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Syntax and Semantics of Bare NPs: Objects of Intensive Reflexive Verbs in Russian

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Since the adoption of Abney's (1987) influential proposal that noun phrases are (at most) DPs, the hypothesis that not all noun phrases in all languages are DPs has been widely debated. A particularly interesting case in this respect is presented by Slavic languages lacking overt articles such as Russian or Serbo-Croatian: are noun phrases in such languages ever DPs, always DPs, or sometimes DPs and sometimes not? For instance, Pereltsvaig (2006) argued that although some noun phrases in Russian are to be analyzed as DPs, others are not projected fully and only reach the level of QP or even remain bare NPs (the assumption that QP, which hosts numerals and quantifiers such as *mnogo* 'many, much', is projected below DP is supported most robustly by word order facts).[1] Pesetsky (2007) considers a further range of noun phrases in Russian which he claims to be bare NPs. However, neither Pereltsvaig nor Pesetsky address the question of the semantics of such bare NPs, in particular, how they combine with elements in the verbal predicate to create the correct range of meanings. The present paper is aimed at filling this gap. More generally, it further contributes to the investigation of bare NPs and the interaction of their syntactic and semantic properties.

The empirical coverage of the present paper is focused on the objects of the so-called *intensive reflexive* verbs in Russian, illustrated in (1) (the internal structure of these verbs is discussed in Section 1 below). The goal of the present paper is to provide a syntactic and a semantic account of the noun phrases that appear to complement intensive reflexives. Such noun phrases can appear in one of two case markings: genitive or instrumental:

(1) a. Lena najelas' kotlet.
Lena *na*-ate-*sja* burgers.**GEN**
'Lena ate her fill of burgers.'

b. Lena najelas' kotletami.
Lena *na*-ate-*sja* burgers.**INSTR**

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[1]The alternative approach, that all noun phrases in Russian or Serbo-Croatian are bare NPs, is defended most strenuously in Bošković (2005, 2008, 2009). However, contrasts between genitive and instrumental phrases described in this paper, as well as the range of facts discussed in Pereltsvaig (2006, 2007) cannot be explained under the "all-bare-NP" approach.

'Lena stuffed herself with burgers.'

In this paper we are particularly concerned with the genitive complements of intensive reflexives, as in (1a); we argue that these noun phrases (but not their instrumental counterparts in (1b)) are deficient both syntactically and semantically. We argue that, from the syntactic point of view, these genitive complements of intensive reflexives (henceforth, GCIRs) are bare NPs, lacking functional projections of DP and QP. From the semantic point of view, their interpretation is not achieved through the usual function-application, but via Semantic Incorporation. The goal of this paper is to consider how the syntactic and semantic properties of such deficient nominals interact.

In addition to contributing to the investigation of bare NPs, this paper makes a contribution to the study of genitive objects in Slavic languages. The non-canonical assignment of genitive, rather than accusative, case to objects has received much attention in the literature on Slavic linguistics (cf. Pereltsvaig 1998, 1999, Kagan 2005, 2007, Partee and Borschev 2004, Borschev et al. 2008, and references therein). Phenomena that exhibit this pattern of case-assignment include Genitive of Negation, Partitive Genitive, and Intensional Genitive. The present paper extends the investigation of non-canonical genitive case by considering an additional type of genitive complements, GCIRs, which, as will be shown below, share some properties with other types of genitive nominals, but also differ from them in important respects.

1 Intensive Reflexive Verbs: Descriptive Facts

Let us begin by considering in more detail the descriptive properties of Russian intensive reflexives. Morphologically, these verbs contain an intransitivizing suffix *-sja* and the accumulative prefix *na-*. The suffix *-sja*, often referred to as the reflexive suffix, is found in reflexive verbs, as well as in reciprocals and middles. It is thus associated with an intransitivizing function. However, the range of its uses is not restricted to the ones specified above; a more exhaustive list of uses with appropriate examples can be found in Timberlake (2004).

In turn, *na-* is a verbal prefix that can appear independently of the suffix *-sja*, in transitive verbs. The use of this prefix is illustrated in (2)[2]:

(2) Maša nakupila knig.
Masha *na*-bought books.GEN
'Masha bought many books.'

In (2), the prefix contributes an entailment that the number of books bought by Masha is relatively high. Thus, the prefix seems to quantify over the object. It should be noted that it does not have such a function in (1): neither (1a) nor (1b) entails that Lena ate **many** burgers. Despite this superficial contrast, we are going to propose that the prefix *na-* does make the same semantic contribution in (1) and (2); the difference in interpretation is determined by the material to which it applies.

[2]For detailed analyses of transitive verbs that contain the prefix *na-*, see Filip (2000, 2005), Romanova (2004), Tatevosov (2006) and Pereltsvaig (2006).

2 Genitive Complements of Intensive Reflexives are Small Nominals

The goal of this section is to show that from the syntactic point of view, GCIRs are much more restricted than their instrumental counterparts in terms of their internal structure. The peculiar properties of GCIRs fit the description of what Pereltsvaig (2006) calls Small Nominals. In particular, as we show immediately below, GCIRs are bare NPs, lacking the functional projections of DP and QP.

