GENERIC AND INDEFINITE NULL OBJECTS

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ABSTRACT OF THE DISSERTATION

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This thesis is concerned with the syntactic and syntactico-semantic properties of two types of non-overt internal arguments: the so-called **generic null objects (GNO)**, as in *Lars von Trier's movies always shock___*, and **indefinite null objects (INO)** as in *John reads___ / is reading___*. In addition to the known data on GNO and INO, coming mainly from English, Italian, and French, it utilizes data from Czech, a Slavic language with rich inflectional morphology, which enables a novel perspective on how these invisible objects are derived in language.

I argue against the predominant view that GNO are syntactically pronouns (Rizzi 1986; Authier 1992a,b), consisting of a D-feature and/or a set of φ-features (Landau 2010), and possibly receiving case. Evidence is provided that albeit syntactically represented, GNO consist of a single syntactic node, little n, bearing just the interpretable gender feature, but no number or person features. Rather than pronouns with a fully developed nominal functional projection, GNO should be conceived as conceptually impoverished nouns (i.e. not containing any root), whose only semantic contribution is the one associated with an interpretable gender feature on n, namely the property of being Persona or Female Persona. Such nominal heads introduce a variable that gets bound by a generic operator (GEN), along the lines of Heim 1982 and Krifka *et al.* 1995. The advantage of the proposed analysis over the existing ones is that it can systematically account for both genericity and humanness of GNO without having to stipulate them as separate semantic features associated with

GNO. Moreover, it is supported by the existence of the same gender-marked silent n in persona-denoting nominalized adjectives, outside of the context of generic statements.

For INO, I adopt the general view that they are derived by a locally applying existential quantifier but I refute the theories that locate this operation in the lexicon, either as a rule operating on a given transitive predicate (Bresnan 1978, Dowty 1978, a.o.), or by positing two different predicates, a transitive and an intransitive one (Fodor and Fodor 1980). Instead, I analyze intransitivization as a generalized type-shifting operation on a verbalized root that is available if the merger of the little v and a root denotes a binary relation of individuals and events, i.e. if it is of type $\langle e, vt \rangle$ (whereby v-node is understood in the sense of Marantz 2007, 2013, as a verb-building, event-semantics introducing head, separate from Voice). I support this approach by the high productivity of constructions with INO, not limiting them to any particular lexical semantic class; by the observation that a lexicon-based approach loses the generalization about the restrictedness of intransitivization to imperfective verbs, including the syntactically derived secondary imperfectives; and by the role that context plays in licensing INO, in providing the property/kind of the entity that is being existentially quantified (which I formalize as a presuppositional condition for the intransitivization).

Focusing on the second, most complex argument, I argue that the incompatibility of INO with perfectives follows from an unvalued EPP-like feature on perfective aspectual heads. Its existence is independently motivated by the quantificational requirements of perfective verbs in Czech, expressed in terms of a syntactic argument type or a quantificational prefix that they have to merge with. I argue that the perfectivity feature (Q_{Pf}) requires the movement of the direct object of monotransitive verbs out of Spec,vP to Spec,Asp$_Q$, which is something INO cannot perform due to their non-presence in syntax. I further demonstrate that INO are not isolated in their inability to satisfy the perfectivity feature, being accompanied by existentially quantified bare plural and mass nouns, which, although syntactically represented, cannot be interpreted outside of a vP, in higher layers of a verbal functional projection. To support that INO's inaptness for perfective constructions has nothing to do with their phonological nullity, I compare them to generic null objects, analyzed in the first

part of the dissertation. The proposed analysis of GNO as syntactically represented variables that move out of vP to the restrictor of a generic quantifier, presumably via Spec,Asp$_Q$, predicts their compatibility with perfective verbs, as confirmed by the data.

Acknowledgments

I wouldn't be where I am today if it weren't for the many people that I met along the way. One person stands out in particular – without his continuous support and unfailing patience, this dissertation would never see the light of day. And not just that. Mark Baker was present at four crucial moments in my linguistic career. He was the first person from Rutgers who I interacted with when submitting my linguistic work, and he then encouraged me during the application process. He chaired my first qualifying paper on ditransitives, which was well received and fueled my passion for generativist analysis of some of the basic syntactic constructions in my native Czech. Later on, Mark struck the initial spark for this dissertation topic. When I confidently presented him with the aspect-conditioned contrast between object-drop allowing versus object-drop disallowing nominalizations as an argument for their syntactic derivation, he simply asked what the presented contrast shows about syntax. This dissertation is a (somewhat long, I admit) answer to this innocent question. And finally, Mark agreed to be the chair of my dissertation committee, persistently following all of my steps, some of them backwards, some of them in circles, always offering a helping hand.

My immense thanks go also to my two committee members, Roger Schwarzschild and Ken Safir. If it wasn't for Roger's inspirational semantic seminar on Tense and Aspect that I took part in, I don't think I would ever have dared to delve into the intricacies of Slavic aspect, the topic I had sworn during my master's studies to never work on. Roger was also the only faculty member sitting in all three committees that guided and judged my written work during my PhD studies, twice as a committee member and once as a chair, when helping to shape my second qualifying paper on secondary imperfectivization. I don't think I ever met a person with a brighter mind or a more profound ability to question anything worth questioning.

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I am grateful to numerous people that discussed with me bits and pieces of my dissertation work, and who, sometimes by pointing out a single reference or a piece of data, left their imprint in the final outcome; namely Sam Al Khatib, Pavel Caha, Chris Collins, František Daneš (R.I.P.), Manfred Krifka, Petr Karlík, Ivona Kučerová, Idan Landau, Alec Marantz, Andrew Nevins, Marta Ruda, Ian Roberts, and Alexander Williams. Thanks are due to the reviewers and audiences at OLinCo 2 in Olomouc, BLS 41 at Berkeley, FASL 24 at New York University, CUNY Syntax Supper in the Fall of 2015, and NELS 48 at the University of Iceland, where I presented parts of my dissertation research and received a lot of valuable feedback.

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Should I go back in time to appreciate all those who played a crucial role in molding me into the linguist I am now, I would have to start with Oldřich Uličný, who was a professor at Charles University in Prague during my undergraduate studies of the Czech language, Czech literature, general linguistics, and phonetics. The student workshops he organized in piedmont refuges gave us the first platform to present our own linguistic work as well as the opportunity to learn the art of withstanding criticism. In addition, he was a superb mentor during my period of fascination with the Prague Linguistic Circle. I know for sure that if he did not tell me about the fellowship in theoretical linguistics at the University of Tromsø and encourage me to apply for it, I would never have set off upon the path that eventually led to this dissertation. Sometimes, a little coincidence can shape our whole future.

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Inscription

"Only bores want to express everything, but even bores find it impossible to express everything. Not only is the writer's art rightly said to consist largely in knowing what to leave in the inkstand, but in the most everyday remarks we suppress a great many things which it would be pedantic to say expressly."

Otto Jespersen, The philosophy of grammar, 1924.

"It is not what we say but what we don't say that often matters the most."

V. D.

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List of Abbreviations

1/2/3	1st/2nd/3rd person
ADJ	adjective
ACC	accusative
AspP	aspectual phrase
BP	bare plural noun
DAT	dative
DP	determiner phrase
EPP	Extended Projection Principle
F(EM)	feminine
GB	Government & Binding
GEN	genitive
GEN	generic quantifier
GNO	generic null object(s)
IMPF	imperfective
INO	indefinite null object(s)
INST	instrumental
LCS	lexical conceptual structure
M(ASC)	masculine
MN	bare mass noun
N(EUT)	neuter
NOM	nominative
NP/nP	nominal phrase
NumP	number phrase
PF	perfective
PL	plural
REFL	reflexive
SG	singular
SC	small clause
TP	tense phrase
VP/vP	verbal phrase

Chapter 1

Introduction

1.1 Object of Study

It is not far from the truth to say that generative syntacticians spend more time discussing linguistic entities that are invisible than those that can be heard in speech or seen in writing. Traces, operators, null pronouns (a.k.a. 'little pro'), PROs (a.k.a. 'big pro'), null determiners, ellipses of different types of constituents, gapping and pseudogapping, stripping, sluicing, null complement anaphora, implicit arguments like silent agents, patients and experiencers, etc. – all of these are frequent topics of linguistic dissertations and articles written within the framework of generative grammar. One of the reasons is that these "missing" elements pose a challenging, yet exciting task for anyone modeling the grammar of a language: to explain what makes the sentences with such elements different, both syntactically and semantically, from the structures with their overt counterparts, and to determine under what circumstances the speaker is allowed to "omit them". Thus, these invisible elements, possibly even more than the overt ones, give us the insight into the properties of language as an invisible system of computational rules wired into our brains, the system that allows us to communicate with other members of our species and that appears to be universal in its core principles.

My dissertation falls within this class of work both in the chosen topic and in the theoretical framework it employs. Its focal point are syntactic and syntactico-semantic properties of two particular types of null arguments that function as direct objects in a sentence: generic null objects (GNO) and indefinite null objects (INO). The term "null" is used in a pre-theoretical sense here; it doesn't say whether the given object is just phonologically null, but it corresponds to a syntactic entity with a certain semantic interpretation, or whether it is both phonologically null and syntactically null – in which case its presence at the

interpretation level has to rely on other structurally represented entities.[1] What exactly "null" means for each of these two types of objects is precisely what this dissertation seeks to uncover.

Several other categories of null objects have been distinguished in the literature (see Levin 1993 or Cote 1996 for an overview). I focus on generic and indefinite ones because they are often understood as standing on the opposite ends of an imaginary scale of non-overt arguments as regards their syntactic robustness. The literature on null arguments generally advocates two major theoretical approaches: (A) a null argument is syntactically represented and it corresponds to a null pronoun/DP; (B) a null argument is not syntactically represented at all and it is a part of a lexical entry for a given predicate. While GNO are understood as representatives of the first type, namely as pro_{arb} equipped with a set of φ-features, INO are usually assumed to be derived in the lexicon with no syntactic reality whatsoever; see 2.1 and 4.4.1 for the references. The goal of this thesis is to show that this approach is too rough, and that those null arguments which are assumed to be full DPs, namely GNO, might be as small as one syntactic node, little n, and – on the other hand – those null objects which we do not assume to exist in syntax at all, namely INO, still have to be *derived* in syntax, by a general rule of vP-level $\exists$-closure, rather than as a part of the lexical semantics of a particular predicate. Although I confirm by a number of tests that the basic distinction between syntactically represented GNO and syntactically non-represented INO should be preserved, I show that their analysis has to be much more fine-grained if we do not want to lose a number of syntactico-semantic generalizations characterizing their behavior.

GNO have been studied mainly in Italian (Rizzi 1986) and French (Authier 1989, 1992a,b) where they are instantiated by examples like (1) and (2).

(1)   Italian

    a.   Questo cartello mette in guardia___ contro le valanghe.

---

[1]Accordingly, I mark all instances of null objects with an underscore following the main verb in my examples, regardless of the object's syntactic status or its actual syntactic position in a given sentence. Since sentences with null generic objects aren't usually grammatical in English, I translate GNO as bracketed *one* in the glosses – unless I want to explicitly mark the difference between an overt *one* and GNO. For INO, I usually keep the object position empty in the English gloss as well. In the examples cited from the literature, I follow the author's glossing convention.

'This sign cautions against avalanches.'

    b.   L'ambizione spesso spinge___ a [PRO commettere errori].

        'Ambition often pushes to make mistakes.'   Rizzi 1986:(1-b), (9-b)

(2)   French

    a.   L'ambition amène___ à [PRO commettre des erreurs].

        'Ambition leads to make mistakes.'

    b.   Une bonne thérapeutique réconcilie___ avec soi-même.

        'A good therapy reconciles with oneself.'   Authier 1989:(4-b), (5-a)

In English, GNO have been exemplified by the sentences like those in (3) (Rizzi 1986:501, Levin 1993:38), though the productivity of these constructions has been doubted.

(3)   a.   This leads___ to the following conclusion.

    b.   This sign cautions___ against avalanches.

    c.   John is always ready to please___ .

    d.   That movie always shocks___ .

INO have been the topic of study in many different languages, both nominative and ergative. In the latter group of languages, they often arise as a result of the morphosyntactic process of antipassivization. In English, INO are associated primarily with the examples like (4).

(4)   a.   John ate___ .

    b.   John is eating___ .

The majority of data in this thesis are drawn from my native Czech, a Slavic language teeming with conjugation and inflection. The benefit of carrying out the research on the syntax of null arguments in a language like Czech is that their φ-features, if they have any, are expected to be reflected on the overt expressions that normally agree in gender, number and case with the nouns they modify. This property proves to be fruitful in the first part of the thesis which provides a detailed syntactic decomposition of GNO. Moreover, Czech is

a language where the distinction between predicates describing complete versus incomplete events is morphologically marked as the category of verbal aspect. I take advantage of this feature of the language in the third part of the dissertation where I analyze the striking difference between GNO and INO when it comes to their compatibility with perfective verbs.

The primary goal of this work is to come up with a theory of null objects that can withstand both empirical and theoretical scrutiny, while showing where existing theories have to be amended or rejected entirely if they are not to ignore languages like Czech. It also strives to give a principled answer to a long observed incompatibility of verbs denoting complete events with (some types of) null objects. All of this is a part of a broader goal of uncovering some of the general principles and parameters behind the grammar of GNO and INO. While it is not in the scope of one thesis to verify the predictions it makes for all languages, I shall make a small step towards this task by discussing some of the consequences that my proposal makes for Czech as well as for English.

The thesis is organized in three parts: Part I focuses on the derivation of GNO, Part II on the derivation of INO, and Part III is devoted to the interaction of both types of null objects with the category of perfectivity. An overview of each part is provided at the beginning of that part.

