘The running by the river is done in five minutes.’

(8) Jova je ispijao čašu piva pet minuta/\*za pet minuta.

Jova is drunk-up.IMPF glass.ACC beer.GEN five minutes/in five minutes.

‘Jova was drinking up a glass of beer five minutes/in five minutes.’

The examples show that imperfective verbal nouns from accomplishment verbs apparently can receive both telic and atelic interpretation. The predicate in (7b) is perfective and selects for a subject nominal which denotes a telic event. This is witnessed by its incompatibility with an unambiguously atelic subject nominal in (7d). That the culmination of the described event is implied is confirmed by the fact that (7b) cannot be continued by a clause like “and afterwards the glass still contained some beer”. In contrast to it, the predicate in (7a) is imperfective and selects for an atelic verbal noun. Thus, both predicates are compatible with imperfective verbal nouns of accomplishment verbs, which indicate their telic/atelic ambiguity. Interestingly again, their imperfective sentential counterparts do not exhibit this ambiguity – (8) cannot denote a telic eventuality.

Tatevosov (2013) and Pazelskaya and Tatevosov (2006) use several tests to show that Russian nominalizations derived by the suffix *-ie* (which is historically and morphologically the analogue of



Serbian *-je*) are aspectually neutral. In Russian, the aspectual neutrality apparently holds of both perfective and imperfective nouns, but I will use the tests to show that in Serbian only imperfective, i.e., verbal nouns are aspectually neutral, while resultative nouns are sensitive to the tests.

The following examples show that in Serbian perfective verbs do not give nominalizations compatible with imperfective contexts.

- (9) a. Marijino zaduživanje/ \*zaduženje se  
 Marija's incur-debts.IMPF.NOM/incurring-debts.PF.NOM REFL  
 nastavilo i ove godine.  
 continued and this year  
 'Maria's incurring debts continued this year too.'
- b. dvočasovno tamnjenje/ \*potamnjenje fotografije  
 2-hours-long darken.IMPF.NOM darken.PF.NOM photo  
 'two hours long darkening of a photo'

In the sentence (9a) the property predicated of the nominals, continuation of the activity, entails atelicity of the denoted eventuality. This predication is only acceptable with verbal nouns, and is excluded with resultative nouns. Similarly, adjectival modification *dvočasovno* 'two hours long' implies non-delimitedness of the modified eventuality and is only compatible with the verbal noun. Turning to telicity inducing contexts, we find the following behaviour of *-je* nominals.

- (10) a. tamnjenje/ potamnjenje fotografije za pet minuta  
 darken.IMPF.NOM darken.PF.NOM photo in five minutes  
 'the darkening of a photo in five minutes'
- b. Do uništenja/uništavanja neprijatelja je došlo posle mnogo  
 to destroy.PF/IMPF.NOM enemy.GEN is come after a.lot.of  
 napora.  
 efforts

‘The destruction of the enemy happened after a lot of efforts.’

- c. ??Došlo je do pevanja studenata.  
came is to sing.IMP.F.NOM students.GEN  
‘the singing of the students happened.’

The *in* temporal adverbial in (10a) forces a telic interpretation. As can be seen, both the verbal and the resultative nouns are compatible with such an interpretation. The construction in (10b) in which the nominals are embedded literally translated reads ‘it came to...’, and it selects for telic eventualities. That it is incompatible with activities can be seen from (10c) where a typical activity denoting nominal *singing*, derived from an imperfective verb is used, which produces a clash. In (10b), however, *uništavanje* denotes a telic eventuality although its aspect is imperfective, and, consequently, is felicitously used. As for the resultative noun *uništenje*, it is not curious that it is suitable for the environment in (10b), which selects for completed eventualities, because it is derived from a perfective verb. For similar examples demonstrating the aspectual difference between the two types of nominals see Bašić (2010).

In the above examples is illustrated behaviour of *-je* derived nouns in Vendler’s (1967, 1968) so called “narrow containers”. These are contexts which force eventive interpretation of the nominals. But the same behaviour is observable in “loose containers”, which select for factive or proposition-like interpretation of nominals. Let us illustrate this with the example of a resultative noun derived from a verb whose imperfective counterpart is possible to use in the durative interpretation, which classifies it as an accomplishment.

- (11) Jučerašnje uništenje/ uništavanje šume je  
yesterday’s destroy.PF.NOM/ destroy.IMP.F.NOM forest.GEN is  
zaprepastilo sve.  
shocked everybody

‘Yesterday’s destruction of the forest shocked everybody.’

In this example the imperfective aspect does not clash with the lexical aspect, and it does not come necessarily to an iterative interpretation. Instead the verbal noun refers to a single episode, an event in which the forest went through a process of destruction. The same holds of the resultative noun: it refers to a single event. But in this case too, the difference between the verbal and the resultative noun is clearly perceivable. The resultative noun denotes a perfective event and implies that the complete change of state took place, i.e., that the forest is destroyed. On the other hand, the verbal noun does not enable such an inference, and is instead compatible with different interpretations. In the most prominent interpretation the forest suffered some damage, but still exists. In that case the reference is to an atelic event. The verbal noun allows also for a telic interpretation, according to which the forest is completely destroyed. In principle, the iterative reading is not excluded either, but it is not pragmatically very probable.

As a rule, verbal nouns are able to refer like mass nouns if that is not prevented by the mereological properties of their arguments, as in (12a), but this is not possible with resultative nouns even if their argument is a mass or a plural noun, (12b). These properties are recognized by the compatibility with measure phrases, which only mass nouns can take. In the case of event denoting nominals the measure phrases are temporal.

(12) a. dva sata pronalaženja izgubljenih stvari/  
two hours find.IMPF.NOM.GEN lost.GEN things.GEN  
\*zgodnog mesta za podizanje šatora two hours  
suitable.GEN place.GEN for erecting tent  
‘two hours of finding of lost things/a suitable place for the  
erection of a tent’

b. dva sata uskladištavanja/ \*uskladištenja namirnica/ nafte  
two hours store.IMPF.NOM.GEN/ store.PF.NOM.GEN food  
products/petroleum

‘two hours of storing of food products/petroleum’

We see that the resultative nouns are dedicated to refer to non-homogeneous events, which is expected if they denote a change of the state of their theme object, where the non-homogeneity is introduced by the existence of two incompatible states, one in which a particular property does not obtain, and the other in which it obtains.

From imperfective verbs, verbal nouns are formed virtually without restrictions, and, as verbs denoting both telic and atelic eventualities have imperfective forms, that means that both telic and atelic eventualities can be expressed through imperfective verbal nouns. Thus, we see that the imperfective aspect of verbal nouns does not exclude telic eventualities from their denotation, or necessarily shift telic interpretations to iterative. In fact, the imperfective aspect makes it possible for such eventualities to be expressed at all through nominalization. This is because the base forms of the verbs that denote such eventualities are mainly perfective, and as such would not be able to form *-je* nouns since perfective verbs are heavily restricted in forming this type of nouns, and only a small number of them, namely resultative ones, is able to form them. Imperfectivization is a necessary step for derivation of verbal nouns from verbs whose non-derived member of their aspectual pair is perfective.

The discussion of aspectual properties of *-je* derived nominals in Serbian gives support to the claim that the denotation of resultative and verbal nouns differ. Resultative nouns denote perfective, telic events exclusively, while verbal nouns denote imperfective as well as perfective eventualities if they are derived from verbs which are imperfective variants of telic verbs.

## 2.2 The external argument

Resultative nouns denote changes of states which may be brought about internally, as in (13a), or caused by external causes (13b). In the latter case, the causes may be agents (14). The presence of an agent can be ascertained by means of the tests commonly used for this purpose: the compatibility with the phrase that expresses the agent of an eventuality *od strane* ‘from the side of’ (characteristic also of the passive construction, where it plays the same role as English *by* phrase), agent oriented adjectives like *namerno* ‘intentional’, and intentional clauses and phrases.

- (13) a. Naglo *otopljenje* je dovelo do poplava.  
abrupt warm.PF.NOM is led to floods  
‘The abrupt warming led to floods.’
- b. Intenzivni treninzi su uzrokovali *oštećenje* zgloba.  
intense trainings are caused damage.PF.NOM joint.GEN  
‘The intense trainings caused the damaging of the joint.’
- (14) a. nevoljno *povišenje* plata od strane  
reluctant raise.PF.NOM salaries.GEN from-the-side-of  
upravnika  
manager  
‘the reluctant raising of the salaries by the manager’
- b. *zaključenje* sporazuma sa ciljem unapređenja  
conclude.PF.NOM accord.GEN with aim advancement  
odnosa  
relationships  
‘the concluding of the agreement with the aim of the advancement of relationships’

However, there is a strong intuition that resultative nouns contrast verbal nouns in somehow being independent of the actions of the external argument. In this subsection I attempt to show that resultative nouns are in essence non-agentive, even if the agent can

be expressed with them. On the other hand, verbal nouns always express the agent if they are derived from an agentive verb.

This understanding of the agentivity of resultative nouns is also shared by Rossdeutscher and Kamp (2008). They claim that German *-ung* nouns (which by our assumption are derived from the same type of verbs as Serbian resultative nouns) do not contain the Voice projection. This projection, according to Kratzer (1996), introduces the external argument, which may take the role of an agent. As a support for their claim, Rossdeutscher and Kamp adduce Kratzer's argument that *-ung* nouns are compatible with their agents performing the action on themselves, that is, that the effect of disjoint reference does not obtain with them, and which would be expected if the Voice projection were present.

- (15) die gestrige Ankleidung des Patienten  
the yesterday's dressing the.GEN patients  
'yesterday's dressing of the patients'

The phrase in (15) can refer to an event in which the patients dress themselves or are dressed by somebody else. However, Kratzer (1996) claims that English nominal gerund (i.e. ing-of nominals) do not contain the Voice projection either, but for this she offers a different argument. She contrasts nominal and verbal gerunds.

- (16) a. The killing of her cat upset Maria.  
b. Killing her cat upset Maria.

Since the sentence (16a) is compatible with either Maria or somebody else killing her cat, Kratzer concludes that the external argument is not fixed in the syntactic representation of nominal gerunds. On the other hand, in the sentence with a verbal gerund it is implied that Maria killed her cat, which indicates that the Voice projection is present there. However, if we apply the argument from the disjoint reference, we see that the interpretation of the external

argument is not entirely free. Namely, the possibility that the cat killed itself is not there<sup>25</sup>.

In her later work Kratzer (2003) uses exactly this argument to support the opposite view that nominal gerunds do require implicit external arguments.

- (17) a. The report mentioned the painfully slow dressing of the children.  
 b. The article praised the expeditious securing of the climbers.