First of all, GCIRs lack the projection of DP; this can be seen from the impossibility of DP-level elements, such as demonstratives:[3]

(3) *Ja najelas' tex kotlet.
I *na*-ate-*sja* those burgers.GEN
intended: 'I ate my fill of those burgers.'

Futhermore, GCIRs cannot contain DP-level adjectives, such as the ones illustrated in (4). Babby (1987) discusses the morphosyntax of such adjectives in great detail (he refers to them as *poslednie*-type adjectives); for more recent analyses that associate different types of adjectives with different levels in the decomposition of DP, see Pereltsvaig (2007), Svenonius (2008), among others.

(4) *Ja naelas' {ostal'nyx / sledujuščix / pervyx / dannyx} kotlet.
I *na*-ate-*sja* {remaining / following / first / given} burgers

One must note that instrumental phrases appearing with intensive reflexives are not so restricted: they can contain both demonstratives and DP-level adjectives.

(5) Ja naelas' {ètimi / ostal'nymi} kotletami.
I *na*-ate-*sja* {these / remaining} burgers.INSTR
'I stuffed myself with these/remaining burgers.'

Second, GCIRs cannot contain any expression of quantity, such as a numeral in (6a), a quantity noun in (6b) or a measure noun in (6c).[4]

(6) a. *Ja najelas' pjati kotlet.
I *na*-ate-*sja* five.GEN burgers.GEN
intended: 'I ate my fill of five burgers.'
b. *Ja najelas' djužiny kotlet.
I *na*-ate-*sja* dozen.GEN burgers.GEN
intended: 'I ate my fill of a dozen burgers.'
c. *Ja napilas' stakana vody.
I *na*-drink-*sja* glass.GEN water.GEN
intended: 'I drank my fill of a glass of water.'

[3] Examples such as (3) may be considered acceptable with the "kind" interpretation, e.g., 'I ate my fill of **such** burgers'. We assume that noun phrases with the "kind" interpretation are smaller than DP (cf. Zamparelli 2000, Svenonius 2008, among others) and that the demonstrative in such phrases has the syntax of a regular adjective (i.e., it is part of the NP rather than occupies a functional projection).

[4] Measure nouns in Russian are similar in meaning to numeral classifiers in other languages, but unlike numeral classifiers, measure nouns are not required in Russian.

Once again, instrumental counterparts of GCIRs are not so restricted:

(7) a. Ja najelas' pjatju kotletami.
I *na*-ate-*sja* five.INSTR burgers.INSTR
'I stuffed myself with five burgers.'
b. Ja najelas' djužinoj kotlet.
I *na*-ate-*sja* dozen.INSTR burgers
'I stuffed myself with a dozen burgers.'
c. Ja napilas' stakanom vody.
I *na*-drank-*sja* glass.INSTR water
'I satisfied my thirst with a glass of water.'

It must be noted here that GCIRs differ in this respect from complements of transitive *na*-verbs (that is, verbs containing the accumulative *na*-, but not the reflexive *-sja*). As shown in Pereltsvaig (2006), such complements are projected as phrases smaller than DP, but they **must** contain an expression of quantity, at least a null one. This null quantifier is said to assign the genitive case to its NP complement, similarly to overt expressions of quantity in Russian, illustrated in (8b).

(8) a. Povar navaril [$_{QP}$ ∅ ovoščej].
cook *na*-cooked vegetables.GEN
'The cook cooked a lot of vegetables.'
b. Povar navaril [$_{QP}$ kastrjulju ovoščej].
cook *na*-cooked pot.ACC vegetables.GEN
'The cook cooked a pot of vegetables.'

Thus, complements of verbs with *na*- are QPs either with an overt expression of quantity (which is itself marked accusative) assigning genitive to its NP complement, as in (8b), or with a null quantifier similarly assigning genitive to its NP complement, as in (8a).[5]

To recap, GCIRs contain none of the functional projections typically associated with a noun phrase – DP or QP – and are therefore the smallest type of Small Nominals, a bare NP.

Finally, GCIRs can occur only when selected as direct objects by the corresponding transitive verb (without the accumulative *na*-); and once more, their instrumental counterparts are not so restricted:

(9) a. *Deti igrali novye igruški.
children played new toys.ACC
b. *Deti naigralis' novyx igrušek.
children *na*-played-*sja* new toys.GEN
c. Deti naigralis' novymi igruškami.
children *na*-played-*sja* new toys.INSTR

[5] An alternative is to analyze examples like (8a) as containing a bare NP complement (which is genitive in virtue of being a bare NP, à la Pesetsky 2007, as discussed in the main text below). Which of these two alternatives is adopted is, however, unimportant for the purposes of the present paper. What is important is that transitive verbs with *na*- **can** take overt expressions of quantity as complements, while intensive reflexives with both *na*- and *-sja* **cannot**.

'The kids have had enough of playing with new toys.'

If we consider (9a), we can see that the transitive verb *igrat'* 'to play' cannot take an accusative object *novye igruški* 'new toys'. Nor can the intensive reflexive *naigralis'* 'had enough playing' take 'new toys' in the genitive, as in (9b). We can conclude that GCIRs obligatorily correspond to accusative objects of the corresponding transitive verbs. This requirement is not imposed on the instrumental counterparts of GCIRs, as in (9c). From this, we conclude that GCIRs are complements of the verb, whereas instrumental phrases are adjuncts.