1.2   Theoretical Framework

My research is embedded within the latest, minimalist phase of the theory of Principles and Parameters (Chomsky 1993, 1995), which aims at minimizing the theoretical machinery needed to model the language faculty as one of the human cognitive systems. I adopt the standard Minimalist Program operations and analyses, as summarized e.g. in Adger 2003 or Hornstein *et al.* 2005, as well as the minimalist view that many combinatorial properties of semantics are derived from syntax (Adger and Svenonius 2011). I embrace especially the line of minimalist research on nominal and verbal phrases that has gained strong momentum in recent years and that relies on their detailed syntactic decomposition, closely matched by their compositional semantics (Borer 2005a,b, Marantz 2007, 2013, Ramchand 2008, a.o.).

In particular, I assume that syntactic structure arises by recursive application of merge,

a binary operation that combines syntactic entities, i.e. roots, features or bundles of features and results of previous merging, and creates the set out of them. When doing so, merge has to obey the hierarchy of functional categories (a.k.a. categorial features) that is assumed to be universal – and the exact specification of which is still a matter of research. In this thesis, the following basic functional hierarchies are assumed within the 'extended projections' of nominals and verbs (the term due to Grimshaw 2000, 2005):

(5) a. Determiner $\gg$ Number $\gg$ n $\gg$ (... $\gg$) $\sqrt{\text{ROOT}}$
     b. Complementizer $\gg$ Tense $\gg$ Voice $\gg$ Aspect $\gg$ v $\gg$ (... $\gg$) $\sqrt{\text{ROOT}}$

Not all categories have to be present in each nominal or verbal structure, but their omissibility is constricted by c-selection that may be exhibited by some heads when their complement has to be of a specific category. Little n and little v are special in being lexical (rather than functional) categorizing nodes that attach to categorially unspecified roots or to structures that are projections of a different lexical category (Marantz 1997, 2001, Arad 2003, 2005). Marantz (2001, 2007) contends that the first categorizing head that attaches to a root is a phase head and all phonological and semantic idiosyncrasies, previously deferred to the lexicon, are limited to this "first phase" of syntax. All other derivations above the first category-determining node should follow the regular principles of semantic composition.

Merge can apply to the same entity more than once in the course of a single derivation, which is conceptualized as re-merging a copy of that entity – rather than as its movement from one syntactic position to another, as in earlier stages of Principles and Parameters – even though the conventional term 'movement' is still used for this particular application of merge, alongside the more precise term 'internal merge'. In the same spirit, I use the terms 'specifier', 'head', 'complement' or 'XP' as convenient labels for various structural positions without implying the X-bar theory that gave origin to these terms. Here, I work within the tradition of the Bare Phrase Structure that distinguishes only between a node that projects after merging with another node (meaning that it gives the label to the output of the merge), and a node that does not. The difference between the two approaches to phrase structure is captured in the following diagrams:

(6)   a.   X-bar structure αP   b.   Bare phrase structure α

$$
\begin{array}{c}
\alpha P \\
\diagup \quad \diagdown \\
\gamma \text{ (Spec)} \qquad \alpha' \\
\diagup \quad \diagdown \\
\alpha \text{ (Head)} \qquad \beta \text{ (Compl)}
\end{array}
\qquad
\begin{array}{c}
\alpha \\
\diagup \quad \diagdown \\
\gamma \qquad \alpha \\
\diagup \quad \diagdown \\
\alpha \quad \beta
\end{array}
$$
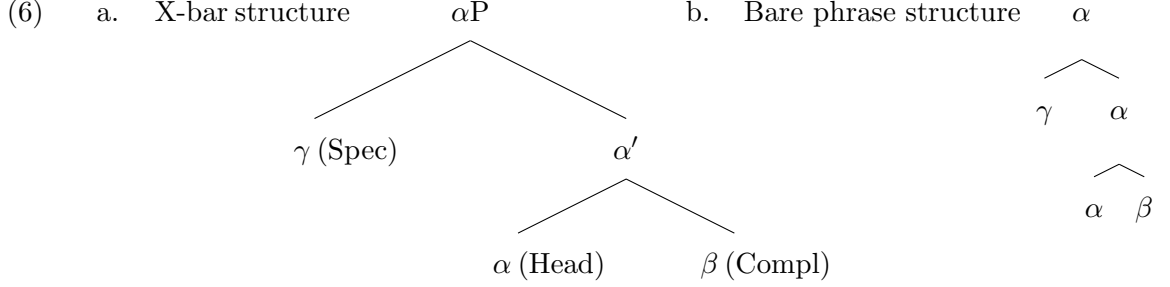
In minimalism, the spell-out of the gradually assembled syntactic structure happens in phases (Chomsky 2007, 2008, Marantz 2007). At each phase-level, the hierarchically arranged set of terminals is sent to PF (Phonetic/Phonological Form) and LF (Logical Form). These "forms" represent the interfaces with the perceptual-articulatory (also 'sensory-motor') and the conceptual-intentional mental systems, which are conceived as parts of the language faculty in a broad sense (Hauser *et al.* 2002).

The most elaborate model of conversion from the hierarchical structure into a pronounce-able linear string at PF has been developed in the theory of Distributed Morphology (DM) (Halle and Marantz 1993, 1994, Harley and Noyer 1999, Embick and Noyer 2007). One of the hallmarks of this theory is that it rejects the existence of a generative lexicon. The insertion of morphemes into terminals is post-syntactic, and independent of encyclopedic knowledge, unless there is a lexicalized (i.e. idiomatic) relationship between a certain expression and its meaning. I tacitly assume a system like Distributed Morphology here, even though I do not make use of its particular operations since the topic of my thesis is mostly orthogonal to the issues handled in DM. Consequently, I do not always adhere to the DM's exact terminology; for example, I use a more conventional term 'lexicon' for what is viewed as two separate lists in DM, Vocabulary (the list of phonological strings with the information about the context of their insertion) and Encyclopedia (the list of meanings related to some vocabulary items by indexing, sometimes in the context of other vocabulary items). I conceive of the mental lexicon as a storage of lexical and functional items, containing information about their phonology, their conceptual semantics (for lexical items) or (morpho-)syntactic features (for functional items), and their selectional restrictions. Most lexicon items correspond to single morphemes (roots and affixes), but some may correspond to idiomatized mergers of more than one morpheme. What I share with DM is the general idea that the lexicon should

not duplicate the combinatorial job that is syntactic in its nature, including the syntactic determination of lexical categories (Marantz 1997) and thematic roles (Hale and Keyser 1993a, 1998).

At LF, the hierarchical structure created in overt syntax undergoes further covert processes such that the logical representation (also called 'logical form', without capitalization – not to be confused with LF) can be read off the structure. I assume that the logical representation of a sentence S formally captures the truth conditions of S, and that the semantic value of S is a truth-value, i.e. 1 or 0. It results from compositional interpretation of the semantic values of syntactic constituents (both those inserted from the lexicon and those created by syntax). Given the existence of categorially unspecified roots, which are not interpretable at LF by themselves (Panagiotidis 2011), the current general wisdom has it that at least one categorizer is needed in order for the structure to be compositionally interpretable (while the merger of a root and a categorizer has a non-compositional interpretation).

Semantic values of linguistic expressions are referred to as 'denotations' (a.k.a. 'extensions'). They are represented as double brackets around the expression (e.g. $[\![S_1]\!] = 1$) and they correspond to typed functions expressed with lambda calculus. Since this is a work on a particular phenomenon on the interface between syntax and semantics, written from the perspective of syntax, I often resort to logical representations of sentences or their subconstituents rather than to explicating their denotations. Logical forms closely correspond to the syntactic LF structure that they are derived from, and so are better suited for the purpose of this thesis.

Interpretive rules are sensitive to the semantic types of linguistic expressions. Each primitive type α has a corresponding set of entities D_α (the domain), such that an expression of type α denotes a member of D_α. The primitive types that play a role in this dissertation are $\langle e \rangle$ (type of expressions denoting individuals), $\langle v \rangle$ (type of expressions denoting events), $\langle i \rangle$ (type of time intervals), $\langle t \rangle$ (type of expressions denoting truth values) and $\langle s \rangle$ which is used as the type of worlds/situations. If α and β are types, $\langle \alpha, \beta \rangle$ is a type as well (abbreviated as '$\langle \alpha\beta \rangle$'). The main interpretive rule that derives the denotation of syntactic constituents is Function(al) Application.

(7)   **Functional Application** (Heim and Kratzer 1998:44)

If α is a branching node, $\{\beta, \gamma\}$ is the set of α's daughters, and $[\![\beta]\!]$ is a function whose domain contains $[\![\gamma]\!]$, then $[\![\alpha]\!] = [\![\beta]\!]([\![\gamma]\!])$.

Other compositional rules have been postulated in the literature as well, e.g. Event Identification (Kratzer 1996) or Predicate Conjunction, but they are not utilized in this thesis.

Part I

Generic Null Objects

I launch the first part of this thesis by recapitulating the most influential proposals concerning the syntax of generic null objects (GNO) in 2.1, namely Rizzi 1986, Authier 1989, 1992a,b, and Landau 2010. I follow by applying several tests introduced in these proposals to Czech data in 2.2, to show that just like GNO in Italian and French, GNO in Czech should be syntactically represented. However, the question of what exactly constitutes GNO's syntactic make-up is postponed until after I revise the existing semantic analysis of GNO in Section 2.3. Rather than employing a non-selective adverbial operator (Lewis 1975) as in Authier's analysis, I show how GNO can be elegantly derived with the dyadic generic operator of Krifka *et al.* 1995, hand in hand with accounting for the genericity of sentences in which they occur. Going back to GNO's syntax in Chapter 3, I provide a step-by-step examination of the individual φ-features that are normally associated with the (pro)nominal functional structure: gender, number, and person. Contrary to general expectations stemming from Rizzi's 1986 analysis of GNO, reinforced in Landau 2010, I find evidence only for the presence of a gender feature in GNO in Czech but no evidence for the presence of number, person and determiner features/categories. In 3.2.3, the missing number feature is further related to GNO's inability to receive case. These findings lead to a significant revision of GNO's syntactic "structure" which effectively reduces to one syntactic node, namely the nominalizing head (n) where gender features are generated. This n corresponds semantically to a property ('Persona' or 'Female Persona') determined by the value of the gender feature, and introducing a variable that gets bound by the clause-level generic operator (GEN). Side-stepping somewhat in 3.1.3, I discuss the theoretical merit of recasting the semantic feature [+human], postulated for GNO by others, as the interpretable gender feature. I show how this fits into the semantic analysis of GNO provided earlier as well as into the data on gender agreement with GNO. In the final section of Part I, I sum up the syntactic composition of GNO and compare it to the syntactic structure of regular pronouns, concluding that the only thing they have in common, and that puts them apart from regular nouns, is their lack of a concept-naming root. To provide additional support for the proposed analysis, I show in 3.4.2 that iGender-bearing, null n-heads are not syntactic entities unique to GNO constructions since they can be found within the so-called substantivized adjectives as well.

Chapter 2

Pronouns or A'-bound Variables?

2.1 Previous Accounts

2.1.1 GNO as pro$_{arb}$ (Rizzi 1986)

The existence of null generic objects was systematically acknowledged for the first time by Luigi Rizzi in an article from 1986, where he was primarily interested in their syntactic status and their lexicon-syntax mapping. Rizzi showed that generic null direct objects in Italian can control into infinitival clauses (8-a), bind anaphors (9-a), and count as subjects of small clauses, both argumental (10-a) and adjoined (10-b) ones. The corresponding episodic sentences cannot have non-overt objects, which leads to their ungrammaticality (with or without controlled clauses or reflexive bindees), as (8-b) and (9-b) confirm.

(8) Null direct objects in Italian as controllers

    a.   Un generale può costringere___ a [PRO obbedire ai   suoi ordini].
            a   general can force   to   obey   to.the his orders
            'A general can force (one) to obey his orders.'

    b. *Alle cinque il   generale ha costretto___ a [PRO obbedire].
          at   five   the general has forced   to   obey
          'At five the general forced to obey.'   Rizzi 1986:(9-c),(10-b)

(9) Null direct objects in Italian as anaphor binders

    a.   La buona musica riconcilia___ con se stessi.
            the good   music reconciles   with oneself
            'Good music reconciles (one) with oneself.'

    b. *Il   concerto di ieri   ha riconciliato___ (con se stessi).
          the concert of yesterday has reconciled   with oneself
          'Yesterday's concert has reconciled (with oneself).'   Rizzi 1986:(11-a),(38-b)

(10)   Null direct objects in Italian as small clause subjects

    a.   Questa musica rende___ allegri.
        this   music renders happy.PL
        'This music renders (one) happy.'

    b.   Un dottore serio   visita___ nudi.
        a   doctor serious visits   nude.PL
        'A serious doctor visits (one) nude.'   Rizzi 1986:(16-a),(14-a)

Working in the framework of Government and Binding (Chomsky 1981), and thus assuming the system of null elements that already contains PRO (both arbitrary and controlled), pro, A-traces and A'-traces,[2] Rizzi analyzed GNO as pro_{arb}, a [+pronominal, –anaphoric] empty category. It is [–anaphoric] because it does not need an antecedent and it is [+pronominal] because it can be referentially linked to another NP outside of its governing category, in this case to PRO_{arb}. The whole argument for GNO being a pronoun is thus based on examples like (11) where arb' can (but does not have to) be coreferential with arb''.

(11)   È difficile [$PRO_{arb'}$ sperare [che il   governo   possa autorizzare___$_{arb''}$, a
        is difficult   hope   that the government can   authorize   to
        [PRO vivere così]]].
            live   like that
        'It is difficult to hope that the government can authorize (one) to live like that.'