According to Kratzer, the nominals in (17) are incompatible with self-action, which points to the fact that the verb's external argument is implicitly realized. However, my judgments are different. At least in Serbian, the sentence (17a) is fully compatible with the children dressing themselves, while in (17b) there is indeed the effect of the disjoint reference: the climbers must have been secured by somebody else. Syntactically identical source sentences that express self-actions are available for both of these nominalizations, but apparently only (17b) cannot derive from such a sentence.

- (18) a. Deca su se obukla. → oblačenje dece  
 children are REFL dressed dress.IMPF.NOM children.GEN  
 'The children got dressed.' 'the dressing of the children'  
 b. Penjači su se osigurali. → osiguranje/osiguravanje  
 climbers are REFL secured secure.PF/IMPF.NOM  
 penjača  
 climbers.GEN

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<sup>25</sup>Although this is true, it may be a fact not about the external argument, but about differences between the *of* phrase vs. a genitive. Grimm and McNally (2015) have argued that nominal gerunds have no arguments, while verbal gerunds have all of them.

‘The climbers secured themselves.’ ‘the securing of the climbers’

It seems that compatibility with self-action of the nominal is determined by the lexical semantics of the base verb and the encyclopedic knowledge about the action type in question. Dressing is an action normally done on oneself as other grooming verbs, while securing is typically understood to be performed on somebody else. Interestingly, the resultative nominal in (18b) seems to be compatible with climbers securing themselves, which would confirm the hypothesis that resultative nominals do not project external arguments. Overall, I conclude that Kratzer’s argumentation is not decisive in determining whether in a given construction the external argument is present or not. However, it has certain plausibility because it seems to show, although imprecisely, that the higher the degree of nominalization, the more restricted the interpretation of the external argument is. I therefore concur with Kratzer’s and Rossdeutscher and Kamp’s claims that English nominal gerunds contain the external argument, and that German *-ung* nominals do not<sup>26</sup>. I show furthermore that the same holds of Serbian counterparts of these nominalization types too.

I will not be concerned here with the question how exactly the apparent agentivity of the examples in (14) is to be accounted for. Maybe the presence of the indicators of agentivity is licensed there by the encyclopedic knowledge associated with particular verbs, and not encoded grammatically. I proceed with demonstrating the difference in the agentivity of verbal and resultative nouns. The following examples illustrate this.

- (19) a. Bio sam zauzet zapošljavanjem/ \*zapošljenjem radnika.  
been am busy employ.IMPF.NOM.INSTR/employ.PF.NOM.INSTR  
workers  
‘I was busy employing workers.’

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<sup>26</sup>However, see Grimm and McNally (2015) for an opposing view about English *ing-of* forms.



- b. Uživam u uručivanju/ \*uručenju nagrada.  
 enjoy in present.IMPF.NOM.LOC/present.PF.NOM.LOC prizes  
 ‘I enjoy presenting prizes.’

The sentences in (19) entail that the first person subject is engaged in the eventualities denoted by the respective nominalizations. Furthermore, the subject is represented as the source of the eventuality: the eventuality is what he does. In the sentence (19a) the adjective *zauzet* ‘occupied’ implies that the subject is doing something, which prevents him of doing something else. The sentence (19b) can be imagined to be uttered by an official who is in charge of presenting awards, and in it he expresses his attitude towards what he does. In the circumstances such as those of these sentences the use of a resultative noun is blocked, but the use of a verbal noun is completely natural. This suggests that the nouns differ in the expression of external arguments.<sup>27</sup>

It is not generally possible to express the agent in an eventuality by a possessive adjective in the prenominal position of a resultative noun, but it is with a verbal noun.

- (20) a. *Političar je smirio situaciju.*  
 politician is calmed situation  
 ‘The politician calmed the situation.’
- *političarevo smirivanje/\*smirenje situacije*  
 politician’s calm.IMPF/PF.NOM situation.GEN  
 ‘the politician’s calming of the situation’
- b. *Situacija se brzo smirila.*  
 situation REFL quickly calmed  
 ‘The situation quickly calmed.’

---

<sup>27</sup>Louise McNally (personal communication) confirms these judgements for English and adds that the sentence *I enjoyed the presentation of prizes* becomes acceptable when someone else does the presenting. This is the case in Serbian too.

→ brzo smirenje situacije  
the quick calm.PF.NOM situation.GEN  
'the quick calming of the situation'

The example (20a) shows incompatibility of a result noun with the agent, and not the non-existence of the noun altogether. Without an agent expressed the noun is fully acceptable, as shown in (20b).

Popova (2006) adduces an example with the verb *nalagam* 'to order' to show that event control exists with Bulgarian *-ne* nouns, but not with *-nie* nouns. Our example (21a) is modeled on her example to show that the same holds of Serbian verbal and resultative nouns, which are counterparts of the Bulgarian ones, respectively.

- (21) a. Nalaže se \*dodeljenje/ dodeljivanje nagrade ovom  
order REFL is allocate.PF/IMPF.NOM prize this.DAT  
studentu.  
student.DAT  
'The allocation of the prize to this student is ordered.'
- b. Jovan se bavi osvetljavanjem/\*osvetljenjem sala.  
Jovan REFL occupy lighten.IMPF/PF.NOM.INSTR hall.GEN  
'Jovan deals with the lightening of halls.'

The sentence (21a) expresses an order, it says what has to be done, i.e., its addresses are conceived of as subjects capable of doing specific kinds of things. Similarly, the activity in which one engages as one's occupation, like in (21b), is conceived of as controlled by its doer. Thus, the incompatibility of resultative nominals with these sentences shows again that when the subject is conceived as an agent, the nominal used to express his or her actions must be a verbal, not a resultative one.

In the context of the discussion of the agentivity of verbal and resultative nouns, let us return to Dickey's examples in (3), repeated here in (22).

- (22) a. Rok za izvršenje ove zapovijedi je...  
 deadline for execute.PF.NOM this.GEN order.GEN is
- b. Rok za izvršavanje ove zapovijedi je...  
 deadline for execute.IMPF.NOM this.GEN order.GEN  
 ‘the deadline for the execution of this order is...’

Both of the nominals in (22) have the same sentential paraphrase with a perfective verb as in (23a). Using an imperfective verb in the same sentence not only does not give the right paraphrase, but is also marked itself: it suggests that the order does not have to be executed completely, but that just attempting to execute it would be enough.

- (23) a. Rok da se izvrši ova zapovijed je...  
 deadline to REFL execute.PF this order is
- b. Rok da se izvršava ova zapovijed je...  
 deadline to REFL execute.IMPF this order is  
 ‘The deadline to execute this order is...’

Indeed, using one or the other nominal would not bring about any confusion as to what is expected to be done. There is, however, a subtle difference in the meaning of the two forms. The use of the resultative nominal in (22a) entails that the authority issuing the order does not set the deadline himself, or herself, but rather the deadline is independently determined: after the said date it will be impossible to do anything that would count as the execution of the order. For this reason, the sentence could also be understood not as an order, but as a warning. In contrast to this, the use of the verbal noun in (22b) entails that the deadline is set by the authority: the order could be executed later, but the authority decides that it is to be done by the said date. For this reason the sentence conveys a sense of arbitrariness, some other date could have been chosen instead. Because of this arbitrariness, the sentence with the verbal noun is understood as a true command, it restricts the possible actions of the

subjects to which it is addressed<sup>28</sup>. The difference between the resultative and verbal nouns described has consequences on how the agents of the actions ordered are conceived of. Only in the latter case, where the authority takes a decision about the deadline are the addressees conceived of as agents, i.e. subjects in control of the respective eventualities. Restricting one's possibilities for action entails one's agentivity. This is not so with resultative nouns, which describe actions as occurring on their own accord without regard to their agents. The action that has to take place in order to fulfill the command is represented by resultative nouns independently of the subjects that have to execute the command.

The discussion in this subsection shows that the presence of the external argument is entailed only by verbal nouns, and not with resultative nouns. It is certainly not an accident that agentivity is associated with imperfectivity, and the lack of it with perfectivity. The difference between the two types of nominals is reminiscent of the opposition between active and passive voice in the sentential context. In Russian, passive participles can only be formed from perfective verbs (cf. Borik 2006). How this restriction is to be derived is a question outside of the scope of this dissertation, but the correspondence between aspect and voice is evident. Furthermore, Alexiadou (2001) states that nominalizations pattern with ergative constructions, so, the facts from Serbian that I adduced here confirm this hypothesis of hers. In conclusion, the discussion demonstrates that resultative nominals set a view on an eventuality from the perspective of the internal argument, undergoer of that eventuality, and verbal nouns from the perspective of its external argument, i.e., agent.

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<sup>28</sup>Louise McNally (personal communication) finds this characterization a bit hard to understand. Here is an alternative she proposes that works for English "execution" vs. "executing": The semantic difference between (22a) and (22b) can be perceived through their use. McNally is more likely to use (22a) when talking about the deadline to someone who is *not* going to execute it, to talk about anything other than the actual action of executing it, whereas (22b) is the choice when one wants to focus on the action being done, for example, with someone who *is* going to execute it.

### 2.3 The enriched meaning of resultative nouns

Resultative nouns show some special meaning effects that cannot be observed with verbal nouns. Namely, the meaning of verbal nouns is by rule transparent, and straightforwardly retrievable from the meaning of the verb. At the same time, the meaning of resultative nouns is enriched in ways in which the meaning of their base verbs need not be. In this subsection I discuss some cases that exemplify this phenomenon and give preliminary pointers as to how they should be understood.

Often the meaning of resultative verbs and nouns is conventionalized in the sense that the events denoted by them must satisfy a set of conventions to qualify for their denotation. There is a class of resultative verbs that systematically receives enriched, and metaphorical interpretation. These are the verbs whose internal make-up consists of a prepositional phrase expressing the goal. Thus, it contains a preposition followed by a noun, and then the suffix. Here are quoted *-je* nominalizations from such verbs.

- (24) u-skladišt-enje, na-mešt-enje, u-gnežď-enje,  
in-store-ENJE, on-place-ENJE, in-nest-ENJE,  
storing, placement, nesting,
- u-ruč-enje, iš-čaš-enje  
in-hand-ENJE, from-glass-ENJE  
handing in, dislocation

In the previous chapter I pointed to the fact that not any thing that is put in a storehouse can be described by *uskladišten* ‘stored’, it must be put there with a specific aim and under specific conditions, which are determined by the noun *skladište* ‘storage’. For this reason the following sentences in (25) cannot have the same meaning.

- (25) a. Jova je uskladištio biciklu.  
 Jova is stored bicycle  
 ‘Jova stored the bicycle.’
- b. Jova je stavio biciklu u skladiste.  
 Jova is put bicycle in storage  
 ‘Jova put the bicycle into the storage.’