One additional issue that has to be addressed before we turn to the semantics of GCIRs is the source of their genitive case-marking. Pereltsvaig (2006) proposes that genitive complements of transitive *na*-verbs receive genitive Case from a phonologically null Q. However, GCIRs have been argued above to be bare NPs that do not complement a phonologically null quantifier. Here, we follow recent work on the Russian Case system by David Pesetsky, who argues that genitive is the default case of Russian bare NPs. According to Pesetsky (2007), bare NPs in Russian receive genitive Case-marking by default, whereas "other case forms represent the morphological effect of other merged elements on N." For instance, nominative Case signals that the D head has been merged. Within this framework, "[t]he presence of genitive morphology on a N may thus represent the effect of not assigning another case to it, rather than the presence of a specific genitive assigner."

3 Semantic properties of GCIRs

The special, restricted syntax of GCIRs is interrelated with their semantics. Here, we propose that GCIRs (like other bare NPs in Russian; cf. Pereltsvaig 2008) denote properties and are of the semantic type ⟨e,t⟩, which we take to be the default semantic interpretation of bare NPs. Furthermore, we propose that GCIRs combine with the verb by means of Semantic Incorporation. An analysis along these lines has also been proposed by Filip (2005) for genitive objects of verbs that contain the prefix *na-*. It should be pointed out that Filip (2005) concentrates primarily on transitive *na*-verbs and does not introduce a distinction between complements of these verbs and those of intensive reflexives. At the same time, the two types of complements clearly differ in some of their properties, as pointed out above. The analysis argued for in this section is developed specifically for GCIRs; here, we remain agnostic regarding the semantics of objects of transitive *na*-verbs (but see Pereltsvaig 2006, Tatevosov 2006 for a detailed discussion and a different analysis of the latter.)

3.1 GCIRs Denote Properties

The evidence that GCIRs are bare NPs, presented in the previous section, also constitutes evidence of their non-referential and non-quantificational semantics. The incompatibility of GCIRs with DP-level elements (cf. (3)-(5)) points to their non-referential nature; and their incompatibility with quantity expressions (cf. (6)) points to their non-quantificational nature. Moreover, GCIRs are discourse opaque with respect to pronouns that require a discourse referent as anchor (they are grammatical only with

kind anaphora). For instance, the pronoun *oni* 'they' is acceptable in (10), but it is interpreted as referring back to the **kind** 'English novels'. The speaker is understood to be asserting that English novels in general are long, rather than that specifically those novels that she accidentally happened to read are long.

(10) Ja načitalas' anglijskix romanov$_i$. Oni$_i$ očen' dlinnye.
I *na*-read-*sja* [English novels].GEN they very long
'I've read English novels to the
limit. They are very long.'

Further evidence in favor of the property type approach to GCIRs comes from the fact that these phrases consistently receive *de dicto*, narrow scope interpretations. For example, consider the sentence in (11):

(11) Lena nasmotrelas' černo-belyx fil'mov.
Lena *na*-watched-*sja* black-and-white movies.GEN
'Lena has watched black-and-white movies to the limit.'

This sentence means that Lena has seen an eyeful of black-and-white movies in general. Crucially, it cannot mean that there is a specific set of black-and-white movies such that Lena has watched these movies to the limit. Thus, the genitive NP cannot refer to a specific set of movies which the speaker has in mind or which have been previously mentioned in the context. Suppose that a person wants to show Lena a black-and-white movie which she has never seen. The sentence in (11) can be uttered felicitously in such a context, suggesting that Lena will not be willing to watch the movie, independently from whether she has ever seen it or not, merely by virtue of it instantiating the property 'black-and-white movie'.

Finally, it should be noted that the property analysis of GCIRs makes it possible to relate them to other types of genitive complements in Russian – in particular, the ones that appear in Genitive of Negation and Intensional Genitive. Objects of the latter types have been argued to denote properties (e.g. Partee and Borshev 2004, Kagan 2005, 2007, Borshev at al. 2008). It is important to note that objects that appear in Genitive of Negation or Intensional Genitive are not bare NPs, as they may contain quantifiers and even demonstratives:

(12) a. Maša ždala etoj vstreči.
Masha waited [thi smeeting].GEN
'Masha was waiting for this meeting.'

b. On ne napisal i pjati pisem.
he NEG wrote and [five letters].GEN
'He hasn't written even five letters.'

We propose that this contrast results from the fact that while GCIRs are indeed bare NPs, the other types of genitive objects mentioned here are not. These objects are similar to GCIRs in terms of their semantics (they, too, denote properties and, as a result, share with GCIRs such characteristics as restricted scope); however, syntactically, they involve a more extended functional structure.

3.2 Semantic Incorporation

According to Zimmermann (2003), intensional verbs, such as *seek* and *want*, take property-type complements. However, GCIRs definitely can combine with extensional verbs (see Section 4 for details), whose complement is supposed to be of the individual type. How is a type mismatch avoided here?