        Two readings possible: arb' = arb''; arb' ≠ arb''   Rizzi 1986:(25-b)

Note, however, that if the position occupied by GNO in (11) is occupied by an overt indefinite noun phrase, it can be optionally coreferential with the first PRO as well, which devalues the coreference between the first PRO and GNO in (11) as an argument for GNO's [+pronominal] feature.

(12)   È difficile [PRO_{arb} sperare [che il   governo   possa autorizzare dei genitori$_i$, a
        is difficult   hope   that the government can   authorize   parents
        [PRO vivere così]]].
        to   live   like that
        'It is difficult to hope that the government can authorize parents to live like that.'

        Two readings possible: arb = i; arb ≠ i   (Luca Iacoponi, p.c.)

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[2]More commonly called 'variables' by syntacticians at that time.

The subscript 'arb' in pro$_{arb}$ stands for the whole cluster of features: [+human], [+generic], [±plural], [default gender], [default person]. The number feature is subject to parametrization in different languages; it happens to be [+pl] in Italian, but it could be [+sg] in others. (Rizzi assumed that the same set of features defines PRO$_{arb}$ as well.) In addition, pro$_{arb}$ is θ-marked and Case-marked by its licensing head V. In fact, Case-marking is what conditions the licensing of GNO as a part of a more general principle of null pronominals' licensing:

(13)   pro is Case-marked by X_y^0

where y = the type of a licensing head; y$\in$ {V, Infl} in Italian   Rizzi 1986:(49)

The parametrized setting of y is claimed to be responsible for the fact that some languages have both null subject pronouns and null object pronouns, like Italian, while other have just one of them (like French, which allows pro only in object position), or no null pronouns at all. The latter case is exemplified by English where the set of licensing heads is empty, as shown by the following contrast between Italian and English when it comes to allowing null subject pro, licensed by nominative-marking Infl in this case.

(14)   a.   pro$_{3pl}$ Vengono fotografati.
              (They) are   photographed.
          b. *(They) are photographed.

It is obvious that the theory of GB was not only stimulating but also restricting for Rizzi's analysis of GNO. In order to fit generic null "pronouns" into the existing typology of empty categories, based on [±pronominality] and [±anaphoricity], he had to stipulate that GNO consist of a heterogenous class of features that unnecessarily complicates the theoretical machinery. In GB theory, empty category licensing always involves some form of government relation, so Rizzi postulated the licensing relation between GNO and its governing category V, which lead him to assume that GNO are Case-marked – an assumption that is difficult to maintain under the current, configurational view of structural Case assignment. Moreover, since the recovery of the content of an empty category (a.k.a. its identification) usually happens through binding, Rizzi assumed a binding/coindexing

relation between V and GNO, to match the coindexation between Infl and a null subject pro, even though there is no morphological support for this relation whatsoever, in the sense of φ-features shared by the probe and the goal. In what follows, I show how some of GNO's postulated features, such as genericity or humanness, naturally follow from the way they are derived in the minimalist framework, while others can be dispensed with completely.

2.1.2 GNO as A′-bound pro (Authier 1989, 1992a,b)

Shortly after Rizzi, Jean-Marc Authier contributed to the debate about GNO by showing that French has GNO of the same sorts as Italian, while questioning some parts of Rizzi's original proposal. Rather than strengthening the parallelism between GNO and PRO or GNO and regular pronouns, Authier (1989) pointed out that there are many important differences between null objects and [+pronominal] elements, as understood in Chomsky's theory of binding. Perhaps the most obvious one is that null objects always have to be generic/arbitrary, and they can never be controlled (because they are not subjects of infinitives, like PRO) or get their indices valued by the assignment function supplied by the utterance context (like pronominals). He proposes that the arbitrariness of null objects follows if they are treated as variables (labeled as [e] in his examples) which are subject to unselective binding by an overt or null adverb of quantification in the sense of Lewis 1975.

(15)   a.   D'habitude$_i$/*Null Adverb*$_i$ trop   de choucroute rend [e]$_i$ obèse.
              usually/___   much of sauerkraut makes   obese.
        b.   For most x's, x a person, too much sauerkraut makes x obese.

                                                                    Authier 1989:(42)

Authier (1989) presents three arguments in support of the treatment of null objects as variables bound by a quantifier phrase:

(A) Null objects in equative structures have identical reference.

(16)   Une thérapeutique qui   réconcilie [e] avec soi-même le   matin   est une
        a   therapy   which reconciles   with oneself   the morning is   a
        thérapeutique qui   réconcilie avec soi-même le   soir.
        therapy   which reconciles with oneself   the evening.
        'A therapy which reconciles (one) with oneself in the morning is a therapy which

        reconciles (one) with oneself in the evening.'

Any given arbitrary person that is reconciled with himself/herself by a therapy in the morning is the same arbitrary person who is reconciled with himself/herself by that therapy in the evening. This restriction on the interpretation of empty elements in equative structures was first noticed by Lebeaux (1984) for arbitrary PROs. Lebeaux analyzes such PROs as 'linked' by being bound to a single null quantifier:

(17)   a.   PRO to know him is PRO to love him.   Lebeaux 1984:(17-d)

         b. $\forall$x ((PRO_x to know him) is (PRO_x to love him))

Since the same linked interpretation is attested for null objects in French, they also have to be bound by a single null operator, in Authier's view.

     (B) Null objects are subject to weak crossover and PRO gates. On a par with Wh-traces, French null objects trigger weak crossover effects. In the following example, the possessive pronoun can be coindexed with a null object in (18-a). But if a pronouns is to the left of the position where the null object is base-generated, as in (18-b), the coindexation is not possible. This suggests that French null objects are variables just like traces bound by a Wh-operator.

(18)   a.   La chasse   rend $[e]_{arb}$ amoureux de $son_{arb/i}$ chien.
               the hunting makes   fond   of his/self's dog
               'Hunting makes (one) fond of one's/his dog.'

         b. $Son_{?*arb/i}$ chien rend $[e]_{arb}$ amoureux de la   chasse.
               his/self's dog   makes   fond   of the hunting
               'One's/his dog makes (one) fond of hunting.'   Authier 1989:(20)

It is known that weak crossover effects can be neutralized by the so-called PRO gates (Higginbotham 1980, Safir 1985), whereby the overt pronoun is locally A-bound by PRO which itself is controlled by the variable left after the operator movement. As soon as PRO has an index different from that of a pronoun (e.g. 'arb' as in the example below), the structure becomes ungrammatical, or more precisely, violating weak crossover. The parallel sentences below in French and English both exemplify the PRO gate effect.

(19)   a. Qui_i est-ce que $[PRO_{i/?*arb}$ laver sa_i voiture] a   ennuyé t_i?
               who is-that that   wash his/self's car   has upset

b.   Who$_i$ did [PRO$_{i/?*arb}$ washing his$_i$ car] upset t$_i$?

If we replace the Wh-trace in (19) with the arbitrary null object, we get the same results. The only way for the null object to be coindexed with the overt possessive pronominal without leading to the weak crossover violation is to control the PRO which c-commands the pronominal.

(20)   [PRO$_{arb'/*arb''}$ laver sa$_{arb'}$ voiture] rend   [e]$_{arb'}$ enragé.
                        wash his/self's car   makes   outraged
        'To wash one's car makes (one) outraged.'

On these grounds, Authier (1989:52) argues for the presence of a null A′-binder in the structures with null generic objects. The more accurate representation of (20) would thus be:

(21)   A′-binder$_{arb'}$ [[PRO$_{arb'/*arb''}$ laver sa voiture] rend [e]$_{arb'}$ enragé].

(C) Null objects lead to scope ambiguities. It is known that in clauses with two or more quantified NPs, scope ambiguity can arise. May (1977) explained this as a result of Quantifier Raising, operating at LF. Quantified phrases leave variables in the positions where they were base generated and adjoin to S such that one c-commands the other. Authier (1989:53) shows that in French, the same sort of ambiguity can arise also if one of the phrases is a null arbitrary object:

(22)   Dans ce   camp militaire, quelque chose pousse [e] à   PRO enfreindre le
        in   this camp military   some   thing pushes   to   infringe   the
        règlement quand on   est faux-jeton.
        rule   when one is   devious
        'On this military base, something pushes (one) break the rules when one is devious.'

        Reading A: $\exists x$ [thing(x) $\land$ $\forall y$ [person(y) $\rightarrow$ x pushes y to break the rules if y is
            devious]]
        Reading B: $\forall y$ [person(y) $\rightarrow$ $\exists x$ [thing(x) $\land$ x pushes y to break the rules if y is
            devious]]

For Authier, this is yet another reason why arbitrary null objects should be analyzed as variables bound by an operator.

Authier's approach diverges from the standard treatment of empty categories in the Government & Binding theory in one important aspect: by 'bound variables', syntacticians typically understood traces of some sort of A′-movement (especially Wh-movement and movement of quantified phrases), but in this case, the variables are base-generated – in the same way in which PRO or pro is base-generated. In his later works, Authier assumes that the variables representing generic null objects are in fact pronominal in nature and he labels them as 'A′-bound pro' (Authier 1992a,b). The support for this assumption comes from KiNande where null objects appear in sentences with the generic present morpheme *ka* as well as in sentences with an object clitic such as *ba* 'them':

(23)   a.   esumu eyi yi -**ka** -holaia   [e]
            poison this   GEN makes die
            'This poison will kill you.'

       b.   esumu eyi yi -ma   -ba   -holaia   [e]
            poison this   NON-GEN them makes-die
            'This poison kills them.'   Authier 1992b:(15a),(16a)

Authier (1992b:353) assumes that *ka* in (23-a) is an overt morphological reflex of Infl with the generic property which indicates the presence of an unselective operator. If *ka* was replaced by its non-generic counterpart *ma* in (23-a), the sentence would be ungrammatical without an object clitic. Moreover, *ka* and the object clitic *ba* are mutually exclusive even if they do not compete for the same position in Infl (it is *ka* and *ma* which compete for it). Authier acknowledges that the empty category identified by object clitics is understood to be pro (Jaeggli 1986, a.o.), and so he expects, by analogy, the empty category identified by an unselective generic operator to be pro as well. Pro's identification by object clitics leads to the transmission of φ-features, forcing its definite interpretation; pro's identification by an unselective binder, an adverb of quantification, provides it with the quantificational semantic content.

Authier's indisputable contribution to the theory of GNO is in providing a number of arguments for GNO being base-generated variables that get bound by an adverb-like operator. However, he struggles when capturing their syntactic character, reducing the

whole discussion to the [±pronoun] issue and finally siding with Rizzi in labeling GNO as pronouns. Where he disagrees with him is the issue of Case-marking: for Authier, GNO are Case-less which is why they are allowed only in what he calls "languages with optional accusative Case-assignment". Authier (1992b:357) sees the separation of languages into GNO-allowing and GNO-disallowing as a result of the Acc-drop parameter, formulated alongside the Nom-drop parameter of Safir 1985 (known more often as the Null Subject Parameter nowadays). The Acc-drop parameter simply says that accusative doesn't have to be phonetically realized, which in Safir's terms means that it doesn't have to be assigned directly to an NP at S-structure. While the parameter itself does not give much insight into why only some languages should make accusative assignment optional, Authier further argues that the parameter's setting directly follows from Pollock's (1989) strong versus weak Agr_O parameter, which leads to V-raising to Agr_O in French but its impossibility in English. Authier assumes that the head Agr_O can absorb Case when V raises to it, i.e. in French but not in English, and pro is the only type of argument that can merge in the V-governed thematic object position and "survive" this lack of Case. Unfortunately, such account not only leads to nontrivial complications in the case of Agr_O lowering, which was proposed for English already in Pollock 1989, but it doesn't withstand confrontation with a more modern understanding of structural accusative assignment either. Basically at the same time, Chomsky 1991 and Chomsky 1993, identified Pollock's Agr_O as a head which assigns Accusative, thus dissociating Case from θ-assigning V. This in itself would require a substantial reformulation of Authier's proposal. Later, Chomsky (2000, 2001) defined the minimalist operation Agree which lead to reanalyzing structural case on a noun: from a primarily verbal feature that needs to be discharged to a by-product of valuing unvalued φ-features on a verb. Unless we dig deeper into φ-properties of GNO, we can't know whether these null arguments themselves would be capable of satisfying φ-requirements of a verb and receiving Case under Chomsky's theory of Case. These are the issues that I examine in detail in Chapter 3, while considering an alternative, configurational theory of case as well (Yip *et al.* 1987, Marantz 1991, Bittner and Hale 1996).

2.1.3   GNO as DPs or φ-sets (Landau 2010)

In his recent article on implicit arguments, Landau is primarily interested in null indirect objects, especially in implicit experiencers and the limited ways of proving their syntactic presence. But he also proposes a typology of null arguments based on their syntactic features which is relevant to the topic of this thesis. Landau distinguishes **strong implicit arguments (SIA)**, such as PRO, Italian pro$_{\text{arb}}$ (Rizzi 1986), or Chinese Topic-bound variables (Huang 1984), from weak implicit arguments (WIA), such as agents of passives, implicit experiencers, or implicit patients (such as the one below in (25-a)). The strong implicit arguments allow secondary predication and anaphoric binding and as such, they have to have a D-feature, projecting the category of determiner. The reasoning behind this goes back to Longobardi (1994) who maintains that without a D-head, an NP cannot be mapped to a syntactic argument, and thus saturate a syntactic predicate. Since GNO can become small clause subjects in Italian, as seen in **??**, they have to contain the D-projection in their syntactic structure, according to Landau. Note however that the presence of the category of determiner as a universal precondition for argumenthood has been disputed; see 3.2.3 and 7.3.1, where I discuss this in detail in relation to Czech. **Weak implicit arguments (WIA)** cannot be subjects of secondary predicates and do not bind reflexives, but they can still act as controllers and trigger Conditions B and C effects. Landau analyzes them lacking a D-feature but consisting of a (possibly partial) set of φ-features. A hypothetical example of a weak implicit argument is given below.