Similarly, although a bird is the first thing one can think of that gets into a nest, the verb receives a meaning only metaphorically related to nests (for example, the meaning of *embedding* as used in linguistics), and the nominal *ugneždenje ptice* ‘the nesting in of a bird’ is strange. In order for an event to count as *nameštenje* it is not enough that something be simply put in a place, as the translation may misleadingly suggest. Rather, the event should have a social significance, it usually describes people’s being installed in some positions in institutions. *Uručenje* similarly cannot simply mean any handing in of a thing to somebody, but has the additional meaning of officialness to it: it is handing in of court decisions, awards, invitations, and the like that is denoted by this noun.

We see from the nouns in (24) that the exceptional behavior starts with the formation of resultative verbs and is inherited by resultative nouns. But in fact the situation is more complex because unpredictable meaning shifts occur even in the step between, i.e. in the process of nominalization, as is seen from the following.

- (26) Zgrada se zapalila./ \*Grlo se zapalilo.  
 building REFL got-on-fire throat REFL got-on-fire  
 ‘The building got on fire. The throat got on fire.’
- zapaljenje grla/ \*zgrade  
 inflame.PF.NOM throat.GEN/building.GEN  
 ‘the inflammation of the throat/building’

Here, the correct nominalization does not have a corresponding felicitous use of the verb in a sentential context. Moreover, the

felicitous sentential use is not possible to nominalize. So, the way from a verb to a noun is not straightforward, nouns are not directly derived from verbs. This suggests that rather than predicting availability of the nominalization based on a verb's meaning, it should be determined by the nature of the eventuality denoted. Spalek (2015) shows something similar – that the meaning of a change of state verb is highly dependent on the nature of its complement. For example, Spanish *romper* 'break' with physical objects means 'physical destruction' (27a), with processes, as in (27b), it means 'interrupt', and with states, as in (27c), conveys the meaning 'stop existing'.

- (27) a. Juan rompió la ventana/ un juguete/ el papel/ la camisa.  
 Juan broke the window/ a toy/ the paper/ the shirt  
 'Juan broke the window/ the toy/ tore the paper/ the shirt.'
- b. La crisis inmobiliaria rompió el desarrollo económico de  
 the crisis property.ADJ broke the development economic of  
 Españã.  
 Spain  
 'The housing crisis interrupted the economic development  
 of Spain.'
- c. El cortejo llegó hasta el cementerio y en ningún  
 the procession arrived until the cemetery and in no  
 momento se rompió el silencio.  
 moment REFL broke the silence  
 'The procession reached the cemetery and at no time was  
 the silence broken.'

The differences in the examples in (27) are dependent on the meaning of the complements of the verb *romper*. The following examples illustrate that the construal of the eventuality is crucial for the availability of nominalization, and that it depends on the properties of the internal argument.

There are other examples of resultative verbs and nouns which are not metaphorical, but show interesting restrictions on the internal argument of a noun, which are not necessary with the corresponding verb.

- (28) Jetra/Marija je iznenada obolela.  
liver Marija is suddenly got-ill  
'The liver/Marija suddenly got ill.'

→ iznenadno oboljenje jetre/\*Marije  
sudden get-ill.PF.NOM liver.GEN Marija.GEN  
'the sudden getting ill of the liver/Marija'

In this example with an unaccusative verb we see that not all internal arguments of the situation can pass through the process of nominalization. The difference between the two arguments seems to be that the liver is wholly affected by the change described by the verb, and Marija not; getting ill is only something that happens to her. The following case is similar. Notice that it is possible that the argument *moja drugarica* appears in a verbal nominal, as witnessed by the nominalization of the corresponding sentence with an introduced external causer.

- (29) a. Moja drugarica/situacija se brzo smirila.  
My friend situation REFL quickly calmed  
'My friend/the situation quickly calmed.'

→ brzo smirenje situacije/\*moje drugarice  
the quick calm.PF.NOM situation.GEN/my friend.GEN  
'the quick calming of the situation/my friend'

- b. Jovan je smirio moju drugaricu.  
Jovan is calmed my friend  
'Jovan calmed my friend.'

→ Jovanovo smirivanje/\*smirenje moje drugarice  
Jovan's calm.IMPF/PF.NOM my friend.GEN



‘Jovan’s calming of my friend’

For an event to be denoted by a resultative noun it has to be important in a certain way so that it can be seen as leaving a result relevant for the purposes of conversation. What exactly it means for an event to be important or produce a relevant result is difficult to say, but the phenomenon is obvious from the following examples.

- (30) a. Jovan je osvetlio prostoriju lampom/ problem sa  
Jovan is illuminated room lamp.INSTR problem from  
raznih strana.  
different sides  
‘Jovan threw light on the room with a lamp/illuminated  
the problem from different sides.’
- b. osvetljenje \*prostorije/problema  
illuminate.PF.NOM room.GEN/problem.GEN  
‘the illumination of the room/problem’
- (31) Prošle nedelje je osvetljen jedan od naših sportskih terena.  
last week is illuminated one of our sport fields  
‘Last week one of our sport fields was illuminated.’
- prošlonedeljno osvetljenje terena  
last week’s illuminate.PF.NOM terrain.GEN  
‘last week’s illumination of the sport field’

The throwing of light on a room does not constitute an important event. The room underwent a change from being dark to being illuminated, but this is not a big enough change to deserve nominalization. After the turning off of the light the room turns back to the state as before so it is difficult to conceive of the change of the state of the room as having some lasting effects. In contrast, the illumination of the problem, although an abstract event, is seen as a more significant event: for example, after it one is in a position to solve the problem, which he could not do previously. There is a way, however, that the verb *osvetliti* ‘to illuminate’ in its concrete,

material sense becomes nominalizable. The sentence in (31), reports not on a mere event of throwing light on the sport field, but on setting a permanent installation which can lighten the field.

## 2.4 Conclusion

This section reviewed the interpretive and structural differences between Serbian resultative and verbal nouns. The results show that the differences are deep despite superficial similarities. First, I showed that resultative nouns are truly semantically perfective, and not just morphologically. Verbal nouns, on the other hand, can express both perfective and imperfective eventualities. Second, resultative nouns are shown to contrast verbal nouns in the expression of the external argument: they do not license it even if the eventuality denoted by the corresponding sentence may have an agent, but verbal nouns always have the possibility to express the external argument. This suggests that verbal and resultative nouns aim at different portions of the overall grammatical representation of the eventuality. Verbal nouns nominalize the higher portion related to the external argument and the initiation of the event, and resultative the lower portion related to the internal argument and the coming about of the change of state. This justifies considering verbal nouns accusative, and resultative nouns ergative constructions, in accord with Alexiadou (2001). The last and most important observation is about the construal of the change of state denoted by resultative nouns: this change must be substantial, that is, it must leave some lasting effects. This is confirmed by the restrictions that are imposed on the theme of such changes of state: allowed are only themes which support the construal of the change as producing results relevant in a certain point provided by the sentence. This property distinguishes resultative nouns as perfect nominalizations in the sense in which English *have* verbal tense forms are perfect. They both express the relevance of the change of state in a point after the change took place, and the great variability of ways in which this notion is

manifested is what is responsible for the difficulty in giving a precise description of the meaning of resultative nouns.

### 3 Previous analyses of resultative verbs and nominalizations

In the first chapter of this dissertation I established that Serbian *-je* nouns derived from perfective verbs and English *-ion* derived nouns belong to the same type of resultative nominalizations, and in the previous section I explored in detail the semantics of Serbian resultative nouns and showed that their name is justified: their meaning really involves reference to states resulting from a certain change. In English, the exclusive source for the derivation of nouns with resultative meaning are Latinate verbs. In this, they contrast with native verbs which only form process/activity denoting nominals (and zero derived and some other unproductive nominalization types). Here I review some previous analyses of English Latinate verbs, and their nominalizations, which will reveal them as complex constructions involving small clauses that denote result states.

#### 3.1 Harley (2007)

Latinate verbs do not only differ from the native ones with respect to nominalization properties. Harley (2007) adduces three other syntactic specificities of these verbs. The first is that they do not take particles.

- |                  |                               |
|------------------|-------------------------------|
| (32) write it up | *compose it up/*arrange it up |
| throw it out     | *discard it out               |
| cut it apart     | *dissect it apart             |

Latinate verbs do not form resultative constructions either.

- |                   |                  |
|-------------------|------------------|
| (33) cut it apart | *divide it apart |
| fill it full      | *inflate it full |

freeze solid      \*congeal solid

Those transitive Latinate verbs which denote transfer of possession participate only in the *to* dative construction, but not in the double object construction.

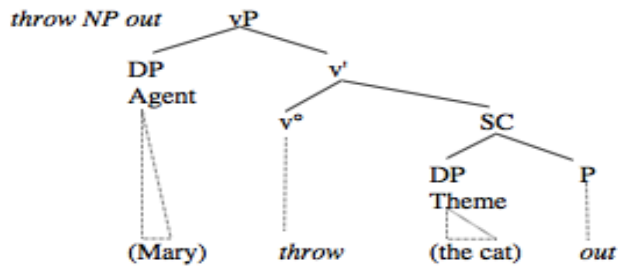
- (34) a. Mary showed the committee her findings.  
b. Mary showed her findings to the committee.  
c. \*Mary displayed the committee her findings.  
d. Mary displayed her findings to the committee.

The explanation for this behavior Harley finds in the fact that Latinate verbs are bimorphemic, in contrast to native verbs. The two morphemes occupy the same syntactic positions that the verb and the particle in the usual Anglo-Saxon verb-particle construction occupy, which makes the structure complete and not anymore extendable by addition of new particles or resultative phrases. As for the double object construction, it is impossible with Latinate verbs the same way it is impossible with Anglo-Saxon verb-particle constructions.

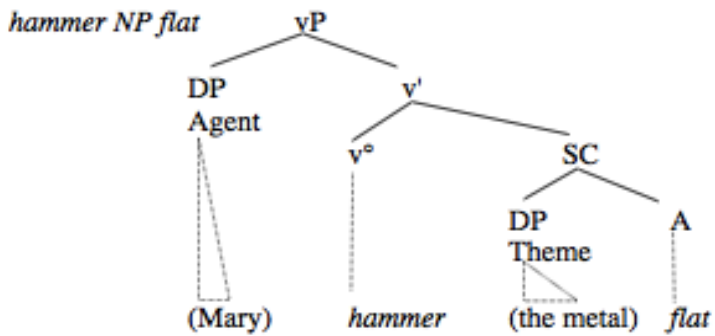
- (35) a. \*Mary showed off John her paintings.  
b. Mary showed her paintings off (to John).