A number of mechanisms that allow a combination of an extensional predicate and a property-denoting NP have been introduced in the literature. For instance, Chung & Ladusaw (2004) introduce an operation Restrict. When it applies, the object does not saturate the verb's argument, but only narrows its interpretative domain. However, GCIRs do saturate the verb's argument. This is demonstrated in (9) above, which shows the complement status of GCIRs, as well as by the unacceptability of (13) below:

(13) *Lena najelas' fruktov jablok / jabloki.
Lena *na*-ate-*sja* fruit.GEN apples.GEN/ACC
'Lena ate her fill of fruit, specifically apples.'

If Restrict were involved in (13), then the attachment of *fruktov* to the verb would narrow its interpretative domain, creating, roughly, the predicate 'to fruit-eat' (this is essentially the view that we will accept below). Further, the genitive NP would not saturate the verb's argument, which means that it would still be possible to realize overtly the theme of the eating event. The unacceptability of (13) demonstrates that this is not the case. The GCIR saturates the verb's internal argument, and it is therefore impossible to express the latter with an additional nominal.

Alternatively, we can assume that, in order to avoid a type mismatch, the verb undergoes a type-shift whereby it comes to denote a relation between an individual and a property (and, thus receives the semantic type of an intensional predicate). The type-shift is represented in (14):

(14) before type-shift: $\lambda x \lambda y.V(x)(y)$
after type-shift: $\lambda P \lambda y.V(P)(y)$

Finally, the genitive NP may be analyzed as undergoing semantic incorporation, along the line of van Geenhoven (1998), Dayal (2003), Farkas & de Swart (2003) or Dobrovie-Sorin et al. (2006) among others. A considerable number of approaches to semantic incorporation have been proposed, some of which differ quite considerably from one another. A detailed discussion of these approaches falls beyond the scope of this paper; the reader is referred to Espinal and McNally (2009) for a review and comparison of some of them. As far as we can tell, properties of GCIRs seem to be compatible with a range of different analyses. For the sake of simplicity, in this paper we will assume an approach based on Dayal's (2003) analysis, under which the verb undergoes a type-shift to become an incorporating verb, in the way represented in (15)[6]:

[6]As stated above, for the purposes of our analysis, the choice of this particular approach to semantic incorporation is not crucial. The choice is dictated mainly by considerations of simplicity of the presentation in the following section. It should also be noted that the approach in (15) is based on Dayal's (2003) analysis but not identical to it. (15) differs from Dayal's original analysis in two ways. First, under Dayal's approach, the external argument is introduced by the verb, whereas we follow Kratzer (1994) in assuming that the agent is introduced by a voice head. Second, our approach does not involve the restriction that the event be *appropriately classificatory*, a restriction that Dayal imposes on pseudo in-

(15) before type-shift: $\lambda x \lambda y.V(x)(y)$
after type-shift: $\lambda P \lambda y.P - V(y)$ (based on Dayal 2003)

Each of the latter two approaches could be applied to GCIRs. We believe, however, that the semantic incorporation analysis is preferable, since it accounts for the restricted morphosyntax of the genitive phrases. As discussed by Farkas & de Swart (2003), semantically incorporated nominals cross-linguistically exhibit a combination of restricted morphosyntax with such semantic properties as being scopally inert and discourse opaque. Given that GCIRs pattern with semantically incorporated nominals both semantically and grammatically, in the sense of being Small Nominals, we conclude that the investigated NPs undergo semantic incorporation[7].

4 Contribution to the Semantics of the Clause

It has been demonstrated in the previous sections that, despite the superficial similarity between the two sentences in (1), GCIRs differ substantially from their instrumental counterparts in terms of their syntactic as well as semantic properties. Another curious contrast has to do with the fact that the two types of phrases affect the compositional meaning of the clause in different ways. The two constructions in (1) – repeated below – also differ in their patterns of entailment: the structure with the instrumental phrase entails the one without a post-verbal nominal, while the structure with a GCIR does not entail one without a genitive phrase. Thus, while (1b) entails (16) below, (1a) does not:

(1) a. Lena najelas' kotlet.
Lena *na*-ate-*sja* burgers.**GEN**
'Lena ate her fill of burgers.'
b. Lena najelas' kotletami.
Lena *na*-ate-*sja* burgers.**INSTR**
'Lena stuffed herself with burgers.'

(16) Lena najelas'.
Lena *na*-ate-*sja*
'Lena ate her fill / Lena had a bellyful / Lena is stuffed full.'

While both (1b) and (16) entail that the subject is replete, this is not entailed by (1a). The latter sentence asserts that the subject has had enough of eating burgers, and is unwilling to eat any more of them, but is semantically compatible with the subject being still hungry and wanting to eat something else. In contrast, (1b) entails that Lena is no longer hungry, and further asserts that she has reached this state with the help of burgers. In this section, we propose an analysis of (1a), (1b) and (16) that accounts for

corporation in Hindi, since this restriction does not seem to affect the intensive reflexive construction (see Dayal 2003, Section 4.2 for details.)

[7] It should be noted that while semantically incorporated nominals in different languages typically exhibit restricted morphosyntax, not all of them have been argued to constitute bare NPs. For instance, Dobrovie-Sorin et al. (2006) argue that bare plurals in Romanian and Spanish are NumPs (an analog to Russian QPs), which undergo semantic incorporation. In this respect, GCIRs in Russian apparently differ from certain types of semantically incorporated nominals.

this entailment pattern.