(24) $[\![3\text{rd}, \text{sg}, \text{F}]\!]$ = a female x that is neither the speaker nor the addressee

<div align="right">Landau 2010:383</div>

Semantically, WIA correspond to variables whose value is restricted by their φ-features and is dependent on the context: they can be deictic, anaphoric to some discourse antecedent, or "bound by some default sentence-level operator, existential or generic" (op.c., p.383).

Landau concludes that a language can have both types of syntactically active implicit arguments, strong as well as weak ones, and he gives the following examples from Hebrew where (25-a) represents a WIA and (26-a) an SIA:

(25) A null object and an overt pronoun in episodic context

    a.   Hi cilma___$_{i/*j}$ be-zman ha-ne'um šel Buš$_j$.
        she photographed in-time the-speech of Bush
        'She photographed___$_{i/*j}$ during Bush's$_j$ speech.'

    b.   Hi cilma   *(oto$_j$) mezia   be-zman ha-ne'um šel Buš$_j$.
        she photographed   him   sweating.MASC in-time the-speech of Bush
        'She photographed *(him$_j$) sweating during Bush's$_j$ speech.'

<div align="right">Landau 2010:(59)</div>

(26) A null object with generic reference and its ungrammaticality in episodic context

    a.   Ha-uvda še-be-teksas tolim___ be-xadarim bli   xalonot matrifa
        the-fact that-in-Texas hang.3PL in-rooms   without windows makes.crazy
        oti.
        me
        'The fact that in Texas, they hang people/*paintings in rooms without win-

        dows, drives me crazy.'

    b. *Etmol   be-teksas talu___   be-xeder bli   xalonot.
        yesterday in-Texas hanged.3PL in-rooms without windows
        'Yesterday in Texas, they hanged people in a room without windows.'

<div align="right">Landau 2010:(71a),(72a)</div>

The understood object in (25) has to be a WIA: it does not allow secondary predication, as (25-b) shows, but it counts for Condition C because it cannot refer to an R-expression in (25-a). The example in (26-a) is supposed to show the necessity of a [+human] feature of a generic null object: the verb *tolim* 'to hang' in principle allows both animate and inanimate direct objects, but in the generic context, the non-overt object can denote only nonspecific humans.

Even though Landau does not give any example of a WIA bound by a generic operator, his system allows two ways of becoming a generically interpreted null object: being a true pronoun with the inherent feature [+generic], as in Rizzi's analysis, and being a (possibly syntactically impoverished) variable bound by an unselective operator as in Authier's analysis. Such a system is undesirably heterogenous, and potentially redundant – if it turns out that all cases of GNO can be analyzed as bound variables. For example, it is not unequivocal that an empty position in (26-a) has to be analyzed as pro$_{arb}$ rather than

as a bound variable. Landau simply mentions that the island environment in (26) rules out the variable analysis. However, embedding a variable inside an NP-island only rules out the possibility of its being bound by an operator in the main clause, as e.g. in the case of Topic-bound A′-traces of the SIA type attested in Chinese. Since the generic operator can be more local (Authier 1992b locates it in Infl; Chierchia 1998 associates it with Asp), the possibility of the variable being bound within the embedded clause is not ruled out. In fact, Authier (1989:61) discusses a concrete example of a null object in an embedded tensed clause in French which he analyzes as a variable bound by a null generic adverb (NA) that is base-generated as an adjunct of that clause:

(27)   [Dans cette usine   [PRO$_{arb'}$ savoir [que [NA$_{arb''}$ [la monotonie du bruit des
        in   this factory,   know that   the monotony of noise of
        machines constraint [e]$_{arb''}$ à [PRO$_{arb''}$ s'assoupir]]]]] est important]
        machines forces   to   doze off   is   important
        'In this factory, to know that the monotony of the noise made by the machines

        forces (one) to doze off is important.'   Authier 1989:(51), modified

Since both SIA and WIA can be interpreted as generic in Landau's system, the generic semantics of an implicit argument does not give any clue as to which status it has. The author relies solely on the (problematic) assumption that the D-feature is a necessary condition for argumenthood, and therefore for predication and binding at a syntactic level. It follows from my analysis that Landau's typology is a rather arbitrarily posited system which is unable to capture the syntactic properties of generic implicit arguments while unnecessarily complicating the typology of null arguments. I come to the conclusion that GNO in Czech are not represented by "sets of φ-features", let alone DPs, even though they can function as reflexive binders or subjects of argument small clauses. On a more general level, I argue that we do not have to posit the existence of pro with the inherent semantic features [+human], [+generic] at all since GNO can be always analyzed as base-generated variables bound by a generic operator.

2.2 Arguments for Syntactic Representation

The purpose of this section is to establish that GNO in Czech are syntactically active entities, as opposed to entities entailed only in the semantics or pragmatics of other sentence constituents.

2.2.1 GNO and its Overt Counterparts in Czech

First, let me provide the most common overt alternatives to GNO. They will be helpful in uncovering the linguistic difference between overt and covert generic objects as we proceed. Below are several real-life examples of GNO found on the internet; under each example in (b), I provide some possible overt alternatives to the given GNO.

(28)   a.   Červené víno prý   před infarktem ne-chrání___.
               red   wine reputedly from infarct   not-protects
               'Red wine reputedly doesn't protect (one) from a heart stroke.'

               (http://ona.idnes.cz/cervene-vino-pry-pred-infarktem-nechrani-fp0-/zdravi.

               aspx?c=990528_140213_zdravi_jup; 05/28/1999)

    b.   Červené víno prý   člověka   / tě   před infarktem
               red   wine reputedly human.SG.M.ACC   you.SG.ACC from infarct
               ne-chrání.
               not-protects
               'Red wine reputedly doesn't protect one/you from a heart stroke.'

(29)   a.   Vědci   našli látku,   která chrání___ před nákazou virem HIV.
               scientists found substance that   protects___ from contagion virus HIV
               'Scientists found a substance that protects (one) from contracting an HIV

               virus.'

               (https://zpravy.aktualne.cz/zahranici/vedci-nasli-latku-ktera-chrani-pred-

               nakazou-virem-hiv/~i:article:629159/; 02/09/2009)

    b.   Vědci   našli látku,   která chrání člověka   / lidi
               scientists found substance that   protects human.ACC.SG.M   people.ACC
               před nákazou   virem HIV.
               from contagion virus HIV
               'Scientists found a substance that protects one/people from contracting an HIV

               virus.'

(30)   a.   To-do listy uklidňují___.
to-do lists calm
'To do lists make (one) calm.'

(http://phoenixrise.blog.cz/1303/to-do-listy-uklidnuji; 03/22/2013)

        b.   To-do listy člověka   / tě   / lidi   / nás   uklidňují.
to-do lists human.ACC.SG.M you.SG.ACC people.ACC us.ACC calm
'To do lists make one/you/people/us calm.'

(31)   a.   Máte na stole dobrotu, která nadchne___ svou jednoduchostí.
have on table goodie which enchants its simplicity.INST
'On your table, you have a goodie which enchants (one) with its simplicity.'

(https://paleosnadno.wordpress.com/2015/01/27/houbovy-nakyp/; 01/27/2015)

        b.   Máte na stole dobrotu, která člověka   / vás   /
have on table goodie which human.ACC.SG.M you.ACC.PL
každého   nadchne svou jednoduchostí.
everyone.ACC.SG enchants its simplicity.INST
'On your table, you have a goodie which enchants one/you/everyone with its

simplicity.'

(32)   a.   Nové cestovní pojištění [...] překvapí___ jak svou cenou, tak
new travel insurance surprises both its price.INST and
podmínkami.
conditions.INST
'The new travel insurance [...] surprises (one) both with its price and its con-

ditions.'

(http://crdm.cz/clanky/tiskove-zpravy/nove-cestovni-pojisteni-ke-kartam-eyca-

od-union-pojistovny-prekvapi-jak-svou-cenou-tak-podminkami/; 06/11/2014)

        b.   Nové cestovní pojištění [...] překvapí ?jednoho   / každého   /
new travel insurance surprises one.ACC.SG.M everyone.ACC.SG
klienta   jak svou cenou, tak podmínkami.
client.ACC.SG.M as its price.INST so conditions.INST
'The new travel insurance [...] surprises you/one/everyone/clients both with

its price and its conditions.'

(33)   a.   Pernetie zaujme___ svou podzimní krásou.
pernetia captivates its autumn beauty.INST
'Pernetia captivates (one) with its autumn beauty.'

(http://zahradkaruvrok.cz/2013/11/pernetie-zaujme-svou-podzimni-krasou/;

11/20/2013)

b. Pernetie člověka / vás / milovníky květin
pernetia human.ACC.SG.M you.ACC.PL lover.ACC.PL.M flowers.GEN
zaujme svou podzimní krásou.
captivates its autumn beauty.INST
'Pernetia captivates one / you / flower lovers with its autumn beauty.'

(34) a. Jsou filmy, které baví__, zaujmou__, no a potom ty, které ovlivní__.
are movies which entertain captivate and then those which influence
'There are movies which entertain (one), captivate (one), and then those which

influence (one).'

(http://www.csfd.cz/diskuze/397957-film-ktery-ovlivnil-muj-zivot/strana-1/;

04/07/2013)

b. Jsou filmy, které člověka / Vás / jednoho baví,
are movies which human.ACC.SG.M You.ACC one.ACC.SG.M entertain
zaujmou, no a potom ty, které člověka / Vás / jednoho ovlivní.
captivate and then those which human You one influence
'There are movies which entertain and captivate one, and then those which

influence one.'

(35) a. Ono to totiž naštve__, když tolik let nesete kříž bolesti a […]
it that upsets when many years bear cross pain and
'It is just upsetting when you bear the cross of pain for so many years and

[…]'

(http://www.fmstudio.cz/dmh/?p=772; 01/04/2013)

b. Ono to totiž jednoho / člověka naštve, když tolik let
it that one.ACC.SG.M human.ACC.SG.M upsets when many years
nesete kříž bolesti a […]
bear cross pain and
'It just upsets one when you bear the cross of pain for so many years and […]'

The (b)-examples above in (28) through (35) indicate that some of the common overt GNO counterparts are the generically interpreted singular noun *člověk* 'human/man', the second person singular pronoun *ty* 'you.SG' and the numeric *jeden* 'one' but also the plural noun *lidi* 'people', the second person plural pronoun *vy* 'you.PL' or the first person plural *my* 'we'. In speech, *vy* 'you.PL' is indistinguishable from *Vy*, which has a plural form but is used for a single person in a formal, polite setting (the so-called *vykání*) – and which can be used in the place of GNO as well, cf. (34-b). The generic *jeden* sounds somewhat obsolete and is in decline, except for some idiomatized expressions, such as the one in (35-b). The

use of *člověk* evokes more formal or journalistic style, and *ty* is the most colloquial with a personalized feeling – it is often used in advertisements that should personally appeal to the hearer. GNO is probably closest to *člověk* when it comes to its stylistic impact. Other expressions that could be used instead of GNO are the universal pronoun *každý* 'everyone' (31-b), and generically interpreted common nouns, both singular, such as *klient* 'client' in (32-b), and plural, such as *milovníci květin* 'flower lovers' in (33-b). Not all of these overt alternatives can be used in every generic sentence with a human object, due to contextual and other pragmatic factors, and there are always nuanced distinctions in meaning when one or the other expression is used.

A careful reader may have noticed that overt counterparts to GNO tend to precede the verbal predicate; though see the contrast between (28-b) and (29-b), both featuring the verb *chránit* 'protect'. Even though Czech is an SVO language, it has a very flexible word order, driven largely by the information structure of a sentence, particularly by the split into the informationally given part, coming first, and the new, focused part, coming last (Kučerová 2007, 2012). As a result, an overt direct object often precedes the verb on the surface. Direct objects denoting generically quantified humans can be placed both pre- and post-verbally, but they are rarely found in clause-final position since they are not presented as the informationally new part. Rather, something else is being claimed about generic "one" as the established part of the informational context. One type of a context in which the generic object can be final, though, is when the generic object denotation is contrastively focused, as in the following statement:

(36) Média dokážou zmanipulovat lidi,   ale nikdy ne-zmanipulují
      media can   manipulate.PF people but never not-manipulate
      internet/stroje.
      internet/machines
      'Media can manipulate people, but they will never manipulate the internet / machines.'

However, even in the sentence above, the generically interpreted noun *lidi* 'people' could be placed in several other positions, just like the phrase that is contrasted with it:

(37)   (Lidi) Média (lidi) dokážou (lidi) zmanipulovat (lidi), ale
          people media people can   people manipulate.PF people but
          (internet/stroje)   nikdy ne-zmanipulují (internet/stroje).
          internet/machines never not-manipulate internet/machines
          'Media can manipulate people, but they will never manipulate the internet / machines.'

Another factor that plays a role in the placement of overt generic objects is clitic placement in Czech. Short pronouns, such as *tě* 'you.ACC.SG' or *vás* 'you.ACC.PL', always have to attach to the first intonational phrase in a clause, the so-called Wackernagel position. That's why these personal pronouns have to precede a verb in generic statements even if a corresponding generically interpreted noun can follow it, as e.g. in (38) when compared to (29-b).

(38)   Vědci   našli látku,   která tě   chrání (*tě)   před nákazou
          scientists found substance that   you.ACC.SG protects you.ACC.SG from contagion
          virem HIV.
          virus HIV
          'Scientists found a substance that protects you from contracting an HIV virus.'