Again, the reason why (35a) is ill-formed is that the sentential template available cannot host all the material from (35a). Namely, in Harley's analysis all the three constructions: verb-particle, resultative, and double object constructions, are given structurally analogous syntactic representations. These representations involve the verbal little *v* head complemented by a small clause. Where the constructions differ is the sort of the predicate in the small clause: with verb-particle constructions it is a particle, and with resultative constructions it is an adjective or a prepositional phrase.

(36)

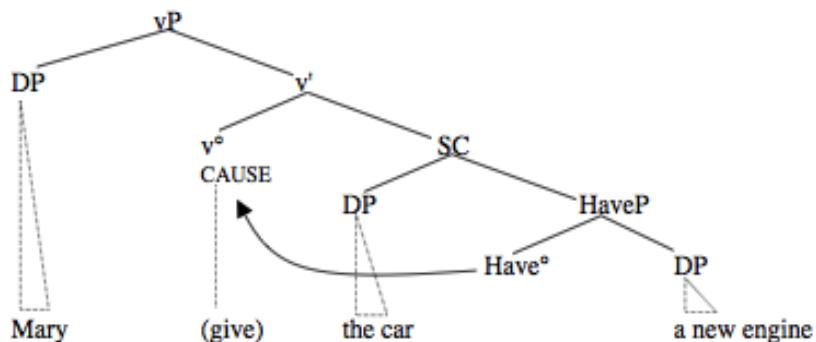


(37)



As for the double object construction, Harley (2007) adopts the idea that it is a causative of a possession relationship (Richards 2001, Harley 2002). For this reason the predicate heading the small clause is an abstract *HAVE* relation, as shown in (38).

(38)



The motivation for postulating the HAVE relation is that the subject of the small clause must always be animate, unless the second NP in the double object construction represents a part of the first NP. This is

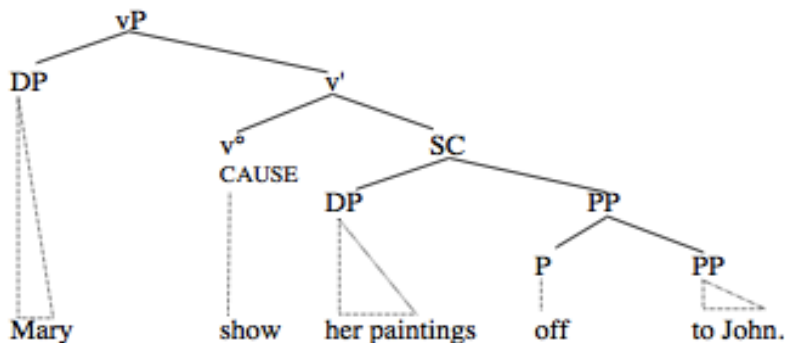
- (39) a. #Mary gave the car a sweater.  
b. Mary gave the car a new engine.  
c. Mary gave John a sweater.

The same constraint on the type of subjects in possession ascription is in effect also in sentential contexts where inanimates can only be attributed an inalienable possession and animates both alienable and inalienable.

- (40) a. #The car has a sweater.  
b. The car has an engine.  
c. John has a sweater/an appendix.

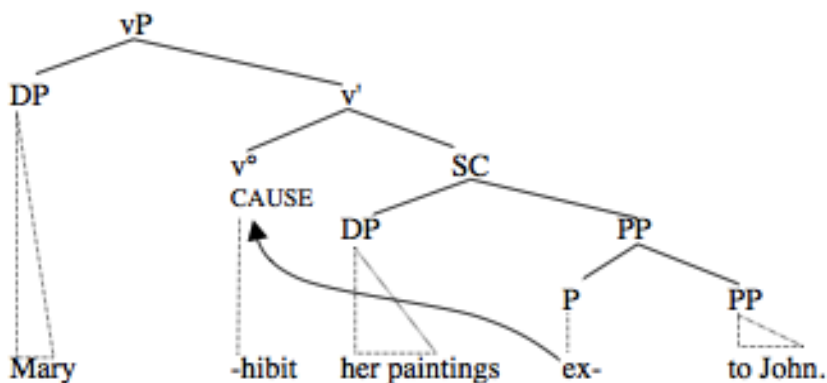
Given such a set-up, it is clear why (35a) is out, but (35b) is good: the particle and the possessee compete for the same structural position in the lower part of the complex little *v* phrase. On the other hand, this situation does not arise with a *to* dative object because the *to* prepositional phrase is an adjunct, and does not affect the basic syntactic structure.

(41)



This explanation straightforwardly extends to sentences with Latinate verbs as in (34c,d). Since they are composed from a prefix and a lexical part, these elements are syntactically organized similarly to the native case above: the prefix *dis-* occupies the P head, and the stem *-play* gives lexical (manner) content to the little *v* causative head. In such a structure there is no place for two objects.

(42)



Harley's analysis of bimorphemic Latinate verbs as complex structures akin to particle verbs offers a simple and intuitive

explanation of their ungrammaticality in resultative, double object and particle verb constructions. The reason for this ungrammaticality is that all these constructions have very similar syntactic representations, which involve a small clause. They are built upon simple structures involving only verbs, and although Latinate verbs look simple they are not really. For this reason they cannot serve as a basis upon which the above described structures would be built. I propose that the properties of nominalizations of Latinate verbs, and in particular, their inability to form nominal gerunds, should be linked to their structure. It is expected that similar structural properties of different constructions will lead to similar behavior in grammatical processes which affect their structures. In our case concretely, we expect that all the constructions behave similarly with respect to nominalization. However, what the actual behavior is is not an uncontroversial question. In the following subsection, I present different judgements about the nominalization of resultative constructions.

### **3.2 Various authors on the possibility to nominalize a resultative**

The judgements found in the linguistic literature about the acceptability of the nominalization of the resultative construction are notoriously divergent. Some reject it altogether, some are permissive, and still other pose certain restrictions, which, again, vary from author to author. Here I will review only some of the expressed judgements. For example, Kayne (1985) claims that resultatives do not nominalize, and gives the following examples of impossible nominal gerunds of transitive resultatives to substantiate his stance.

- (43) a. \*The starving of John into giving up could have been avoided.  
b. \*The hammering of metal flat is exceedingly difficult.



Carrier and Randall (1992) are not so strict. Their judgement is that the acceptability of the nominalization depends on whether the nominalized resultative is formed from a transitive or an intransitive verb. Only the resultatives formed from transitive verbs are nominalizable.

- (44) a. The watering of tulips flat is a criminal offense in Holland.  
b. The slicing of cheese into thin wedges is the current rage.  
c. The painting of fire engines the color of schoolbuses is strictly prohibited by state law.  
d. The Surgeon General warns against the cooking of food black.
- (45) a. \*The drinking of oneself sick is commonplace in one's freshman's years.  
b. \*The talking of your confidant silly is a bad idea.  
c. \*What Christmas shopping means to me is the walking of my feet to pieces.  
d. \*The jogging craze has resulted in the running of a lot of pairs of Nikes threadbare.

As a support for their claim they adduce some other grammatical phenomena which make the same distinction among resultative constructions. First, it is the ability to make middles, which only transitive resultatives have.

- (46) a. NP water the new seedlings flat → New seedlings water flat (easily).  
b. NP won't scrub my socks clean → My socks won't scrub clean (easily).
- (47) a. NP run competition Nikes threadbare → \*Competition Nikes run threadbare (easily).  
b. NP talk Phys Ed majors into a stupor → \*Phys Ed majors talk into a stupor (easily).

The second test of Carrier and Randall is the formation of adjectival participles. Again, only transitive resultatives can form adjectival participles, whereas verbal ones are available to both kinds of resultatives.

- (48) the stomped-flat grapes  
the smashed-open safe  
the scrubbed-clean socks
- (49) \*the danced-tin soles  
\*the crowed-awake children  
\*the talked-unconscious audience

Sichel (2010) presents examples of nominal gerunds made of intransitive resultatives (some of the examples are from Harley and Noyer (2000) and Pesetsky (1995)). For her, these formations are completely grammatical, and she uses them as the proof that nominal gerunds, unlike derived nominals, can host complex events.

- (50) a. The joggers ran the pavement thin.  
a'. the running of the pavement thin  
b. The dog barked the neighbor awake.  
b'. the barking of the neighbor awake  
c. the rubbing of the tiredness out of their eyes  
d. the scrubbing of her hands raw  
e. the singing of us all to sleep

She also claims that the nominal gerunds of verb-particle constructions with unselected objects are good as well.

- (51) a. They laughed / drank away their sorrows.  
a'. The drinking / laughing away of their sorrows  
b. She winked / buzzed in the guests.  
b'. The winking / buzzing in of the guests

Punske (2012) disagrees both with Carrier and Randall and Sichel. For him, contrary to Carrier and Randall, even transitive resultatives do not nominalize.

- (52) a. \*The gardener's watering of the flowers flat  
b. \*Terry's wiping of the table clean

As for Sichel's examples, he thinks they are questionable at best, and that they improve after adjoining the adjective to the verb.

- (53) a. the running thin of the pavement  
b. the barking awake of the neighbors

McIntyre (2013, 2014) quotes Spencer and Zaretskaya's (1998) judgments (here in (54a)), and gives diametrically opposite ones of his own (here in (54b)).

- (54) a. the drinking (?dry) of the pub (\*dry)  
b. the drinking (??dry) of the pub (dry)

I conclude that although one may encounter judgements that nominalized resultatives are acceptable, or even find them actually used, the grammaticality of such constructions is controversial since others reject them. The discussion of McIntyre (2013, 2014) in the following section points to a view according to which in neither case do nominal gerunds of resultative constructions really have a resultative semantics.

### **3.3 McIntyre (2013, 2014)**

So how can we make sense of the great disagreement about the nominalized resultatives? McIntyre assumes that there are different idiolects among English speakers in which the resultative construction is differently represented. His analysis of the internal structure of deverbal nominals predicts which representation is the licit input to nominalization. His analysis starts from the

observation (Chomsky 1970, Sichel 2010, and many others) that arguments of *of* in deverbal nominals must be arguments of the verb. This excludes cases of exceptional case marking, which receive a small clause analysis according to which the apparent object of the main verb is in fact the subject of the predicate in the small clause, as indicated below.

(55) \*the belief / believing of [Bill to be Caesar]

Consequently, structures with small clauses cannot be input to nominalization, and the formation of complex predicates must take place before the nominalizing suffix may apply. This is clearly shown by the fact that nominalization forces particle incorporation, as in the following example.

(56) John's looking up of the information (\*up)

In the case of adjectival resultatives, McIntyre assumes abstract incorporation (Baker 1988) which is not morphologically or phonologically reflected. This gives for the nominal in (57a) the analysis with a complex predicate in (57b). The input for nominalization, therefore, is not a structure with a small clause as in (57c), but with a complex predicate (57d).