Before we proceed, it should be noted that, following Pereltsvaig (2006), we assume that the accumulative *na-* is a superlexical prefix, which attaches at a relatively high position, crucially, above the VP projection (at least as high as AspP); cf. (17) below.

We assume that intensive reflexive verbs are accomplishment event predicates. Their denotation constitutes a set of complex events each of which includes a process denoted by the VP and a result state brought about by this process. Crucially, an event denoted by a sentence with an intensive reflexive is not measured out by the genitive object (which is, in fact, predicted to be impossible, given that the object is property-denoting and semantically incorporated.) Rather, the event is measured out by the internal state of the subject. The event is considered to be instantiated in the world (and to reach completion) only if the subject has reached a certain state, in particular, only if she comes to feel that she has had enough of the process denoted by the VP. In the case of a VP like *eat apples*, the result state is achieved not when a certain quantity of apples has been consumed, but rather when the subject reaches a state of having had enough of apple-eating (and, plausibly, of being unwilling to eat any more apples.)

We will refer to this result state as a certain degree of *satiation* with the process denoted by the VP. The subject may experience a low degree of satiation (which means that she has not had enough of the process in question), a relatively high, or satisfactory, degree of satiation, when she feels that she has had exactly the right amount of this process, or a very high degree of satiation (an "overdose"), which means that she has had too much of the process. To illustrate, for the VP *jel* (ate), and the corresponding process of eating performed by the subject, a low degree of satiation means feeling hungry, a satisfactory degree corresponds to not being hungry, while a very high degree of satiation means that the person has overeaten. Crucially, the process with which the subject experiences satiation is determined at the level of the VP projection, which contains the verb and its complement, if the latter is present in the structure.

The functional material applies above the VP projection. Here we will assume that the state of satiation (and the experiencer of this state) is introduced by a phonologically empty head (cf. APPL(icative) head below). This assumption is due to the fact that neither *na-* nor *-sja* make the same semantic contribution in their other uses. In other words, the state of satiation is not introduced into the semantics of a predicate by any of these morphemes in other constructions.

Note that the proposed explanation of the entailment pattern exhibited by (1) and (16) does not depend in any crucial way on the precise division of labor between the different functional elements. The crucial point is that the functional material applies above the VP projection, and that it is the semantics of the VP that determines the nature of the process with which satiation is experienced. For an alternative analysis of the compositional semantics of intensive reflexive predicates, see Tatevosov (2010). Tatevosov, too, analyzes intensive reflexives as accomplishment event predicates; however, under his approach, the result state is introduced by the accumulative prefix *na-*. Despite the advantages of Tatevosov's analysis, we believe that it fails to account for the entailment pattern whose explanation constitutes the main goal of this section. According to Tatevosov, *na-* introduces a result state with underspecified descriptive properties, and the precise nature of the state is determined by the context. Under this approach, it remains unclear why the nature of the result state reported in sentences

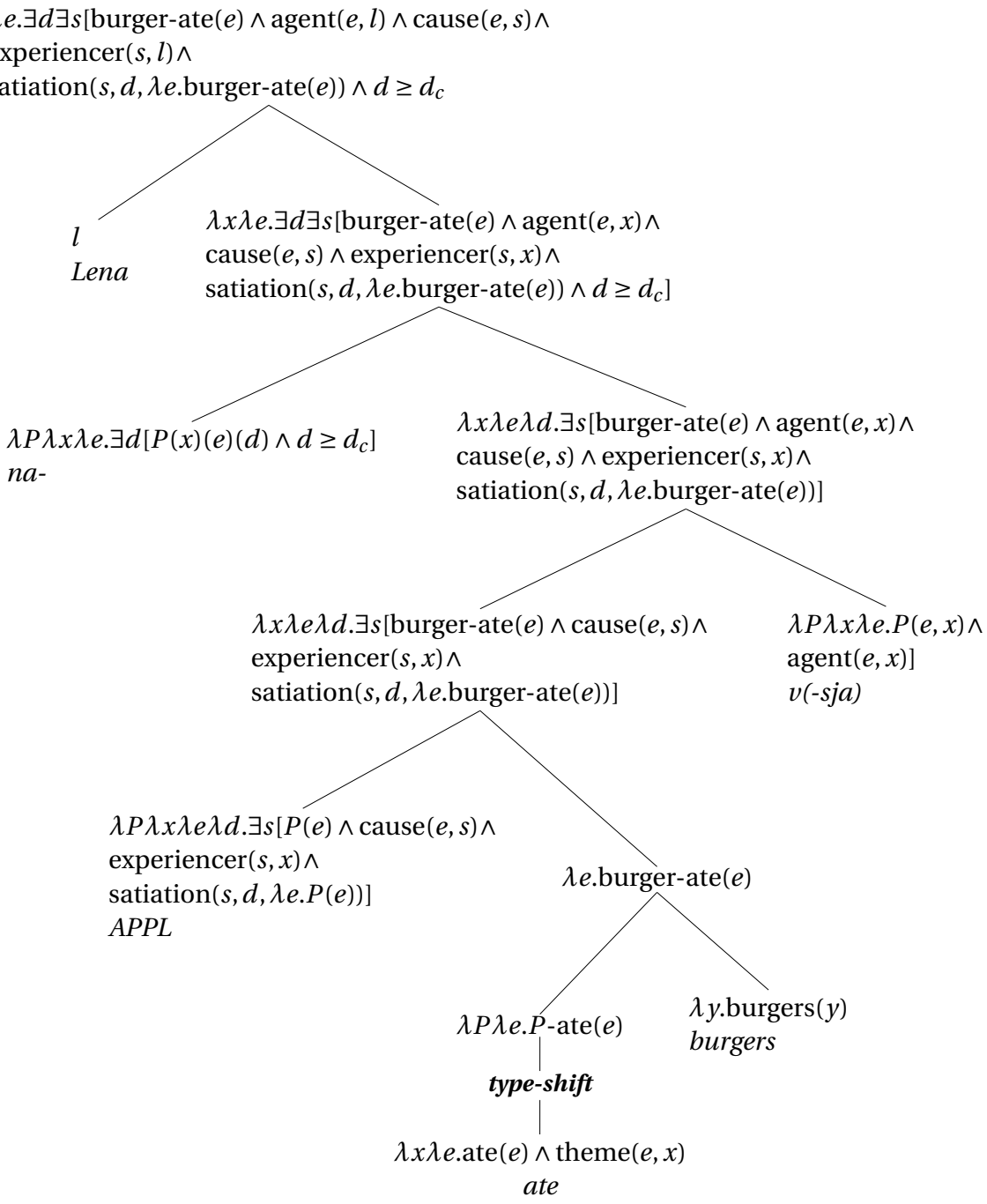
with GCIRs differs in a consistent and systematic way from the result state denoted by sentences with instrumental phrases or with no post-verbal nominal. We propose instead that the nature of the result state is a function of the semantics of the VP and is thus semantically determined. At the same time, it should be noted that the notion of a high degree of satiation, or "overdose", is relatively vague. This allows us to capture the fact that with some predicates, the precise nature of the result state may be relatively flexible and, to a certain degree, context-dependent.