2.2.2   GNO as Obligatory Controllers

Infinitival clauses are generally less common in Czech than in Romance or Germanic languages, tensed subordinated clauses often being used instead. Still, Czech has null generic objects which can control subjects of infinitival clauses on a par with Italian and French. In (39-a), GNO controls the subject of the non-finite clause 'to come to classes on time'; in (39-b), GNO's overt counterpart *člověk* or a generically interpreted *student* show the same behavior.[3]

(39)   a.   Šikovný učitel přiměje___$_i$ [PRO$_{i/*j}$ chodit na hodinu včas].
             skilled teacher makes   go   to class on time
             'A skilled teacher makes come to classes on time.'

---

[3]Unlike the sentences in 2.2.1, the examples in this and the following sections were not taken from the internet, but they were created by the author, a native speaker of Czech, for the purpose of eliciting grammaticality judgments. The reason for this is that GNO do not represent a very common speech phenomenon, being restricted to a particular style/communication purpose discussed above. This makes it much harder to find them naturally occurring in constructions with specific grammatical properties used in linguistic tests – while the native speakers still have a strong sense of grammaticality or ungrammaticality when the relevant made-up sentences with GNO are presented to them.

b. Šikovný učitel   přiměje člověka$_i$/studenta$_i$ [PRO$_i$ chodit na hodinu
skilled   teacher makes   human/student.ACC   go   to class
včas].
on time
'A skilled teacher makes one / the student come to classes on time.'

Other example of GNO as a controller are in (40-a) and (41-a). Possible overt alternatives are shown in (40-b) and (41-b).

(40)   a. Ošemetný vnitřní hlas někdy   navádí___$_i$ [PRO$_{i/*j}$ ne-přiznat se   k
tricky   inner voice sometimes incites   not-admit.REFL to
vině a   PRO$_{i/*j}$ tiše   čekat, jak vše   dopadne].
guilt and   quietly wait   how everything falls
'A tricky inner voice sometimes incites not to admit one's guilt but to quietly

wait how everything turns out.'

b. Ošemetný vnitřní hlas tě$_i$/člověka$_i$ někdy   navádí [PRO$_i$
tricky   inner voice you/human.ACC sometimes incites
ne-přiznat se   k vině a   PRO$_i$ tiše   čekat, jak vše   dopadne].
not-admit.REFL to guilt and   quietly wait   how everything falls
'A tricky inner voice sometimes incites you/one not to admit your/one's guilt

but to quietly wait how everything turns out.'

(41)   a. Opravdový přítel by   takhle   ne-pobízel___$_i$ [PRO$_{i/*j}$ začít rychle
real   friend be.COND like this not-urge   begin quickly
plánovat pomstu].
plan   revenge
'A real friend would not urge like this to quickly start on planning a revenge.'

b. Opravdový přítel by   takhle   člověka$_i$ ne-pobízel [PRO$_i$ začít
real   friend be.COND like this human.ACC not-urge   begin
rychle   plánovat pomstu].
quickly plan   revenge
'A real friend would not urge one like this to quickly start on planning a

revenge.'

Using the participation in control as an argument in favor of syntactic representation goes back to Bach's generalization (1979; the term itself is due to Bresnan 1982:418): "where the object of a verb is an obligatory controller, intransitivization is impossible." It was supposed to capture the fact that the direct object cannot be omitted in the case of object control, as in (42-a), but it can be omitted under subject control, as in (42-b).

(42) a. Louise taught *(Tom$_i$) [PRO$_i$ to smoke].

   b. Louise$_i$ promised (Tom) [PRO$_i$ to be on time].

The contrast between English and other languages in (43) then lead Rizzi and Authier to the conclusion that null generic arguments exist in Italian and French but not in English. Notice that Czech behaves on a par with Italian and French in this respect.

(43) a. English: *Ambition leads___ [PRO to make mistakes].

   b. Italian: L'ambizione spinge___ a [PRO commettere errori].

   c. French: L'ambition amène___ à [PRO commettre des erreurs].

   d. Czech: Přílišné ambice nutí___ [PRO dělat chybná rozhodnutí].

      (Lit. 'Too strong ambitions force to make mistaken decisions.')

Nonetheless, using control as an argument for the syntactic presence of GNO might be unwarranted. The analysis of obligatory control as a syntactic relation has been challenged by many authors, who analyze it instead as a predication relation whereby the infinitive is interpreted as a property predicated directly of a controlling argument (Bach 1979, Williams 1980, Chierchia 1984, 1989, Dowty 1985, among others). Furthermore, for some of these authors, the controller can be represented lexically (it is semantically implied), without having to be represented syntactically. For example, Chierchia (1989) appeals to the lexical entailments associated with particular controlling verbs and to the hierarchy among thematic roles to derive the desired interpretation of control structures; see also Wurmbrand 2002, who builds on Chierchia's proposal and argues for the lexical/semantic determination of exhaustive obligatory control as opposed to other types of control.

   One of the most recent contributions to the debate about syntacticity vs. lexicality of control is Landau 2010. He builds on the well-known distinction, reviewed in Landau 2000, between exhaustive control (EC) verbs (such as implicative *force* or aspectual *begin*) that require identity between the controller and PRO, and partial control (PC) verbs (such as factive *like*, propositional *believe*, desiderative *want*, or interrogative *ask*) that allow PRO to be interpreted as a semantic plurality, which properly includes the controller. The difference is visible when the controlled predicate requires a plural subject, but the controller is a

singular entity, as in the following contrast between the PC verb *want* and the EC verb *remember*:

(44)   We knew that Mrs. Smith$_i$ wanted/*remembered [PRO$_{i+}$ to meet after class].

Landau (2010) argues at length that PC cannot be reduced to a predication relation, therefore it cannot be treated as a lexical relation, but it has to be represented syntactically (but see Pearson 2016 for an opposite conclusion). Landau further shows that if a controller is null, it allows partial control as well: He uses the construction with the psych predicate of the type *X finds something ...ing to X* with the implicit experiencer and he makes sure that it is singular by linking it to a singular antecedent.

(45)   a.   Mary$_i$ found it exciting___ [PRO$_{i+}$ to meet on top of the Empire State Building].
         b.   The chair$_i$ found it frustrating___ [PRO$_{i+}$ to gather without a concrete agenda].
         c.   Rachel$_i$ found it embarrassing___ [PRO$_{i+}$ to kiss in public].

Landau 2010:(41)

For reasons which are not clear even to Landau, such implicit experiencers combining with a psych verb are necessarily anaphoric and necessarily implicit, in contrast to implicit experiencers combining with a non-psych verb:

(46)   a.   Mary$_i$ found it annoying (*to her$_{i/j}$) to listen to that speech.
         b.   Mary$_i$ found it beneficial to her$_{i/j}$ to listen to that speech.

Landau 2010:(38b),(39a)

Since PC was established as a syntactic relation and (45) shows, according to Landau, that implicit arguments can participate as controllers in PC, Landau (2010:(44)) draws the following conclusion:

(47)   Implicit argument controllers in PC are syntactically represented.

He further notes that the null hypothesis, following uniformity considerations, should be that there is no difference in the type of representation between implicit arguments participating in PC and in OC. Since there is no evidence against this hypothesis, Landau suggests that *all* implicit argument controllers are syntactically represented.

Clearly, Landau's assumption relies on a number of other assumptions that we cannot satisfactorily verify in this thesis. One of the questions that comes up is why can't the overt subjects in (45) control PRO subjects directly, without the intermediate binding of an implicit experiencer. Another potential issue, unnoticed by Landau, is that the construction in (45), which is crucial for the whole argumentation, allows non-controlled arbitrary PRO as well:

(48)   a.   Mary$_i$ finds it exciting [PRO$_{i+/arb}$ to marry under a bridge].

        b.   John finds it embarrassing [PRO$_{i+/arb}$ to gather without a concrete agenda].

This would mean that the constructions in (45) are not an example of partial control, which is always obligatory and should disallow arbitrary control, as Landau (2000) argues. Unfortunately, this is the only construction where the singularity of the implicit experiencer is controlled for, which is needed if we want to ensure the partiality of the control relation. Even if partial control as such was necessarily a syntactic relation, Landau's conclusion about the syntactic presence of implicit experiencers and implicit controllers in general seems to stand on a shaky ground.

Luckily, there are several other independent tests that support the presence of Czech GNO at the syntactic level of linguistic representation. The following sections are devoted to them.

2.2.3   GNO as Binders for Condition A

Another test for syntactic representation used in the literature is based on the null argument's ability to bind reflexives. Czech GNO can bind anaphoric elements both directly within the same clause, as in (49), (50), and (51), or indirectly via controlled PRO, as in

(52).[4] The reflexive has the composite form *sebe samý* whereby the reflexive *sebe* 'self' is only inflected for case and *samý* 'alone' for case, gender, and number because it is formally adjectival. Even though *samý* is grammatically optional, I include it in the examples below to ensure that the reflexive refers to the object rather than to the subject by making the grammatical gender (or number) of the finite clause subject purposely different from the values marked on *samý*.

(49)   Úmrtí Robina Wiliamse ukazuje, že   ani   ta nejlepší ochranka
        death Robin Williams shows   that neither the best security.NOM.SG.F
        ne-ochrání___i před   sebou_i samým.
        not-protects.PF before self alone.INST.SG.M
        'The death of Robin Williams shows that not even the best security guard protects

        (one) from oneself.'

(50)   ?Léta strávená o samotě v poušti možná přiblíží___i sobě samému,   ale
        years spent   alone   in desert may   near   self alone.DAT.SG.M but
        zároveň   oddálí člověka   ostatním.
        simultaneously distance human.ACC.SG.M others.DAT
        'The years spent in desert in loneliness might bring (one) near himself, but they

        distance one from others at the same time.'

(51)   Naše centrum nabízí speciální seance,   které   usmiřují___i
        our center offers special   sessions.NOM.PL.F which.NOM.PL.F reconcile.IMPF
        se   sebou_i samým.
        with self alone.INST.SG.M
        'Our center offers special sessions which reconcile (one) with oneself.'

(52)   Nepříznivé okolnosti   mohou někdy   svádět___i [PRO_i
        unfavorable circumstances.NOM.PL.F can   sometimes tempt.IMPF
        ne-brat ohled na ostatní a PRO_i starat se   jenom o sebe_i   (samého)].
        not-take regard for others and   care.REFL only about self alone.ACC.SG.M
        'Unfavorable circumstances sometimes tempt (one) not to consider others and care

        only about oneself.'

The need for a structurally represented null antecedent of the reflexive *sebe samý* follows from the ungrammaticality of sentences which lack such an antecedent. In (53), the reflexive

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[4]Note that if GNO can control and PRO can bind, the argument for the syntactic representation of GNO based on the examples like (52) reduces to the argument from control presented in the previous section.

in the direct object position is expected to be bound by the subject as its only possible antecedent. However, their φ-features do not agree which disallows the coreference, effectively ruling out the subject as a possible antecedent, which makes the sentence ungrammatical.

(53) *Ani   nejlepší ochranka$_i$ ne-ochrání   sebe$_j$ samého.
      neither best   security.NOM.SG.F not-protects.PF self   alone.ACC.SG.M
      'Not even the best security protects himself.'

Authier (1992b) gives one more test that supposedly discriminates between null arguments that occupy a structural position and those that don't. It is based on donkey anaphora which is the name for a pronominal in a main clause which is understood as bound by a non-c-commanding quantificational noun in an antecedent of a conditional or in the restrictor of a universal quantifier. This antecedent has to be syntactically present, as shown in (54-a) with an agentive *by*-phrase as a binder. Interestingly, if the bound element is the arbitrary expression *on* 'one' in French, it can have a null generic object as an understood binder (54-b), which, in Authier's view, in itself speaks for GNO's syntactic presence.

(54) a. Quand une femme est humiliée   *(par quelqu'un$_i$) elle le$_i$ gifle.
          if   a   woman is humiliated   by someone   she him slaps
          'If a woman is humiliated by someone, she slaps him.'

      b. Quand la   peur pousse___$_i$ à   PRO$_i$ fuir, on$_i$ serre   les dents.
          if   the fear pushes   to   flee one tightens the teeth
          'If fear pushes to flee, one must grin and bear it.'

The same data can be reproduced in Czech.

(55) a. Když je žena   *(někým$_i$)   ponížena, hned   ho$_i$ praští.
          when is woman   by someone humiliated immediately him slaps
          'If a woman is humiliated by someone, she immediately slaps him.'

      b. Když strach nutí___$_{arb'}$ prchnout ze   země, jeden$_{arb'}$ musí zatnout zuby
          when fear   forces   flee   from country one   must clench   teeth
          a   snést to.
          and bear it.
          'When a fear forces (one) to flee the country, one must set his teeth and bear

          it.'

However, Authier's examples are somewhat problematic because he uses a definite pronoun *le* 'him' in the first case but what he claims to be an indefinite pronoun *on* 'one' in the second case. This distinction might in itself lead to the difference between (54-a) and (54-b) and between (55-a) and (55-b). The reason is that the pronoun in donkey anaphora is expected to be definite/specific in order to allow anaphoric relation (Cooper 1979, Heim 1990) while the pronoun *on* could be analyzed as bound by the same generic quantifier as the null object in the *if*-clause; see 2.3 for more details on the semantics of this quantifier. Authier's reasoning behind the test was probably inspired by Lewis's (1975) alternative analysis of donkey anaphora as a variable unselectively bound by a universal quantifier. This quantifier also binds the variable introduced by the indefinite NP that functions as a donkey antecedent. Regardless of what qualifies as the best semantic approach to donkey anaphora, the following example from Czech confirms the difference between the two expressions used in Authier's test: the pronoun *jeden*, the Czech counterpart of the French *on*, cannot be anaphorically related even to an overt indefinite *by*-phrase in the if-clause, unlike the personal pronoun *ho* 'him' in (55-a).