- (57) a. the hammering of the metal flat  
 b. [<sub>NP</sub> hammering [<sub>NP</sub> of the metal [<sub>N'</sub> hammer-ing [<sub>VP</sub> hammer [<sub>AP</sub> flat]]]]]  
 c. [<sub>VoiceP</sub> they [<sub>Voice'</sub> hammer [<sub>VP</sub> hammer [<sub>PrP=SC</sub> the metal [<sub>Pr</sub> Pr [<sub>AP</sub> flat]]]]]]]  
 d. [<sub>VoiceP</sub> they [<sub>Voice'</sub> hammer [<sub>VP</sub> the metal [<sub>V'</sub> hammer [<sub>AP</sub> flat]]]]]

McIntyre suggests that in those idiolects which do not accept nominalized resultatives, they have small clause structures, and that when the adjective shifts next to the verb, it is treated like a particle and incorporated into the verb. From this follows that the two idiolect types actually do not differ in any deep way: there is only one possible structure for the nominalization, the one with a

complex predicate, that may be realized in two different ways. However, it is implausible that the availability of nominalization depends only on the syntactic properties of a construction and is not coupled with semantics: in the two idiolect types, resultatives mean the same, but just because of their different syntax they can or cannot be nominalized.

I propose a reinterpretation of McIntyre's analysis, while keeping his idea that nominalizations do not involve small clauses. His syntactic arguments suggest that the structure of nominalizations in examples like (57a) really involves a complex predicate. I propose, however, that complex predicates are not resultative. Resultative constructions are bipartite, for example, the way Harley represents them in (37). If the incorporation of the secondary predicate takes place, the bipartite structure is destroyed and the phrase that was responsible for the resultative interpretation does not exist anymore. Instead, the adjective comes to be a modifier of the higher predicate into which it is incorporated. The obtained structure involves only the higher portion of the maximal possible event template and it denotes an activity or a process. The modification by the incorporated adjective effectively produces a subkind of the activity or the process denoted by the main verb. In the case of (57a), for example, the activity described by the nominal will be not just any hammering of the metal, but of a kind which, in addition, makes that metal flat.

The consequence of this proposal is that in fact resultative constructions do not nominalize at all. What occasionally gets nominalized may just look as a resultative, but is not really because it is the nominalization of a complex predicate, and not of a bipartite structure. The availability of such "fake" nominalized resultatives one can imagine would depend on various factors. In the first place would probably come pragmatic likelihood to use the resultative predicate as a modifier of the main predicate. Also, personal proneness to perform incorporation should not be excluded. As shown by the examples in (54), some people do not need adjacency to interpret the original resultative phrase as a

modifier, while others have difficulty even when it is adjacent to the main verb.

There is yet another way in which a “resultative” nominal gerund can be understood. Recall that Serbian verbal nouns have two interpretations. On one, they denote activities and processes, i.e., atelic, imperfective eventualities. On the other, they denote perfective, telic eventualities, i.e., events proper in Bach’s (1986) classification. I propose that the same ambiguity is characteristic also of English nominal gerunds. Therefore, beside the activity reading, on which *the hammering of the metal flat* describes a particular kind of hammering, there is also a reading on which this nominal refers to the event of the metal becoming flat as a result of being hammered, so, it just refers to what happened. This reading is close to the true resultative reading, but is nonetheless different because it does not have result state implications. Again, the variation encountered in the judgements of speakers as to the acceptability of nominal gerunds derived from resultative constructions reflects the difficulty with which the result adjective (or a prepositional phrase) can be reinterpreted as an indicator of culmination of events, i.e., as a telicity/perfectivity marker. Obviously, this can easily be done with particles, as witnessed by their readiness to incorporate, but not so easy with contentful lexemes as adjectives. The rich lexical content appears to be the factor which would always force resultative interpretation with adjectives, and, in addition, the stative nature of adjectives would be a deficient means for introducing telicity, in contrast to particles, which are inherently directional.

In sum, I posit that English nominal gerunds do not express resultative meaning, which is the meaning of English resultative constructions, even when it appears so. Apparent resultative nominal gerunds, if they are felicitous formations at all, do not semantically differ from ordinary nominal gerunds derived from bare verbs or verb-particle constructions. This semantics is processual or eventive, but never resultative.

Let us turn back to McIntyre's account. We saw that he rejects small clauses in nominals, and instead posits complex predicates as the input to nominalization. How does he go about Latinate nominalizations? He says that the "fussy" suffixes, as he call suffixes other than *-ing*, reject particles either because they are unproductive like *-th* in *growth*, or because this is forced by their selection restrictions: *-ion* is specified to take Latinate bases. We see that in his account, Latinate verbs do not form a class distinguished by any other property than being loan words. In contrast, Sichel (2010) offers an account of idiosyncratic nominalizations based on their semantic properties. For this reason he takes issues with it. I will now present the argument.

### 3.4 Sichel (2010)

Sichel (2010) aims at determining what distinguishes idiosyncratic nominalizations (those obtained by not fully productive suffixes like *-ion*, *-ment*, *-ance*, *-al*, and other) from nominal gerunds. She starts with the observation that all nominals are morpho-syntactically deficient in comparison with verb phrases, but also that idiosyncratic nominals are additionally constrained in respect of event structure. Namely, according to Sichel, idiosyncratic nominals are restricted to denoting only single, simple events, whereas nominal gerunds may host complex events. The deficiency of nominalizations consists in the unavailability of certain constructions which are available for extended verbal phrases like possessive verbal gerunds. These are impossibility of exceptional case marking (58a), double objects (58b), and object control (58c).

- (58) a. \*John's belief/believing of Bill to be Cesar  
b. \*the demonstration/showing of the committee her paintings  
c. \*John's persuasion/persuading of Mary to stay

Of particular interest for Sichel is the fact that nominal gerunds allow particles (although only adjacent to the verb, in contrast to

verbal gerunds, which is another sign of the morpho-syntactic deficiency of nominalizations), while idiosyncratic nominalizations do not. Since particles by assumption add end-points to activities, creating thereby complex eventualities, this suggests that idiosyncratic nominals are limited to denoting only simple eventualities, while nominal gerunds are not so limited.

The main argument in support of her claims she finds in compatibility with different types of external arguments. Following ideas on event identification expressed in Rappaport-Hovav and Levin (2001) and Levin and Rappaport-Hovav (1999, 2002), she holds that only arguments that can be construed as direct causes are acceptable with idiosyncratic nominalizations because only with such arguments the two sub-events of a complex event are temporally co-dependent, i.e., unfold at the same rate, which allows for them to be represented as one simple event. This is exemplified by the following examples, where the idiosyncratic nominals with non-direct causes improve once they are converted to nominal gerunds.

- (59) a. # The exercise's expansion of her interest in syntax  
a'. ? The exercise's expanding of her interest in syntax  
b. # The weather's alteration of their plans  
b'. ? The weather's altering of their plans  
c. # Bill's growth of tomatoes  
c'. Bill's growing of tomatoes  
d. # Inflation's shrinkage of his salary  
d'. ? Inflation's shrinking of his salary  
e. # Adultery's separation of Jim and Tammy Faye  
e'. ? Adultery's separating of Jim and Tammy Faye  
f. ? The cold war's separating of East and West Germany  
g. # The 19th century's unification of the principalities  
g'. ? The 19th century's unifying of the principalities

McIntyre (2013, 2014) disputes Sichel's explanation in terms of event complexity, which, if correct, would undermine his explanation in terms of lexical selectional restriction of affixes other



than *-ing*. He points out that if the reason why idiosyncratic nominals do not accept particles were because the resultative interpretation introduced by them entails multiple sub-events and idiosyncratic nominals are restricted to simple events, then Sichel's account should also rule out the correct examples in (60) with prepositional phrases, which also introduce complexity.

- (60)
- a. the dividing up of the country (into two)
  - b. the division of the country into two
  - c. \*the division up of the country
  - d. the leakage (\*out) of water (out of the tank)
  - e. the clearance (\*out) of the goods (out of the factory)
  - f. the closure (\*down) of nuclear power plants
  - g. the trial (\*out) of the products
  - h. the shipment (\*off) (of the goods) (to Europe) (last week)

There are, however, further problems for Sichel's view. I will present three more counterarguments.

Notice that even nominal gerunds are not impeccable as they are expected on the theory. One may guess that maybe nominal gerunds are not compatible with complex events as well, or even that they are not compatible with this particular type of subjects independently of whether they really entail complex event structure. We would then expect that they improve completely with agents as external arguments because agents are considered preeminent direct causes. However, the following examples show that this is not the case.

- (61)
- a. ?The supervisor's expanding of her interest in syntax
  - b. ?Bill's altering of his plans
  - c. ?The teacher's separating of Jim and Tammy Faye
  - d. ?Roosevelt's separating of East and West Germany
  - e. ?Bismarck's unifying of German principalities

This suggests two things: first, concerning idiosyncratic nominals, that the argument from the type of external argument is not correct,

and second, concerning nominal gerunds, that they are not completely freely formed when there are already existing idiosyncratic nominalizations independently of how the external argument is construed, as observed by Harley and Noyer (1997).

McIntyre's counterargument shows that Sichel's rules exclude grammatical examples. In the next counterargument, I show that they also include ungrammatical formations. Notice that explanation in terms of event complexity is not sufficient. If only event complexity governed the formation of idiosyncratic nominals, then all simple events should be licit input for them. However, we can hardly imagine more simple events than those denoted by verbs of Anglo-Saxon origin like *run*, *laugh* or *say*, yet none of these nor any similar verbs form idiosyncratic nominals: *runation*, *laughtment*, and *saya* are completely ungrammatical. The only way out of this problem in the given setting I can imagine would be to posit that idiosyncratic suffixes are lexically specified to take Latinate bases, much the way McIntyre himself proposes. This would, however, render the whole account not more than just a description of an accidental fact that idiosyncratic nominals denote simple events.

The last counterargument comes from Punske (2012). It is conditional on his understanding of the type of verbs which derive idiosyncratic nominals. Notice that neither Sichel nor McIntyre consider the internal makeup of Latinate verbs; they treat them as units the same way as any other type of verbs. On the other hand, Punske follows Harley (2007) in holding that Latinate verbs, verbs which derive idiosyncratic nominals, are bimorphemic, and that this entails that eventualities denoted by them must be complex. Given these assumptions, Punske asks "if derived nominals disallow resultatives and particles due to restrictions on their event-structure, shouldn't they also disallow all bipartite Latinate verbs?" (Punske 2012, p. 138). Of course, this is not what happens: bipartite Latinate verbs are exactly the verbs that produce idiosyncratic nominals. Punske thus takes a directly opposite stance to Sichel on the question of event complexity: for him, it is idiosyncratic nominals that are complex, and nominal gerunds are the ones that are simple.