In turn, the prefix *na-* imposes a restriction on the degree of satiation. According to Filip (2000), this prefix contributes an extensive measure function which yields a value that meets or exceeds some contextually determined expectation value. We propose that in the case of the investigated phenomenon, this prefix imposes a restriction on the degree of satiation. It specifies that this degree is not low, i.e. it meets or exceeds a contextually determined expectation value. In our case, this contextually specified degree is the medium/satisfactory degree. Namely, it corresponds to the state when the subject feels that she has had enough of the process denoted by the VP. As a result, sentences with intensive reflexives report that the subject has had enough or more than enough of this process, according to her own personal feeling.

Finally, a brief note is needed on the semantics of *–sja*. Following Doron (2003) and Labelle (2008), we assume that reflexive morphology is a realization of a voice head. In the classical reflexive construction, its function is to assign the role of an agent to an internal argument of the verb (Doron 2003, Labelle 2008). As a result, the latter receives two thematic roles. We propose that with intensive reflexives, the suffix makes an analogous semantic contribution. It assigns the role Agent to an internal argument contained in the constituent it combines with. This way, it makes sure that the agent of the process denoted by the VP is identified with the experiencer of the result state of satiation. (In the formulae below, we adopt for *-sja* an analysis used by Labelle (2008) in her discussion of the French *se*.)

The diagram in (17) below represents the compositional semantics we are proposing for (1a), which contains a genitive NP. The verb undergoes an incorporation type-shift and combines with its property-denoting complement. The resulting VP denotes a process of burger-eating. The resulting sentence entails that the subject has been engaged in burger-eating, and this event brought about the result state of a high degree of satiation with burger-eating on the part of the subject. According to this sentence, the subject feels that she has had enough of burger-eating.

(17)