(56) Když byly výsledky voleb konečně někým$_i$ vyhlášeny, jeden$_{arb'/*i}$ mohl
      when were results   elections finally someone.INST announced one   could
      slavit   až do rána.
      celebrate until morning
      'When the election results were finally announced by someone, one could celebrate
      all night.'

Given the specific properties of overt generic pronouns, the tests where they are referentially related to GNO shouldn't be be used as a support for GNO's presence at the syntactic level simply on the basis of expecting the parallelism with the classical examples of donkey anaphora.

2.2.4   GNO as Small Clause Subjects

Another argument for the syntactic presence of Czech GNO comes from their ability to serve as subjects of secondary predication in argumental small clauses, as exemplified below.

(57)   Bylo zjištěno, že   pravidelné požívání   marihuany   dělá___
        was found   that regular   consumption.NOM marijuana.GEN makes.IMPF
        otupělým.
        apathetic.INST
        'It was found out that the regular consumption of marijuana makes (one) apathetic.'

(58)   Špatně zvolené oblečení může dělat___ tlustším, než   člověk ve skutečnosti je.
        badly   chosen clothes   can   make   fatter   than human in reality   is
        'Badly chosen clothes can make (one) bigger than one actually is.'

(59)   Dlouhý vous a   zachmuřený pohled ještě mudrcem   ne-udělá___.
        long   beard and gloomy   look   yet wiseman.INST not-makes.PF
        'A long beard and a gloomy look do not make (one) a wise man.'

(60)   ?Tohle téma   ne-nechá___ nikdy chladným.
        this   topic.NOM not-lets.PF never cold.INST
        'The topic never leaves (one) cold.'

Since the 1980s, two competing theories of small clauses have been on the market. One possibility is that they are bare adjectival phrases (Williams 1983, Schein 1982), in which case they fall under Williams's predication rules; cf. Rizzi 1986:506. According to Williams 1983, every predicative phrase requires a structurally represented antecedent, a noun phrase that is coindexed with the predicate, whereby this coindexation is conditioned by the c-command relation between the two. The second possibility is that they have PRO subjects (Chomsky 1981, Stowell 1983), giving rise to a true secondary clausal structure [PRO AP], in which case the examples like those presented above amount to object control by a null generic argument. Their grammaticality would then be a result of the same mechanism which is behind the grammaticality of sentences with GNO controllers (i.e. (8-a) and the Czech examples in 2.2.2), which would mean that it does not represent a separate argument for GNO's syntactic representation.

In contrast to Italian, Czech GNO cannot act as subjects of adjoined secondary predicates. The reason is that the surface form of such modification is analyzed as a substantivized (i.e. nominalized) adjective in Czech, and not as a depictive secondary predicate. As can be seen in (61-b), the adjective that doesn't modify an overt noun 'people' doesn't express the property that the internal argument has while undergoing the event expressed by the main

clause, but rather the property that it has regardless of the event it is involved in.[5]

(61) a. Ten doktor vyšetřuje lidi   nahé.
          this doctor examines people naked.ACC.PL
          'This doctor examines people naked, i.e. they are naked during the exam.'

      b. Ten doktor vyšetřuje nahé.
          this doctor examines naked.ACC.PL
          'This doctor examines naked ones, i.e. those who are naked.'

Interestingly, GNO in French cannot function as subjects of adjunct small clauses either (Authier 1989:fn.1). In (62-a), *nu* can only modify the subject *un docteur*. The same is true for Czech, providing the adjective's case and φ-features are in concord with those of the subject.

(62) a. Un docteur sérieux examine nu.
          'A serious doctor examines nude.'

      b. Správný doktor   vyšetřuje nahý.
          right   doctor.NOM.SG.M examines naked.NOM.SG.M
          'A right doctor examines naked, i.e. while being himself naked.'

Putting aside this difference between Italian on one side, and French and Czech on the other, the data exemplified in this section overall seem to provide quite enough support for acknowledging the syntactic status of Czech GNO: their ability to control, their ability to bind reflexives, and their ability to be subjects of obligatory secondary predicates. Nevertheless, upon further scrutiny, this support does not seem to be as strong as one might wish: there are issues with Landau's arguments for control being a syntactic relation, only Italian GNO can be subjects of non-obligatory secondary predicates, and Authier's interpretation of GNO's behavior in donkey anaphora contexts is problematic. In Chapter 3, I take a different approach to determining what exactly constitutes GNO as syntactic entities, based on testing the presence of the individual nominal φ-features. Before doing that, let me make a short detour into the GNO's semantics, since it has some important consequences for their syntax as well.

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[5]I get back to substantivized adjectives in more detail in 3.4.2, where I uncover the parallelism between their structure and the proposed structure of GNO.

2.3 Towards the Semantic Analysis of GNO

2.3.1 GNO are Semantic Variables

It was mentioned in 2.1.2 that for Authier, GNO are generated as free variables that are subject to "A'-interaction of S-adjoined operators at LF", to use Authier's 1989 wording. Employing data from French, he provides several tests to show that GNO really behave like operator-bound variables. Perhaps the strongest one is that one can get scope-ambiguity in sentences with multiple quantifiers, one of which is a generic adverb quantifying a null object. For example, the Czech sentence in (63) has the interpretation that there is something that always pushes one to break the rules (which can be schematically captured as $\exists$ scoping over $\forall$, as in Authier's paper), but it has also the interpretation where the universal scopes over the existential.

(63) Na téhle základně (pořád) něco   nutí__   porušovat pravidla, i   když
      at this base   always something forces.IMPF break   rules   even if
      uvnitř chce   být člověk spořádaný.
      inside wants be   human orderly
      'At this base, something always pushes (one) to break the rules even if one wants
      to be orderly inside.'

      Reading A: There is some thing x s.t. in every situation, x forces one to break rules
           even if one wants to be orderly.

      Reading B: In every situation, there is some thing x s.t. x pushes one to break rules
           even if one wants to be orderly.

Moreover, in equative sentences with two occurrences of GNO, the two objects have the same reference, presumably because they are bound by a single null quantifier. So in (64), any given arbitrary person that is calmed by a therapy is the same arbitrary person that gets balanced by that therapy.

(64) Terapie, která uklidňuje__, je terapie, která dělá__ vyrovnaným.
      therapy which calms   is therapy which makes balanced
      'A therapy which calms (one) is a therapy which makes (one) balanced.'

This typed example goes back to Lebeaux (1984) and his observation that null PRO subjects in equative structures must have the same reference, cf. (17), repeated here as (65).

(65)   Linked PRO reference

    a.   PRO to know him is PRO to love him.   Lebeaux 1984:(17-d)

    b. $\forall x$ [[PRO$_x$ to know him] is [PRO$_x$ to love him]]

Note, however, that the coreferentiality of either PRO or GNO is dependent on a certain spatiotemporal ('situational') unity of the two generalizing clauses. For example, both of the following statements can have an interpretation where the generic subject/object in the first clause does not have to be identical to the generic subject/object in the second clause, in addition to the expected "linked interpretation".

(66)   a.   [PRO respektovat někoho   v Americe] je jako [PRO přehnaně někoho
                respect   someone in America is like   overly   someone
                obdivovat v Česku].
                admire   in Czechia
                'To respect someone in America is like to overly admire someone in Czechia.'

    b.   Terapie, která kdysi uklidňovala__, je terapie, která v dnešní době
                therapy which once calmed   is therapy which in today's time
                pomáhá__ ke splnění životního snu.
                helps   in fulfilling life   dream
                'A therapy which once calmed (one) is a therapy which nowadays helps (one) in fulfilling (one's) life dream.'

It seems that the silent quantifier that Lebeaux and Authier argue for binds not only the individual variable representing the subject/object but also the situation variable, whose exact specification can vary in some contexts. If two contrasting times/places restrict the situation that is being generalized, e.g. *America* versus *Czechia*, or *then* versus *now*, two separate quantifiers are needed, giving us two different generalized situations. These quantifiers then also range over two not necessarily overlapping sets of human individuals in those situations. If the contrasting time/place is not a part of the situation restriction and there is only one type of a (broader) generalized situation, we make do with one quantifier, hence the referential identity of the two PROs/GNO. In the following section, I show how

analyzing the generic quantifier as a dyadic operator which always has a situation variable in its domain allows one to account for the data like those in (66) rather naturally.

2.3.2   GNO are Bound by Dyadic GEN-operator

Even though Authier's insight that GNO are variables bound by an adverb-like operator is valid, this operator cannot be really unselective, as Authier assumes, since it doesn't always bind all unbound variables in a clause. For example, in the famous hurricane-sentence from Carlson 1989, only one of the two available variables can be bound by GEN if we want to capture the ambiguity of this generic statement.

(67)   Typhoons arise in this part of the Pacific.

Reading A: GENx[x are typhoons][x arise in y, y is this part of the Pacific]

i.e. It is generally true about typhoons that they arise in this part of the Pacific.

Reading B: GENx[x is this part of the Pacific][y are typhoons $\wedge$ y arise in x]

i.e. It is generally true about this part of the Pacific that there (some) typhoons arise in it.   Krifka *et al.* 1995:(43)

Even though the ambiguity above might indeed arise from different variables being bound by GEN, it is unclear how to interpret GEN's quantification over a singleton set consisting of this part of the Pacific in Reading B. Krifka *et al.* 1995, nevertheless, use generic quantificiation over individuals standardly.

Stemming from the work of Kamp (1981) and Heim (1982), Krifka *et al.* (1995) concluded that the null generic operator is dyadic in the sense that it takes two formulas as arguments: a restrictive term and a nuclear scope (matrix), just like any other operator (see also Wilkinson 1991 and references therein). Krifka *et al.*'s original notation for generic quantification is in (68), where Q is a quantifier, x_1, ..., x_i are the variables to be bound by Q, and y_1, ..., y_i are the variables to be bound existentially within the nuclear scope. In a formula of the type $\Phi[...x_m...]$, x_m occurs free, and in the formula of the type $\Phi[...\{x\}_m...]$, x_m possibly occurs free.

(68)   Q[x_1, ..., x_i; y_1, ..., y_i] (Restrictor [x_1, ..., x_i]; Matrix[$\{x_1\}$, ..., $\{x_i\}$, y_1, ..., y_i])

An important aspect of GEN is that it does not quantify only over individual variables but also over "reference situations" or "ensembles of cases", to use the terminology of Schubert and Pelletier (1989). The notion of generalized situations, next to generalized individuals, was introduced already in the seminal work of Lawler 1973. For example, the sentence in (69-a) has GEN quantifying over a situation variable s as captured in (69-b). (In this and the following examples, I adhere to a more contemporary notation than the one used in Krifka *et al.* 1995.)

(69)   a.   Mary smokes when she comes home.

       b.   GENx,s[x = Mary ∧ x comes home in s][x smokes in s]

Krifka *et al.* 1995:(53)

Krifka *et al.* (1995) model the situation variable after Kratzer's 1995 spatiotemporal location argument l that is, in Kratzer's view, associated with stage-level predicates and can be bound by quantificational adverbs. In (69-a), the restricting situation is expressed by a *when*-clause, but it is often not specified overtly, as in the following example:

(70)   a.   Mary smokes.

       b.   GENx,s[x = Mary ∧ s is a normal situation wrt. smoking ∧ s contains x][x smokes in s]

Krifka *et al.* 1995:(54)

A similar formalization is offered in Chierchia 1998:366 who employs the variable C with a contextually supplied value to restrict the domain of GEN to appropriate situations and individuals. In contrast to the formulas above, Chierchia does not employ generic binding of definite/specific phrases like *Mary*, whose reference is presumably constant and not dependent on other operators, which makes much more sense.

(71)   GENs[C(Mary, s)][smoke(Mary, s)]

In the cases like this, we can either rely on pragmatics and the notion of "normalcy" or "appropriatness" to derive the restrictor, as in (70-b) or (71), or we can embed this

requirement into the interpretation of GEN itself, such that it takes into account only those situations that are relevant in the given case; see Krifka *et al.* 1995:49-58 for detailing a modal interpretation of GEN that does exactly that.[6]

Krifka *et al.* (1995) and Chierchia (1998) do not explicitly discuss generic sentences with null objects. If we applied their generic operator to capture the meaning of a sentence with GNO, we'd get something like (72-b), where the GNO is interpreted as a variable y bound by GEN, and restricted by the predicate "person".

(72) a. Mozartova hudba rozveseluje___.

'Mozart's music cheers (one) up.'

b. GENx,y,s[R(x, Mozart's music$_s^k$), person$_s$(y), y is listening to x in s][x cheers up y in s]

where s is the situation index, k is a kind, and R is the realization relation which relates kinds to their instances

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[6]These authors also suggest that binding the variable s by GEN essentially corresponds to a sentence being habitual, cf. "habitual sentences express generalizations over situations that are specified by the corresponding episodic verbal predicate" (Krifka *et al.* 1995:32). Soon after, Filip and Carlson 1997 applied this approach in Czech, arguing that all habitually interpreted verbal constructions involve the presence of a generic operator, independent of tense, modality, or aspect, and sometimes marked morphologically on a verb as the suffix *-va*. However, it has been argued in a more recent literature (Rimell 2004, Ferreira 2005, van Geenhoven 2005, Boneh and Doron 2012, Del Prete 2012) that not all cases of habituality can be reduced to the tripartite structure with a quantificational adverb. Specifically, Ferreira 2005 defends the existence of so-called bare habituals which are a result of event pluralization by HAB-operator at the vP-level; where HAB is a plural counterpart to PROG-operator. While PROG is defined on an atomic event, HAB is defined on a sum of events and modeled after the plural definite determiner (see 8.1.1 for more details on the semantics of progressivizing operator). In the similar spirit, Authier (1989:56) argues that one has to distinguish between 'referring to general truths, not restricted temporally', and 'referring to situations recurring customarily'. To support his claim, he gives examples from French where the past tense called *passé composé* allows habitual reading but is incompatible with truths that hold at all times, and therefore also incompatible with GNO.