### **3.5 Summary**

The discussion of this section is taken from two points of view: a morphological, concerned with the specificity of Latinate verbs and their nominalizations, and a semantic, concerned with the expression of resultative meaning. It is shown that Latinate verbs are best analyzed as proposed by Harley (2007), according to which their morphological complexity reflects their semantic complexity: in addition to the activity component, responsible for the initiation of the event, they involve a resultative component similarly to resultative constructions and particle verbs (when the particle is not incorporated). Their nominalizations inherit this complex morphological structure. On the other hand, nominal gerunds do not have a complex structure, but are always formed from simple Anglo-Saxon verbs. It is shown that nominal gerunds resist formation from Latinate verbs, and in cases where they are formed from a resultative construction, they in fact do not have the resultative meaning, but that characteristic of other ordinary nominal gerunds.

## **4 Discussion**

In the previous sections of this chapter I reviewed properties of Serbian and English nominals that have resultative semantics. The conclusion is that these nominals denote events of a more complex structure than the type of fully productive deverbal nominalizations. Concretely, it involves reference to a result state, the state that results from a certain event, while other nominalizations denote just processes or events proper, in the sense defined in Bach (1986). Having established these basic facts about the meaning of these words, we have to answer some further questions. The most important of these questions have to do with semantic representation of the meaning of the resultative nominals, and various restrictions that exist on their formation. In particular, we want to know: How is resultative meaning to be semantically

represented? Why is the only way to obtain a resultative nominal in English through Latinate verbs? Why are Latinate verbs bad in nominal gerunds, while Serbian resultative verbs are good in verbal nouns? What does it tell us, the fact that in Serbian both verbal and resultative nominalizations are derived by the same suffix? Unfortunately, to none of these questions do I have a satisfactory answer. In the rest of this chapter I will point to some problems that semantic and syntactic analysis meets with these nominalizations.

Above, I proposed that verbs that give resultative nominals have the same structure as English resultative constructions, as suggested by Harley (2007) in the example (42). We now want to determine what the attachment site for the nominalizing suffix *-ion* has to be in this structure in order to derive the properties of resultative nouns. A straightforward answer would be that it is the whole of the structure because the whole of the structure represents the verb which gets nominalized. However, the problem with this is that the structure of Latinate verbs and of the native resultative construction are practically identical, which would have to allow the attachment of the suffix to both of them. But this is not the case: *the hammeration of the metal flat* is not a well-formed nominalization.

Another problem for having *-ion* attaching on top of the whole structure in (42) is that such a move would falsely predict that the external argument is a part of the meaning of the nominal. A big part of this chapter is devoted to showing that this is not correct even though a decisive argument is not given. Furthermore, I claimed that initiation portion of the total eventuality (as it is commonly envisaged) is not visible in resultative nominals so that even the attachment of *-ion* one step lower, to *v'*, would not satisfy the requirements posited for resultative nominals.

Still another problem for having the whole structure nominalized is how to explain the selection restrictions of the suffix *-ion*. In other words, how does the suffix know that below the site to which it attaches is projected a small clause, which is necessary for the resultative semantics of the nominal? The *vP* could have been

easily without it. If the suffix didn't have such information, it would produce nominals as *runnation*, *writation*, and similar non-existent forms. Furthermore, if the suffix *-ing* attaches at the same place, it also has to know that below it is not projected a small clause. But it is implausible to say that *-ing* is specified for a structure of a particular size. Rather, the infelicity of a nominal gerund made of a resultative construction, like *the barking of the neighbor awake*, comes from the fact that the secondary predicate is not in fact included in the nominalization. This is the most plausible explanation and one that captures the actual intuition why the resultatives cannot form nominal gerunds: the small clause in such a construction is a dangling sentential residual which is not connected with any other part of a sentence. It follows that we have to have the suffix nominalize the structure only up to a certain depth and not completely. On the other hand, *-ion* would have to be able to nominalize the whole structure.

What if *-ion* attached to a lower site – immediately above the small clause? This again leads to problems because small clauses are stative, and resultative nominals clearly differ from stative nominalizations like *love* or *knowledge*. A resultative noun makes reference to a state, namely the resultant state, but it does not exclude the information that this state is a resultant state, that is, that it resulted from an event. Therefore the meaning of the resultative nominal is not entirely stative. This meaning effects cannot be obtained by nominalizing solely the small clause. Furthermore, since the lexical material making up a resultative verb is spread over a complex structure, nominalizing only a part of this structure would simply not produce the correct word.

We thus see that the nominalization of the posited structure is not a trivial task and that every place of the attachment of the suffix we can imagine is not safe from problems. Confronted with these problems we seem forced to reconsider the structure of resultative verbs. After all, Latinate verbs are not the same as resultative constructions: one involve lexical units – words, and the other involve syntactic combinations of words. Should we then

represent them differently? However we proceed one thing should be clear: the difference in the representation has to reflect the semantic difference. And since the problems we encountered are semantic, that suggests that we should reconsider the proposed structure. But we assumed that resultative verbs and resultative constructions have the same semantics – a resultative one. This suggests that we should not change the structure.

In chapter 2, I proposed that verbs that derive resultative nouns be derived in a specific way: by the incorporation of the result phrase into the verb. In this I followed Arsenijević (2011), who distinguishes two types of incorporation in Serbian: one is the incorporation of the preposition from a resultative phrase, which then appears as a prefix, and the other is the incorporation of the whole resultative phrase into the verb. I will not review here his arguments for the second type of incorporation (coming mainly from cognate object interpretation), but notice that his analysis correctly recognizes the existence and the morpho-syntactic specificity of a separate class of verbs, namely, resultative verbs. While this account deals only with the derivation of verbs and may be correct for itself, there are some aspects of it that make it unsuitable for the characterization of verbs which produce resultative nouns. The first is empirical. Since the account derives the verbs from the incorporation of the resultative phrase, it predicts that no such verb may contain another verb within itself. This is because resultative phrases only contain adjectives and nouns in prepositional phrases. However, many resultative nouns are derived from deverbal verbs.

- (62) razlučenje,      pokriće,      održanje,      istrebljenje  
       RAZ-extract.NOM PO-cover.NOM O-hold.NOM IZ-pick out.NOM  
       separation      justification      remaining      extinction

We already mentioned Rossdeutscher and Kamp's (2008) idea that in this kind of cases coercion takes place by which manner roots are reinterpreted as property roots. However, it is clear that, for example, *razlučenje* 'separation' does not refer to a state as

somehow marked by process of separation. Rather, it refers to an event in which something got to be separated from something else. The result is thus entailed, but the only element that points to it is the prefix, and not the verb.

In any case, even if there were not empirical problems with the hypothesis that result phrase incorporating verbs are the ones that derive resultative nouns, it is not clear what the notion of incorporation really consists in. Apart from it being the way “how the verb gets its name” (to use Harley’s (2005) words), little is known about the purpose this operation serves. What is more, the postulation of such operation seems even threatening for the account of the resultative semantics. The reason is that the complex event structure, which was the actual explanation for the resultative semantics, is now destroyed by incorporation. In the previous section I in fact explicitly assumed, reanalyzing McIntyre (2014), that since complex predicates do not involve small clauses, they cannot be resultative either.

On the other hand, one may take an approach to the structure of resultative verbs as not so radically different from the resultative construction and still obtain their obvious specificity. One such proposal is made by Acedo-Matellán (2010). Reassessing Talmy’s (1991, 2000) well-known dichotomy between satellite-framed and verb-framed languages, which boils down to the availability of the resultative construction in a language, Acedo-Matellán proposes that there is a difference between weak and strong satellite-framed languages, which are exemplified by Slavic, Latin and Ancient Greek on the one hand, and English, Dutch and German on the other. The difference is that in the weak satellite-framed languages “there is a morphological requirement on the element expressing the result predicate and the verb: they have to form a single (prosodic) word. This requirement impedes those languages to feature complex adjectival resultative constructions” (p. 184). This approach therefore preserves the structural analogy between English resultative constructions and Latinate verbs, placing the difference solely in the phonological realization.

It then seems propitious not to look for the formulation of the requirements of the suffix *-ion* in structural terms, but to simply say, together with McIntyre (2014), that they are specified to attach to Latinate verbs. However, the semantic/syntactic characterization cannot be avoided. Notice that Latinate loans in English are not limited to resultative verbs. Take for example the noun and the verb *course*, which originates from Latin *currere* ‘to run’: the same way as there is no word *runnation*, there is no word *coursation*, which would be expected if the only requirement for *-ion* were that it attaches to Latinate words.

I reviewed here some problems for the analysis of resultative nominalizations. This type of nominalizations proved to be a difficult piece of the language system for either syntactic or semantic attempts to account for its specificities. A more precise characterization of this construction therefore must be left for some future work. I hope at least to have brought to attention some important and previously unnoticed aspects of this nominalization type.

## **5 Conclusion**

This chapter dealt with deverbal nominalizations with resultative semantics in Serbian and English. These nominalizations have been shown to have more complex syntax and semantics than fully productive nominalization types as English nominal gerunds and Serbian verbal nouns. In particular, resultative nominals have eventive semantics, but also make reference to a state since it is this state whose coming about they denote. I pointed to some difficulties that such semantics poses for its formal representation. In addition, a correlation is established between event semantics encoded on the lexical and syntactic levels, according to which nominal gerunds correspond to the progressive and preterite aspects and resultative nominals to the perfect aspect.





## CHAPTER 5

### CONCLUSIONS

This dissertation tackled several issues related to the derivation of nouns from verbs. It dealt with event denoting nominalizations as well as with participant nouns denoting external arguments. The overall conclusion that can be drawn from the study is that much of the aspectual information encoded by verbs in sentential contexts is carried over to nominal forms derived from them.

Chapter 2 is dedicated to cross-linguistic variation in the possibilities for the formation of eventive nominalizations. It is recognized that in a number of Slavic and Germanic languages there exists a type of nominalization distinguished by its productivity and the transparency of its meaning. I called this type of nominalization *regular*. It comes in two varieties: one variety denotes processes and proper events, and the other denotes changes of states. To the first variety belong: Serbian verbal nouns, derived from imperfective verbs by the suffix *-je*, West Slavic verbal nouns, derived both from perfective and imperfective verbs by the suffixes *-í* (in Czech), and *-ie* (in Slovak and Polish), and English nominal gerunds, derived by the suffix *-ing* and taking complements introduced by the *of* prepositional phrase. To the second variety, called *resultative nouns*, belong: Serbian resultative nouns, derived from perfective verbs by the suffix *-je*, German *-ung*, and Dutch *-ing* derived nouns, and English *-ion* and *-ment* derived nouns. It is shown that the observed variation is dependent on two aspectual parameters: the default aspectual value of the verbs in a language, and the referential capacity of the perfective aspect.