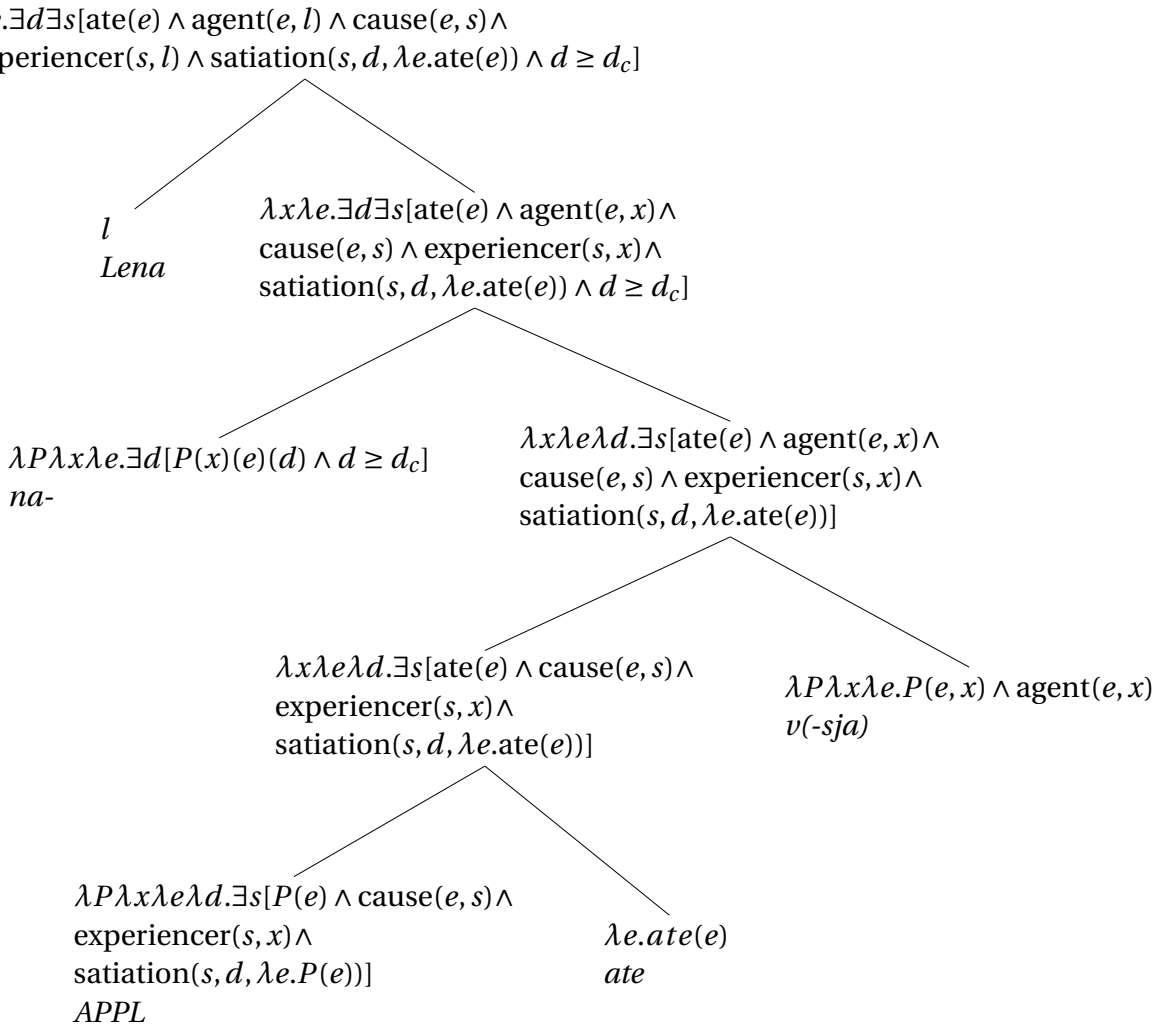


It should be noted here that our analysis differs crucially from the one proposed by Filip (2005) in that she combines the accumulative *na-* directly with the complement, such as 'burgers' here. However, alternative recent analyses have treated the accumulative *na-* as being merged outside the VP, as an outer aspect prefix (cf. Romanova 2004, Pereltsvaig 2006, Tatevosov 2006). As argued in the references cited above, at least three pieces of evidence involving derivational morphology show that the accumulative prefix *na-* is merged outside the VP: first, the accumulative *na-* always appears outside of the lexical prefixes (which are merged low, possibly within VP); second, the accumulative prefix *na-* attaches outside of the secondary imperfective suffix *-yva-* (itself merged relatively high, in AspP); and third, it must attach outside the nominalizing

suffix *-nie/-tie*. The intensive reflexives, examined in this paper, provide an additional argument for high attachment of the accumulative *na-*: it must attach above the VP projection, which contains both the complement and the verbal stem. It is not possible to merge the accumulative *na-* directly with the complement, as proposed by Filip (2005). Otherwise, the prefix would measure the quantity of burgers and not the degree of satiation. In other words, while we share with Filip (2005) the idea that the accumulative *na-* provides a measure function, we do not analyze it as being attached directly to the complement.

The diagram in (18) below represents the semantics of (16), which is identical to (1a) except for the fact that it does not contain a genitive NP. This sentence contains an intransitive version of the verb *jest'* 'eat' (Fodor and Fodor 1980). Here, the verb does not take a complement, and the VP contains only the V head. As a result, the sentence entails that the subject has been engaged in, and has had enough of, the process of eating.

(18)