(i) a. Trop de bruit rend___ sourd.
'Too much noise makes (one) deaf.'
b. *Trop de bruit a rendu___ sourd.
'Too much noise made (one) deaf.'   Authier 1989:(40).

The other French past tense, *imparfait*, allows reference to general truths and can combine with GNO.

(ii) En ce temps-là, la syphilis, pour laquelle aucun traitement n'existait, rendait___ fou.
At that time, syphilis, for which no treatment existed, made (one) insane.   Authier 1989:fn.10

Regardless of whether or not the existence of bare (non-generic) habituals should be acknowledged for Czech, I assume that all sentences with GNO have the tripartite quantificational structure since they involve quantification over individual variables – which is something that Ferreira's habitual operator, quantifying only over event variables, does not allow.

In (72-b), I follow the neo-Carlsonian approach (Carlson 1989, Chierchia 1998, Dayal 2004), in treating bare plurals and mass terms (such as *Mozart's music*) as kind-denoting. When they combine with object-level predicates as in (72-a), the predicates access their instantiation sets via R (R was originally formulated in Carlson 1977 as a realization operator that relates a stage to the object/kind it is a "slice of").

The proposed semantic formalization of GNO has at least two benefits. First, by systematically accounting for the generic interpretation of null objects, it eliminates the need for the feature [+generic], posited somewhat ad hoc by Rizzi (1986). The genericity of GNO follows from the presence of a silent GEN-operator, an operator which would have to be posited anyways, regardless of the existence of GNO, in order to account for the interpretation of overt generically interpreted expressions. Second, by generically quantifying over the situation variable s, it also explains why the sentences with GNO always have generic time reference, why they are always interpreted habitually. This is clearly visible in Czech, where imperfective verbs are in principle ambiguous between an ongoing, progressive-like interpretation, and a habitual interpretation. Thus a sentence like *Karel kouří* 'Charles smokes.IMPF' can mean either 'Charles is smoking' or 'Charles habitually smokes'. But sentences with an imperfective verb and a null generic argument allow only the habitual interpretation:

(73) a. Dobrý policajt   chrání   ___/lidi   před fyzickým i   psychickým
          good   policeman protects.IMPF   people from physical and psychical
          terorem.
          terror
          'A good policeman protects (one)/people from both physical and psychical
          terror.'

      b. Právě teď tam jeden policajt   chrání (*___)/lidi   před partou
          right now there one   policeman protects   people from group
          chuligánů.
          hooligans
          'There is a policeman protecting (*one) / some people from a group of hooligans
          right now.'

What the purely semantic analysis doesn't answer is where the individual variable that gets generically quantified over comes from, why it denotes in the domain of persons only

and whether it can be attested in other syntactic environments where it is not generically quantified. As I show in the next section, the correct understanding of the GNO's syntactic behavior is a key instrument in answering these questions.

2.4   Summary

The second chapter of the dissertation begins with a recapitulation of the most influential article on the syntax of generic null objects, Rizzi 1986, highlighting his view of GNO as null arbitrary pronouns, bearing θ-role, Case, gender, number, and person features. After that, Authier's (1989, 1992) elaboration on Rizzi's theory is presented. On one hand, Authier has a valuable insight regarding GNO's semantic analysis as quantifier-bound variables, on the other, he reestablishes the classification of GNO as pronouns, to conform to the traditional terminology of GB theory. Acquainted with both Rizzi 1986 and Authier 1989, 1992a, Landau 2010 views the distinction between null pronouns and null operator-bound variables as two coexisting ways of deriving null arguments. When it comes to null arguments' syntactic composition, he assumes that they can be classified according to whether they consist of a full or partial set of φ-features and a D-feature. Since GNO participate in reflexive binding and in secondary predication, Landau argues, they should have a full set of nominal features, including the D-projection. This is something I dispute in Chapter 3.

An undeniable contribution of Rizzi's and Authier's papers on GNO is that they put forward a number of constructions that are supposed to verify whether or not GNO are independent syntactic arguments. After listing several naturally occurring examples of GNO in Czech, found on the world wide web, I run Czech GNO through these testing constructions. I demonstrate that GNO in Czech can be controllers of subjects of infinitival clauses, binders of reflexive pronouns, and subjects of obligatorily present small clauses; I also discuss why taking these results as a clear proof of GNO's syntacticity should be taken with caution.

In the next part, 2.3, I reproduce some of Authier's arguments for the bound variable status of GNO on the material of Czech, namely their participation in scope ambiguity and the linked reference of multiple GNOs that share the situation index. I combine the gained insight with Krifka *et al.*'s (1995) general theory of generic expressions as introducing

variables that are bound by a covert generic quantifier GEN (which also always binds the situation variable). I argue that GNO belong among these expressions, and that they also introduce the property Person, restricting the GEN-bound individual variable.

Chapter 3

GNO's Syntactic Features

3.1 Gender

In this section, I first give a set of examples suggesting that GNO can be marked for different gender values, where the value is either determined referentially from the context, or the semantic default (masculine) is resorted to. Afterwards, I detect a group of Czech human-denoting overt nominals whose gender is assigned in exactly the same way; they are nouns derived by nominalizing suffixes, typically describing professions or personal characteristics. I propose that GNO, just like these nouns, have an n-head bearing a gender feature that is interpretable at LF, and in (87), I provide its formalization.

3.1.1 GNO's Masculinity as Semantic Default

In sentences where GNO function as controllers or A-binders, we can see the GNO's gender reflected on regular adjectives predicated of GNO (directly or via PRO, see the discussion in 2.2.4), as in (74), and on the reflexive *sebe sám/samý* 'self alone' bound by GNO within the same clause, as in (75), or within an embedded non-finite clause, as in (76).

(74)   Takováhle zkušenost naučí___$_i$ [(PRO$_i$) zůstat klidn-ý/$^{C\#}$klidn-á].
        such   experience teaches   stay   calm-NOM.SG.M/calm-NOM.SG.F
        'Such experience teaches (one) to stay calm.'

(75)   Je zřejmé, že   ani ti nejlepší   bodyguardi ne-ochrání___$_i$ před
        is obvious that neither the best bodyguards not-protect.PF from
        sebou$_i$ sam-ým   / $^{C\#}$sebou$_i$ sam-ou.
        self alone-INST.SG.M / self alone-INST.SG.F
        'Not even the best bodyguards protect (one) from oneself.'

(76)   Kázání   toho mnicha přimějí___ᵢ [PROᵢ uvidět sebeᵢ sam-a   /
       preaching that monk   urge   see   self alone-ACC.SG.M /
       ᶜ#sebeᵢ sam-u   v pravém světle].
       self alone-ACC.SG.F in right   light
       'Preaching of that monk urges (one) to see oneself truthfully.'

Recall that the reflexive pronoun *sebe* 'self' itself is not overtly marked for gender and number – its forms are homophonous for singular and plural and for all genders in each case. What allows us to determine the gender and number values of the reflexive pronoun is the intensifying adjective *samý* 'alone' (or its nominalized adjectival form *sám*) which is in concord with *sebe* and which *is* overtly marked for gender and number. (Only the singular form of *samý/sám* can be used to determine the gender value. Like all adjectives in Czech, it is homophonous across all three genders in plural in all morphological cases except nominative).

The examples above show that adjectives predicated of GNO, including the "reflexive adjectives" *sám/samý*, can always have masculine gender in Czech, which is semantically and pragmatically neutral in the sense that it allows GNO refer to both male and female entities. However, feminine gender is not completely ruled out either. In contexts where the generalization is meant to apply exclusively to women, the adjective predicated of the GNO can be marked feminine – while masculine is also still possible. I mark this by the superscript "C#". For example, (75) with feminine gender on *samý* could be pronounced by a reporter after he or she witnesses a suicide of a famous female star and wants to generalize the observation about the helplessness of her bodyguards to other women; (76) with the feminine gender on *sám* could be pronounced by a woman who has the first-hand experience with the meditations and who is generalizing it to other women.[7]

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[7]Czech has a three-way gender system, with masculine, feminine and neuter gender values. I do not consider adjectives with neuter endings in the discussion to follow, but in a (highly uncommon) context where the generalization was meant to apply to a group of human-like entities whose names have neuter gender, typically some personified animal offsprings, neuter agreement would be allowed as well, alongside the pragmatically unmarked masculine gender:

(i)   Já jsem malé prasátk-o   a   říkám vám, že   taková zkušenost naučí___ᵢ [PROᵢ zůstat za
      I am little piglet-NOM.SG.N and say you that such experience teaches   stay in
      všech okolností   klidn-ý/klidn-é].
      all   circumstances calm-NOM.SG.M/calm-NOM.SG.N
      'I'm a little piglet and I'm telling you that such experience teaches (one) to stay calm under any circumstance.'

If we set up the context and the content of the sentence such that the generalization applies to female beings only, because of the way our world works, the contextual markedness of feminine gender goes away.

(77) Náš nový lak   na nehty učí___ᵢ [PROᵢ vážit si sebeᵢ sam-ého   /
      our new polish for nails teaches   esteem self alone-GEN.SG.M /
      sebeᵢ sam-é].
      self alone-GEN.SG.F
      'Our new nail polish teaches (one) to respect oneself.'

If GNO are replaced by overt generically interpreted nouns in the examples above, the gender on the adjective has to agree with the grammatical gender of the noun, as in (78).

(78) Taková zkušenost naučí   člověkaᵢ   [PROᵢ zůstat
      such   experience teaches human.ACC.SG.M   stay
      klidn-ý/*klidn-á].
      calm-NOM.SG.M/calm-NOM.SG.F
      'Such experience teaches one to stay calm.'

And also:

(79) Náš nový lak   na nehty učí   člověkaᵢ   [PROᵢ vážit si
      our new polish for nails teaches human.ACC.SG.M   esteem
      sebeᵢ sam-ého   / *sebeᵢ sam-é].
      self alone-GEN.SG.M / self alone-GEN.SG.F
      'Our new nail polish teaches one to respect oneself.'

As a first approximation, we might say that GNO exhibit so-called natural gender, in which the grammatical gender of an expression corresponds to the biological gender of its referent. Wechsler and Zlatić (2000:803) describe natural gender as the situation in which the gender features "correlate directly with referential anchoring conditions". For example, any time a noun *boy* is used referentially, it must not only be anchored to a young male human, but its index has to have the feature [Gender:Masc], which forces all other elements that share its index, such as bound pronouns, to have the masculine form as well (cf. *The boy absented himself/*herself*; see also Percus 2011). According to Alexiadou (2004), the distinction between nouns with inherently specified gender (denoting both humans and non-humans) and nouns with gender reflecting the biological sex is present in every language with a

grammatical gender system. Alexiadou explicates it in more detail on the gender systems of Italian, Spanish, Greek and Hebrew; Wechsler and Zlatić (2003) draw attention to the parallel distinction in Serbo-Croatian where they describe it as the opposition of lexical (intrinsic) versus semantic (sex-based) gender. Consequently, the terms 'natural gender' or 'semantic gender' are used for a rather broad range of phenomena. In the following section, I explore to what extent natural gender is grammaticalized in the Czech nominal system and whether we can find any parallels with the way gender is assigned in the case of GNO.

3.1.2 Relation to Gender Marking of Czech Nouns

Traditionally, gender had been understood as an intrinsic feature of nouns which is associated with them in the lexicon (Corbett 1991, Harris 1991), even though there were also authors like Picallo (1991), who assigned gender its own functional projection. Here I adopt a more recent view of gender features which locates them in the categorizing 'little n' head (Ferrari 2005, Kihm 2005, Lowenstamm 2008, Kramer 2009, 2014). This gives gender features an important role as markers of nominality in those languages where gender is morphologically marked; see Lowenstamm 2008 for the claim that n "is" gender, i.e. it spells out as gender in French.

In Czech, two main groups of nouns can be distinguished with respect to their gender; I call them 'root nouns' and 'derived nouns'. Root nouns consist of a root and an inflectional ending and the value of their gender is idiosyncratic. Only if the lexical semantics of their root itself entails masculinity/femininity, the resulting noun has the grammatical gender that corresponds to the biological (or social) gender referred to in the root. To give the most basic example, a noun for 'man' is masculine, a noun for 'woman' is feminine; see Percus 2011 for giving a presuppositional account of these types of nouns. There are some notable exceptions, such as the name for 'girl' which is feminine (*dívka*) or neuter (*děvče*). Even though some grammatical endings tend to appear on nouns with certain gender (zero ending in masculine nouns, -*a* in feminine nouns, and -*o* in neuter nouns, cf. (80-a)), there are plentiful exceptions to this tendency, cf. (80-b), suggesting that the information about the gender of a particular root noun has to be memorized.

(80) a. muž-∅   – žen-a   – měst-o
          man-NOM.SG.MASC – woman-NOM.SG.FEM – town-NOM.SG.NEUT
          'a man' – 'a woman' – 'a town'

      b. píseň-∅   – starost-a   – Ott-o
          song-NOM.SG.FEM – mayor-NOM.SG.MASC – Otto-NOM.SG.MASC
          'a song' – 'a mayor' – 'Otto (name)'

Other endings can be found across all three genders. For example, a root noun with the inflectional ending -e can be either masculine or feminine or neuter, depending on the root itself.