Chapter 3 investigates the readings of nominals denoting external arguments. The difference in the availability of event entailments observed in the literature (Grimshaw 1990, Rappaport

Hovav and Levine 1992, and others) between argument taking and non-argument taking nominals that denote external arguments is adopted and refined by recognizing further types of readings of these nouns. The final typology involves four readings: episodic, which names an agent based on participation in one event token of a kind; habitual, based on participation in multiple events and modifiable with frequency adjectives; dispositional, based on participation in multiple events and modifiable with adjectives of the type *big*; and occupational and instrument readings, which do not have event realization entailments. The formalization of these readings is provided using the notion of stages of kinds and individuals, in the manner of Carlson (1977).

Chapter 4 discusses properties of resultative nominals in Serbian and English. It is claimed that resultative nominals have a perfect aspect, and that this is because their meaning involves reference to result states, which are the states that an object comes into after it undergoes a change of state. Furthermore, this semantics is claimed to condition the selection of complements to these nouns: only complements that can support such a meaning are permitted. The resultative nouns are also found to describe events as occurring of their own accord, and that agents are not represented with them. I remained agnostic as to how such semantics of resultative nominals is to be represented, either syntactically or semantically. While resultative semantics as found in sentential contexts, for example, with resultative constructions, is intuitively correctly captured by an analysis on which a small clause represents the result state, I pointed out a number of problems that such an analysis encounters when transferred to the nominal domain.

Nominalization has been one of the central topics in the linguistics of the second half of the twentieth century and still occupies the attention of researchers. Although the investigation of this phenomenon achieved important results, a deeper understanding of it is yet to come. Likewise, the picture of the particular issues related to the process of nominalization dealt with in this dissertation remains incomplete. It was shown that aspect, an

essential characteristic of verb semantics, also plays an important role in the semantics of nouns derived from verbs. Not only is aspectual value of a sentence or a verb recognizable in the derived nominal, but also it determines whether a nominal can be formed in the first place. I proposed several ideas about how to formally capture aspectual effects in nominalization in syntactic and semantic terms, but a more precise account has to be developed in future work. This pertains particularly to the characterization of resultative nouns, which, as was shown, pose difficult challenges for a formal analysis. The value of the dissertation, therefore, does not lie in its final conclusions, but in particular observations and the critique of the previous work done on the subject of nominalization.



## References

- Abney, Steven.** (1987) *The English Noun Phrase in Its Sentential Aspect*, MIT: Ph.D.
- Acedo-Matellán, Víctor.** (2010) *Argument Structure and the Syntax-Morphology Interface. A Case Study in Latin and other Languages*. Barcelona: Universitat de Barcelona dissertation.
- Alexeyenko, S.** (2012) English *-er* Nominals: A Case of Relative Clause Structure in Morphology. In Iordachioaia, Gianina (ed.) *Proceedings of JeNom 4*, Working Papers of the SFB 732, vol. 09
- Alexiadou, Artemis.** (2001) *Functional structure in nominals: nominalization and ergativity*. John Benjamins.
- Alexiadou, Artemis and Florian Schäfer.** (2010) On the syntax of episodic vs. dispositional *-er* nominals. In Alexiadou & Rathert eds, *Nominalizations across languages and frameworks*. Mouton de Gruyter.
- Arsenijević, Boban.** (2010) On Two Types of Deadjectival Nominals in Serbian. *Suvremena lingvistika* 36/70, 129-145.
- Arsenijević, Boban.** (2011) *The Syntax of Manner Incorporation*. MS. Universitat Pompeu Fabra, Barcelona.
- Babić, S.** (1986) *Tvorba riječi u hrvatskom književnom jeziku*. Zagreb: Jugoslavenska akademija znanosti i umjetnosti, Globus.
- Bach, Emmon.** (1986) The Algebra of Events. *Linguistics and Philosophy* 9, 5-16, D. Reidel Publishing Company.

**Baker, M.** (1988) *Incorporation*. University of Chicago Press.

**Bašić, Monika.** (2010) On the morphological make-up of nominalizations in Serbian. In Artemis Alexiadou and Monika Rathert (eds.) *The syntax of nominalizations across languages and frameworks*, De Gruyter Mouton.

**Borer, Hagit.** (1984) The Projection Principle and Rules of Morphology. In: Charles Jones and Peter Sells (eds.) *The Proceedings of NELS 14*, GLSA, The University of Massachusetts, Amherst, pp. 16 – 33.

**Borer, Hagit.** (2003) Exo-skeletal vs. endo-skeletal explanations: syntactic projections and the lexicon. The nature of explanation in linguistic theory, ed. by John Moore and Maria Polinski, 31 – 67. Stanford: CSLI publications.

**Borer, Hagit.** (2012) In the Event of a Nominal. In: Everaert, M., Marelj, M., Siloni, T., eds.: *The Theta System*. OUP.

**Borik, Olga.** (2006) *Aspect and Reference Time*. Oxford University Press.

**Carlson, Greg.** (1977) Reference to Kinds in English. Doctoral Dissertation, University of Massachusetts, Amherst.

**Carlson, Greg.** (1977a) A unified analysis of the English bare plural. *Linguistics and Philosophy* 1: 413–58.

**Carlson, Greg.** (1998) On the Semantic Composition of English Generic Sentences. In: G. Chierchia, B. Partee and R. Turner (eds.), *Properties, Types and Meaning*, vol. 2: *Semantic Issues*. 167 – 191. Dordrecht: Kluwer.

**Chierchia, Gennaro.** (1998) Plurality of mass nouns and the notion of “semantic parameter”. In S. Rothstein (ed), *Events and Grammar*, Kluwer Academic Publishers.

**Chierchia, Gennaro.** (2010) Mass nouns, vagueness and semantic variation. *Synthese* 174, pp. 99– 149.

**Cinque, Guglielmo.** (2003) The dual source of adjectives and XP vs. N-Raising in the Romance DP, Handout at *NELS 34*.

**Chomsky, Noam.** (1970) Remarks on Nominalization. U: R. Jacobs i P. Rosenbaum (eds.), *Readings in English Transformational Grammar*. Boston, Ginn.

**Davidson, Donald.** (1967) The Logical Form of Action Sentences, in Rescher, N. (ed.), *The Logic of Decision and Action*, Pittsburgh, PA: University of Pittsburgh Press. Reprinted in Davidson, D. *Essays on Actions and Events*, Oxford: Oxford University Press, 1982, pp.105-122.

**Dayal, Veneta.** (2003) A semantics for pseudo-incorporation. Ms, Rutgers University.

**Dickey, Stephen M.** (2000) *Parameters of Slavic Aspect: A Cognitive Approach*, Stanford.

**Dobrovie-Sorin, Carmen, Tonia Bleam, Maria Teresa Espinal.** (2006) Bare nouns, number, and types of incorporation. In: Tasmowski, Liliane and Vogeleer, Svetlana (eds.): *Non-definiteness and Plurality*. John Benjamins B.V.

**Espinal, M. Teresa.** (2010) Bare nominals in Catalan and Spanish. Their structure and meaning. *Lingua* 120 . 984–1009.

**Espinal, M. Teresa, and Louise McNally.** (2011) Bare nominals and incorporating verbs in Spanish and Catalan. *Journal of Linguistics* 47, 87-128.



**Farkas, Donka and Henriëtte de Swart.** (2003) The Semantics of Incorporation: from Argument Structure to Discourse Transparency. Stanford: CSLI.

**Farkas, Donka and Henriëtte de Swart.** (2010) The semantics and pragmatics of plurals. *Semantics and pragmatics* 3.6, pp. 1–54.

**Gehrke, Berit.** (2011) Stative passives and event kinds. In I. Reich, E. Horch & D. Pauly, *Sinn und Bedeutung* 15: Proceedings of the 2010 Annual Conference of the Gesellschaft für Semantik, 241-257. Universaar - Saarland University Press: Saarbrücken.

**Gehrke, Berit.** (2012) Passive states. In *Telicity, Change, and State: A Cross- Categorical View of Event Structure*, ed. Violeta Demonte and Louise McNally, 185–211. Oxford University Press: Oxford.

**Gehrke, Berit and Louise McNally.** (2014) Event individuation by objects: Evidence from frequency adjectives. In U. Etxeberria, A. Falas, A. Irurtzun & B. Leferman (eds): *Proceedings of Sinn und Bedeutung* 18. Vitoria-Gasteiz.

**Gehrke, Berit and Louise McNally.** (2015) Distributional modification: The case of frequency adjectives. *Language* 91.4.

**Grimm, Scott and Louise McNally.** (2013) No ordered arguments needed for nouns. In M. Aloni, M. Franke, and F. Roelofsen (eds.) *Proceedings of the 19th Amsterdam Colloquium*, 123-130.

**Grimm, Scott and Louise McNally.** (2015) The *-ing* dynasty: Rebuilding the semantics of nominalizations. In *Proceedings of the 25th Semantics and Linguistic Theory Conference*, held at Stanford University, May 15-17, 2015, edited by Sarah D'Antonio, Mary Moroney, and Carol Rose Little.

**Grimshaw, Jane.** (1990) *Argument Structure*. Cambridge, Mass.: MIT Press.

**Haegeman, Liliane.** (1994) *Introduction to Government and Binding Theory*. Blackwell.

**Halle, Morris.** (1997). On stress and accent in Indo-European. *Language* 73: 275-313.

**Halle, Morris and Alec Marantz.** (1993) Distributed morphology and the pieces of inflection, in K. Hale and S. J. Keyser (eds.), *The View From Building 20*. Cambridge, MA: MIT Press, 111–76.

**Halle, Morris and Alec Marantz.** (1994) Some key features of distributed morphology, in A. Carnie and H. Harley (eds.) *MIT Working Papers in Linguistics 21: Papers on Phonology and Morphology*, 275–88.

**Harley, Heidi.** (2003) Possession and the double object construction. In *The Linguistic Variation Yearbook*, Vol. 2, ed. Pierre Pica and Johan Rooryck. Amsterdam: John Benjamins, pp. 29-68.

**Harley, Heidi.** (2005) How do verbs get their names? Denominal verbs, manner incorporation and the ontology of verb roots in English. In N. Erteschik-Shir & T. Rapoport (eds.). *The Syntax of Aspect*. 42-64. Oxford: Oxford University Press.

**Harley, Heidi.** (2007) The bipartite structure of verbs cross-linguistically, or Why Mary can't *exhibit John her paintings*. Write-up of a talk given at the 2007 ABRALIN Congress in Belo Horizonte, Brazil, March 2007.

**Harley, Heidi and Rolf Noyer.** (1998) Mixed nominalizations, object shift and short verb movement in English,

in *Proceedings of NELS 28*, University of Massachusetts at Amherst: GLSA.