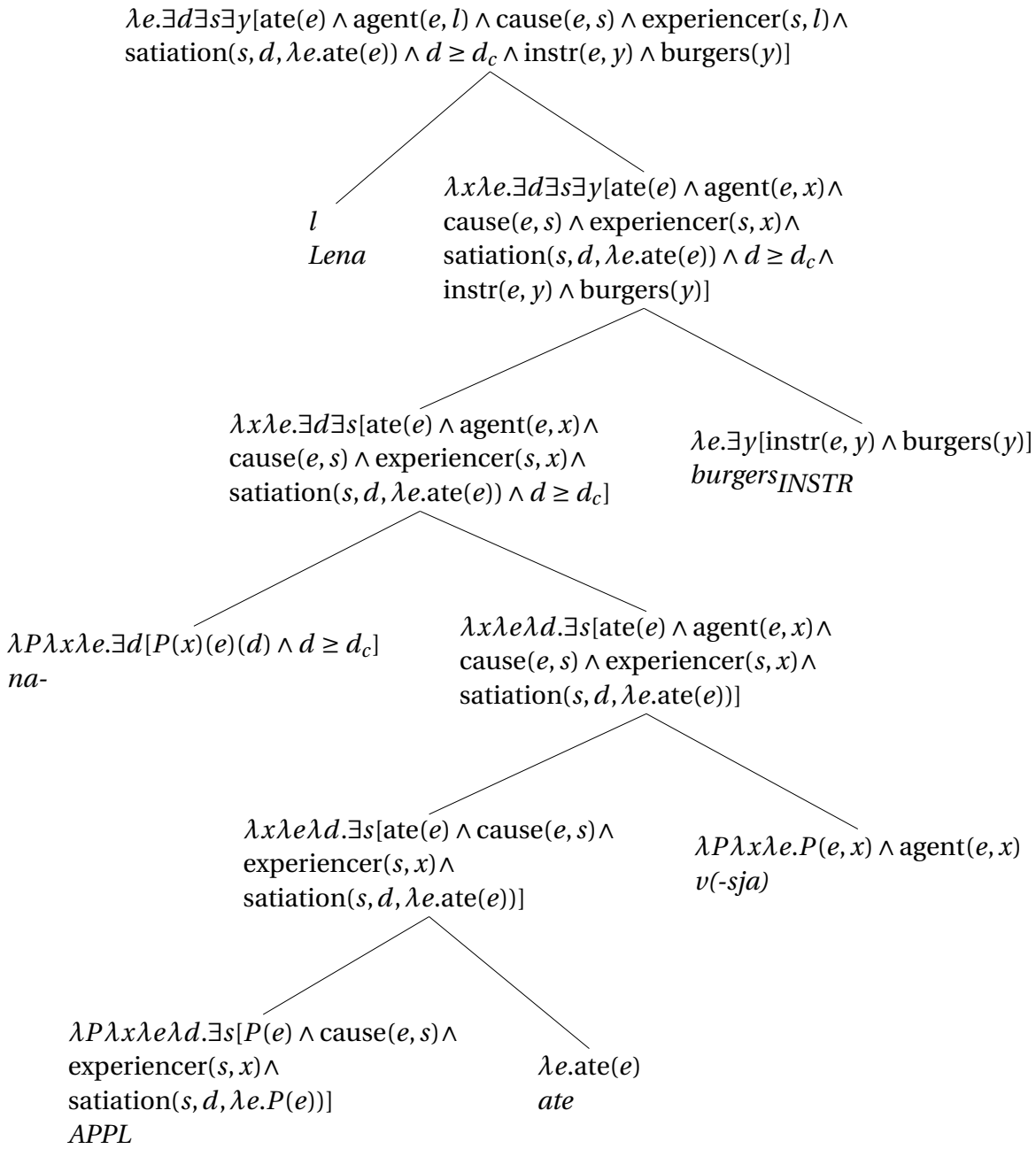
Given that having had enough of burger-eating does not entail having had enough of eating in general, we predict correctly that (1a) does not entail (16). At the same time, being engaged in process of burger-eating means being engaged in the process of eating (since burger-eating is treated within the framework we are assuming as a subtype

of eating). And indeed, (1a) does entail that the subject has been engaged in the process of eating.

Finally, the structure we are proposing for (1b) is provided in (19) below. It can be seen that the VP in (19) contains only the intransitive V head, just as is the case in (16). Once the functional material is attached, the resulting predicate denotes an accomplishment whereby an eating process causes a result state of a high degree of satiation with eating. Up to this point the structure is identical to that of (16). And it is only at this point that the predicate combines with the instrumental phrase. As suggested at the end of Section 2, the instrumental phrase is an adjunct: it is not selected by the verb the way a complement is (cf. (16)), and its occurrence is optional. We propose that this instrumental phrase should be analyzed as an adjunct of instrument / means, which specifies the way in which the result state denoted by the predicate has been achieved.[8]

[8]Alternatively, the phrase could be analyzed as a theme which appears in the instrumental case by virtue of being demoted, by analogy with demoted agents in the passive construction, which, too, are assigned the instrumental. The choice between the two analyses depends on the approach to the instrumental Case that one assumes. For details of the demotion approach, see e.g. Channon (1980).

(19)



Crucially for our purposes, the instrumental phrase attaches relatively high in the structure and, as a result, does not affect the nature of the process with which the subject experiences satiation. It only specifies in what way this state is achieved.

The analysis proposed above accounts successfully for the entailment relations puzzle introduced at the beginning of this section. Only the material that appears below the VP projection determines the nature of the process with which satiation is entailed to be experienced. Since GCIRs, but not their instrumental counterparts, are merged below the VP, it is only the former that can affect the nature of the result state brought about by the reported event.

5 Conclusion

To summarize, in this paper, we have discussed the properties of GCIRs and compared these nominals to their instrumental counterparts. We argued that GCIRs are bare NPs which lack the DP and QP projections, and that they denote properties and are of the semantic type $\langle e, t\rangle$. Further, we proposed that these phrases function as syntactic complements of the verb and are semantically incorporated. In contrast, the instrumental phrases are full DPs of the quantificational type$\langle\langle e, t\rangle, t\rangle$, which syntactically function as adjuncts. The difference in the hierarchical position occupied by the two types of nominals in the syntactic structure affects their contribution to the compositional semantics of the sentence.

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