**Harley, Heidi and Rolf Noyer.** (2000) Formal vs. Encyclopedic properties of vocabulary: Evidence from nominalization. In *The Lexicon – Encyclopedia Interface*, B. Peters (ed.), 349–374 Amsterdam: Elsevier

**Hout, Van Angeliek.** (1991) Deverbal Nominalization, Object versus Event Denoting Nominals, Implications for Argument & Event Structure. In Drijkoningen, F. and A. van Kemenade (eds.), *Linguistics in the Netherlands*. John Benjamins.

**Hout, Angeliek van, and Tom Roeper.** (1998) Events and Aspectual Structure in Derivational Morphology. *MIT Working Papers in Linguistics* 32: 175–220.

**Ignjatović, Mihajlo.** (2012) Aspect and nominalization in South Slavic languages. Presentation at the UR-Ling Workshop 2012, Universitat Pompeu Fabra, Barcelona.

**Ignjatović, Mihajlo.** (2013) Result States and Nominalization in Slavic and Germanic Languages. In: *Sinn und Bedeutung 17 Proceedings*, edited by: E. Chemla, V. Homer, and G. Winterstein.

**Katz, Graham.** (2003) On the stativity of the English perfect. In Alexiadou, A., Monika Rathert, and Arnim von Stechow (Eds.) *Perfect Explorations*. Mouton de Gruyter, Berlin.

**Knittel, Marie Laurence.** (2010) Poessionion vs. pseudo-incorporation in the nominal domain. *The linguistic Review* 22: 177-230.

**Kratzer, Angelika.** (1996) Severing the external argument from its verb. In Johan Rooryck and Laurie Zaring (eds.) *Phrase*

*Structure and the Lexicon*. Dordrecht, Kluwer Academic Publishers. 109-137.

**Kratzer, Angelika.** (2003) The event argument and the semantics of voice. Ms., Massachusetts, University of Massachusetts at Amherst.

**Kratzer, Angelika.** (2004). Telicity and the meaning of objective case. In J. Gueéron & J. Lecarme (eds.), *The syntax of time*, 389–423. Cambridge, MA: MIT Press.

**Kratzer, Angelika.** (2000). Building Statives. *Proceedings of Berkeley Linguistic Society* 26.

**Ladusaw, William A.** (1994) Thetic and categorial, stage and individual, weak and strong. In *Proceedings of SALT IV*, ed. Mandy Harvey and Lynn Santelmann, 220--229. Cornell U. DMLL, Ithaca, NY.

**Larson, Richard.** (1998) Event modification in nominals. In D. Strolovitch and A. Lawson (eds.) *Proceedings from Semantics and Linguistic Theory (SALT) VIII*. Cornell University, Ithaca, NY.

**Levin, Beth.** (1999). Objecthood. An event structure perspective. In *Proceedings of CLS35, vol. 1, Main Session*, 223-247. Chicago: Chicago Linguistic Society.

**Levin, Beth and Malka Rappaport-Hovav** (1999) Two structures for compositionally derived events. In *Proceedings of SALT IV*, Matthews, T. and D. Strolovich (eds.), 199–223. Ithaca, NY: Cornell University Press.

**Levin, Beth and Malka Rappaport-Hovav** (2002) The semantic determinants of argument expression: A view from the English resultative construction. In *The Syntax of Time*, J. Guéron and J. Lecarme (eds.), 477–494. Cambridge, MA: MIT Press.

**Link, Godehard.** (1983) The logical analysis of plurals and mass terms: A lattice-theoretical approach. In: Meaning, use and interpretation of language. Ed. by Reiner Bächerle, Christoph Schwarze, and Arnim von Stechow. Berlin, Germany: de Gruyter, pp. 303–323.

**Marantz, Alec.** (1997) No escape from syntax: don't try a morphological analysis in the privacy of your own lexicon, University of Pennsylvania Working Papers in Linguistics 4, 201–25.

**Marantz, Alec.** (1999) Creating words above and below little v. MS. MIT.

**Markova, Angelina Slavcheva.** (2011) The Role of Prefixation in The Nominalizing Process. PhD Dissertation, Universitat Autònoma de Barcelona.

**Martin, Fabienne and Christopher Piñón.** (2013) Behavior-related verbs from nouns. Keynote presentation, *Jenom 5*. Universitat Pompeu Fabra, Barcelona, June 2013.

**Massam, Diane.** (2001) Pseudo-incorporation in Niuean. *Natural language and linguistic theory* 19. 153–197.

**McIntyre, Andrew.** (2013a) Argument linking and complex predicates in English nominalizations. Handout from the workshop *JeNom 5*, Universitat Pompeu Fabra, Barcelona.

**McIntyre, Andrew.** (2013b) English particle verbs as complex heads: Evidence from nominalization. Manuscript, Humboldt-Universität, Berlin

**McNally, Louise.** (1992) An Interpretation for the English Existential Construction. Doctoral Dissertation, University of California, Santa Cruz. Published 1997 by Garland Press, New York.

**McNally, Louise.** (1998) Stativity and Theticity. In S. Rothstein (ed.) *Events and Grammar*, Kluwer, Dordrecht, 293-307.

**McNally, Louise.** (2011) Existential sentences. In Klaus von Heusinger, Claudia Maienborn, Paul Portner (eds.) *Semantics*, v.2. De Gruyter Mouton.

**Milsark, Gary.** (1974) *Existential sentences in English*. Doctoral Dissertation. MIT.

**Partee, Barbara H.** (1973). Some Structural Analogies between Tenses and Pronouns in English. In *The Journal of Philosophy*, Vol. 70, No. 18, Seventieth Annual Meeting of the American Philosophical Association Eastern Division. (Oct. 25, 1973), pp. 601-609.

**Pesetsky, David** (1995) *Zero Syntax*. Cambridge, MA: MIT Press.

**Picallo, M. Carme.** (1991) Nominals and Nominalizations in Catalan. *Probus* 33: 279-316.

**Popova, Gergana.** (2006) Integrating Nominalisations into a (Generalised) Paradigm Function Model Morphology. *Essex Research Reports in Linguistics* 47: 75-93.

**Poutsma, H.** (1923) *The infinitive, the gerund and the particles of the English verb*. Noordhoff, Groningen.

**Punske, Jeffrey.** (2012) *Aspects of The Internal Structure of Nominalizations: Roots, Morphology and Derivation*. PhD dissertation, The University of Arizona.

**Rappaport Hovav, M. & B. Levin.** (1992) -Er Nominals: Implications for a Theory of Argument Structure, in Stowell & Wehrli, eds, *Syntax and Semantics* 26.

**Rapport-Hovav, Malka and Beth Levin.** (2001) An event structure account of English resultatives. *Language* 77: 766–797.

**Richards, Norvin.** (2000) An idiomatic argument for lexical decomposition. *Linguistic Inquiry* 32 (1): 183-192.

**Rossdeutscher, A. and H. Kamp.** (2008). Syntactic and semantic constraints in the formation and interpretation of -ung-nouns. Available at:  
[http://www.uni-stuttgart.de/linguistik/sfb732/files/b4\\_rossdeutscherkamp\\_erscheint.pdf](http://www.uni-stuttgart.de/linguistik/sfb732/files/b4_rossdeutscherkamp_erscheint.pdf)

**Roy, Isabelle and Elena Soare.** (2010) Genericity and stativity inheritance in “agent” deverbal nominals. GENIUS II Workshop on Dispositions, Abilities and States, Paris.

**Roy, Isabelle and Elena Soare.** (2013) N-Ways of being Event related. Handout from *JeNom5* conference, Barcelona.

**Roy, Isabelle and Elena Soare.** (2014) On the internal eventive properties of -er nominals. *Lingua* 141, 139-156.

**Schäfer, Roland.** (2007) On frequency adjectives. In *Proceedings of Sinn und Bedeutung 11*, ed. Estela Puig Waldmüller, 555–567. Barcelona: Universitat Pompeu Fabra.

**Schoorlemmer, Maaïke.** (1995). *Participial Passive and Aspect in Russian*. OTS Dissertation Series, Utrecht.

**Smith, Carlota.** (2008). Time With and Without Tense. In J. Gueron and J. Lecarme, *Time and Modality*, Springer.

**Spalek, Alexandra Anna.** (2015) Spanish change of state verbs in composition with atypical theme arguments: Clarifying the meaning shifts. *Lingua* 157, 36–53.

**Spencer, Andrew and Zaretskaya, Marina.** (1998) Verb prefixation in Russian as lexical subordination. *Linguistics*. 36, 1–39.

**Stevanović, Mihailo.** (1991) *Savremeni srpskohrvatski jezik*. Beograd: Naučna knjiga.

**Stump, Gregory T.** (1981) The interpretation of frequency adjectives. *Linguistics and Philosophy* 4:221–257.

**Svenonius, Peter.** (2004). “Slavic prefixes inside and outside VP.” *Nordlyd* Vol. 32, Nr. 2 Slavic Prefixes: 205-253.

**Švedova, N. Ju.** (ed.) (1970). *Grammatika sovremennogo russkogo jazyka*. Nauka, Moskva.

**Talmy, Leonard.** (1991) Path to realization: A typology of event conflation. *Berkeley Linguistic Society (BLS)* 17. 480-519

**Talmy, Leonard.** (2000) *Toward a Cognitive Semantics*, vol. 2: *Typology and Process in Concept Structuring*. Cambridge, Massachusetts: MIT Press.

**Tanasić, Sreto.** (1995) Dekomponovanje glagola i struktura proste rečenice. In: *Južnoslovenski filolog*.

**Tatevosov, Sergei and Anna Pazelskaya.** (2006) Uninflected VPs, deverbal nouns and aspectual architecture of Russian. In Lavine J., Franks S., Tasseva-Kurkchieva M., Filip H. (eds.): *Formal approaches to Slavic Linguistics*. The Princeton Meeting 2005. Ann Arbor: Michigan Slavic Publications, 258-277.

**Tatevosov, Sergei.** (2013) Nominalization and aspectual morphology. Presentation on JeNom 5: Eventualities beyond verbs. Universitat Pompeu Fabra, Barcelona.



**Van Geenhoven, Veerle.** (1998) *Semantic Incorporation and Indefinite Descriptions: Semantic and Syntactic Aspects of Noun Incorporation in West Greenlandic*. Stanford: CSLI.

**Vendler, Zeno.** (1967) *Linguistics in philosophy*. Cornell University Press, Ithaca, New York.

**Vendler, Zeno.** (1968) *Adjectives and nominalizations*. Mouton, The Hague.

**Zlatić, Larisa.** (1997) *The Structure of the Serbian Noun Phrase*, Ph.D dissertation. The University of Texas at Austin.