(81) moř-e   – růž-e   – hrab-ě
      sea-NOM.SG.N – rose-NOM.SG.F – earl-NOM.SG.M
      'a sea' – 'a rose' – 'an earl'

The exact mechanism of gender assignment for these nouns is still a subject of discussion. Embick (2000) and Embick and Noyer (2007) postulate that roots can be equipped with selectional features/class diacritics that ensure their insertion in the appropriate syntactic environment (but see Acquaviva 2009 for an opposing view). My hypothesis is that the vocabulary items for these roots span both the root and the n-head with an already valued gender feature, so their gender value is in a sense idiomatized.

Importantly, it is the derived nouns that are of a primary concern here. These nouns are characterized by an overt nominalizing suffix which unambiguously determines their grammatical gender. The suffix attaches to a root or to another derivational suffix and it consists of a derivational suffix proper and of an inflectional ending (including the zero ending). For example, nouns with the suffix -dl-o are always neuter, nouns with the suffix -ost-∅ are always feminine.

(82) mý-dl-o   – hloup-ost-∅
      wash-DL-NOM.SG.N – dull-OST-NOM.SG.F
      'a soap' – 'dullness'

Within the broad class of suffixally derived nominals, there are numerous nouns denoting in the human domain only, typically names of professions or names of people with a certain characteristic property. They are based on roots that do not entail masculinity/femininity

lexically, just like they do not entail humanness. The roots of these nouns could be often embedded within a verbal or an adjectival structure as well. The nouns are formed by suffixes such as *-tel-∅*, *-ař-∅*, *-ič-∅*, *-ák-∅*, *-ant-∅*, which make them grammatically masculine while denoting both men and women. However, a feminine suffix (especially *-k-a*) can be always attached to these nouns, in which case they denote exclusively women.

(83)   a.   uči-tel-∅   – uči-tel-k-a
               teach-er-NOM.SG.M – teach-er-K-NOM.SG.F
               'a teacher' – 'a female teacher'

       b.   stav-ař-∅   – stav-ař-k-a
               build-er-NOM.SG.M – build-er-K-NOM.SG.F
               'a builder' – 'a female builder'

       c.   top-ič-∅   – top-ič-k-a
               heat-er-NOM.SG.M – heat-er-K-NOM.SG.F
               'a stoker' – 'a female stoker'

       d.   chytr-ák-∅   – chytr-ač-k-a
               smart-AK-NOM.SG.M – smart-AK-K-NOM.SG.F
               'a smart man/person' – 'a smart woman'

       e.   muzik-ant-∅   – muzik-ant-k-a
               music-ian-NOM.SG.M – music-ian-K-NOM.SG.F
               'a musician' – 'a female musician'

       f.   lingv-ist-a   – lingv-ist-k-a
               lingu-ist-NOM.SG.M – lingu-ist-K-NOM.SG.F
               'a linguist' – 'a female linguist'

The parallelism between the nouns above and GNO is obvious. Just like GNO, these nouns have a semantically neutral version, which denotes in the domain of human entities regardless of their biological gender, and which gives rise to masculine grammatical agreement. And they also have a semantically marked version, which can refer only to female human-like entities and which is the source of feminine agreement markers.

My assumption is that the nominalizing suffixes of the nouns in (83) spell-out their n-node and that they bear an interpretable version of gender feature (iGender). If the value of this feature is specified as [Masc], the noun is grammatically masculine and it can refer to both masculine and feminine individuals; if it is specified as [Fem], the noun s grammatically feminine and it denotes feminine entities only (see Percus 2011:179 for suggesting a concrete syntactic and semantic mechanism in which the combination of the feminine suffix with the

rest of the structure is achieved).

It should be noted that the presence of the interpretable gender feature on a suffix, not a particular morphological form of a suffix, brings about the noun's denotation in the human domain. Except for *-ař*, the suffixes above can be used to derive names of non-human entities as well. I assume that in those cases, they bear the uninterpretable version of gender feature. (Kramer (2009, 2014) argues that both types of gender features, interpretable and uninterpretable ones, can be present in a single language.) If the femininizing suffix can be attached to these derived non-human-denoting nouns, it does not denote a female counterpart but simply a different object, as e.g. in (84-a) or (84-c).

(84)   a.   chrán-ič-∅   – chrán-ič-k-a
              protect-or-NOM.SG.M – protect-or-K-NOM.SG.F
              'any protective tool' – 'a cable protector'

        b.   hlás-ič-∅   – *hlás-ič-k-a
              announce-IC-NOM.SG.M – announce-IC-K-NOM.SG.F
              'a call-box'

        c.   na-běr-ák-∅   – naběr-ač-k-a
              on-gather-AK-NOM.SG.M – on-gather-AK-K-NOM.SG.F
              'a gathering tool' – 'a soup scoop'

        d.   lubrik-ant-∅   – *lubrik-ant-k-a
              lubric-ant-NOM.SG.M – lubric-ant-K-NOM.SG.F
              'a lubricant'

As expected for the first syntactic phase, the relation between roots and derivational suffixes exhibits a great degree of idiosyncrasy – particular roots merge with a particular suffix or suffixes, and as a result, they can be embedded only within nPs with a certain gender value.[8] However, there is one regularity: if a root merges with an n bearing an interpretable

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[8]The suffix *-tel* is somewhat special among nominal derivational suffixes as it always attaches to a verbal stem rather than just to the root, and it always derives a human-denoting agentive noun and only rarely a non-human denoting object as well.

(i)   ukaza-tel-∅   – ukaza-tel-k-a
       show-TEL-NOM.SG.M – show-TEL-K-NOM.SG.F
       'a sign / a person who shows directions' – '#a sign / a lady who shows directions'

-Tel suffix is also much more productive than all other suffixes mentioned here. This is not unexpected since only the first syntactic phase, up to the first categorizing node is argued to be necessarily idiomatic, due to the semantic deficiency of the root (Marantz 2001, 2007, Panagiotidis 2011). If *-tel* must attach after the verbalizing v-head, where stem suffixes are presumably generated, it is bound to behave more regularly.

gender feature, it can be always specified as both grammatically masculine or grammatically feminine.

It is important to keep in mind that not all human-denoting nouns bear iGender. Root nouns that denote into the domain of humans do so because of their lexical/conceptual semantics, not because of the presence of the nominalizing suffix with a particular gender value. As expected, such nouns do not allow a regular formation of feminine counterparts and their semantically neutral value can be grammatically masculine or grammatically feminine. For example, the root noun for *host* 'guest' (85-a) can denote both male and female guests, but it does not allow the formation of a feminine counterpart. *Osoba* 'person', on the other hand, is a grammatically feminine noun which refers to both males and females; it does not have a masculine counterpart, cf. (85-b).

(85)   a.   host-∅   – *host-k-a
            guest-NOM.SG.M – guest-K-NOM.SG.F
            'a guest' – 'a female guest'

       b.   *osob-∅   – osob-a
            person-NOM.SG.M – guest-NOM.SG.F
            'a person' – 'a person'

3.1.3   Interpretability of GNO's Gender and the Issue of Humanness

The data in the previous section reveal that GNO are not unique in their gender-related behavior and that there is in fact a group of overt nouns in Czech, namely nouns derived from category-neutral roots by nominalizing suffixes bearing an interpretable gender feature, that have exactly the same behavior: their unmarked form is masculine and it can refer to persons without distinguishing their biological gender, but they can be also marked as feminine, in which case they refer to female persons only. The only difference between these overt nouns and GNO is that GNO's n-head or "nominalizing suffix" is not overt, presumably because there is no (overt) root that it would attach to.

There are at least two ways to capture the interpretable gender feature on n. If we analyzed it as a binary feature, the semantically unmarked, masculine form would be [iGender: –Fem] and the marked form would be [iGender: +Fem]. In the hierarchical feature geometry system (Harley and Ritter 2002, a.o.), [iGender: Masc] could be viewed as

the unmarked node with no dependent, receiving the default interpretation and morphologically expressed as masculine; [iGender: Fem] would be treated as its dependent, daughter node, as expressed in (86).[9]

(86)   iGender
            |
         (Fem)
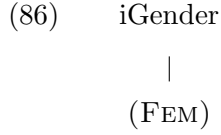
The semantics of an n-node bearing one of the interpretable gender features (and no other interpretable features) could be formalized as in (87). Note that this denotation fits into the generally accepted view of bare nPs (formerly NPs) as property-denoting (Abney 1987, Borer 2005a, Dayal 2011a, a.o.). For simplicity, I label the interpretable gender values as [iMasc] and [iFem]. It allows me to remain neutral as to whether a binary or a privative feature system is theoretically superior. In the privative system, [iMasc] would be restated as [iGender]; in the binary system, it would correspond to [iGender: –Fem].[10]

(87)   a. $[\![iMasc]\!] = \lambda x \lambda s[persona(x,s)]$

        b. $[\![iFem]\!] = \lambda x \lambda s[female\_persona(x,s)] = \lambda x \lambda s[female(x,s) \wedge persona(x,s)]$

Let me note though that the fact that nouns with [iFem] are always created by adding a

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[9]The semantic unmarkedness of masculine gender has to be distinguished from grammatical/morphological defaultness, cf. Sauerland 2008. Morphologically default gender in Czech is neuter, which arises if there is no gender specification at all, as e.g. in the case of impersonal passives (i) or loanwords into Czech with uncommon endings which cannot fit into the Czech declension system (ii).

(i)   Impersonal passive in Czech

       a.   pro Prše-l-o.
             rain-PAST-3SG.N
             'It rained.'
       b.   pro Tancova-l-o   se   tam.
             danced-PAST-3SG.N REFL there
             'There was dancing.' (i.e. They danced there.)
       c.   pro Je vyhrán-o.
                 is won-3SG.N.PAST
             'It is won.' (i.e. We won.)

(ii)   fópa   – nou-hau   – negližé   – šodó
       faux-pas.NOM.SG.N – know-how.NOM.SG.N – negligee.NOM.SG.N – chaudeau.NOM.SG.N

[10]I use the word 'persona' instead of 'person' in the semantic specification below to avoid the confusion with the grammatical category of person but also to accentuate the non-synonymity of this term and the term 'human', which is one of the senses in which the word 'person' is often used in English; see below.

morpheme to the form with [iMasc] intuitively supports the privative approach. The same holds for their conjunctive semantics, which makes female personas a subset of the set of all personas.

It follows from (87) that the interpretable gender feature on n reflects the noun's membership in the class of person-denoting names but not in a conceptually broader class of names of entities distinguishing biological gender. This is corroborated by the fact that the the names of animals are not usually derived by nominalizing suffixes; rather, they are root nouns, showing a high degree of idiosyncracy when it comes to their grammatical gender value. Even though they often have one semantically default version which refers to the representatives of a given species regardless of their biological gender, this default can be grammatically feminine (as for foxes) or masculine (as for dogs).

(88) a. liš-ák-∅   – liš-k-a
          fox-AK-NOM.SG.M – fox-K-NOM.SG.F
          'a male fox' – 'a fox, a female fox'

      b. pes-∅   – ps-ic-e   / fena
          dog-NOM.SG.M – dog-IC-NOM.SG.F   brach
          'a dog, a male dog' – 'a female dog'

At the same time, due to the semantics of iGender being defined as the property of personhood, the nouns with iGender feature subsume a broader class of entities than just people or human beings in the biological sense of the word. This is a welcome result. For example, the derived noun *dobyva-tel* 'conquer-or' can refer to an extraterrestrial being that has some human-like properties and that is perceived as a persona, though it does not belong to the class of humans. Correspondingly, the female counterpart *dobyva-tel-k-a* denotes conquerors who have features of female personas, but who do not necessarily have to be perceived as human. It is enough that they are perceived as sufficiently human-like, which is exactly what the property 'persona' aims to capture.

In some contexts, the persona-denoting nouns can be predicated of animals as well, cf.

(89)   Tenhle pták je velký dobyva-tel.
        this   bird is big   conquer-or
        'This bird is a big conqueror.'

Tellingly, these are the statements where animals are being anthropomorphized and perceived as if they were personas, just like in the upcoming statement with GNO applying to cats listening to Mozart's music in (93).

The assumption that GNO have an n-node with iGender feature in their structure has an important theoretical advantage over Rizzi's 1986 proposal about GNO as pro$_{arb}$ with the semantic feature [+human]. The disputableness of [+human] feature is a recurring subtopic in the linguistic literature, see Haegeman 1987:238 who considers it to be "suspicious", given that the features should encode syntactically determined constraints that "have some independent status in the syntax". For example, humanness is not reflected as a feature in any sort of agreement, at least not in the languages like English or Czech (note that humanness has to be distinguished from animacy, which *is* reflected in Czech agreement morphology as a subcategory of masculine gender). In the present proposal, the fact that GNO denote human (and human-like) beings does not have to be stipulated as a separate feature because it follows from the interpretation of their gender feature.[11] Recall that in the semantic representation of sentences with GNO, such as the one given in (72-b), the only descriptive content contributed by the null object was the property 'person', restricting the generically quantified object variable. This arbitrarily posited property can now be reconceived as the meaning of an n-head with valued iGender. In (87), I concluded that it is precisely the property of being "persona" for [iGender:Masc], and the property of being "female persona" for [iGender:Fem].

Another advantage of deriving the semantic content of GNO from their interpretable gender feature is that it opens the door to including personified entities and other human-like creatures in their denotation. They are the entities which we also perceive as "persona" (with possible masculine or feminine characteristics), but which we hesitate to label as members of the human kind, i.e. as [+human].[12] For example, in the hypothetical context

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[11]Both Authier (1989, 1992a) and Landau (2010) gloss over GNO's humanness and simply take it as a fact so Rizzi (1986) is the only scholar having any proposal related to this issue in the GNO literature.

[12]Interestingly enough, the parallel observation was made by Safir (2000:10) for generic *one* in English and it was extended by Moltmann (2006:259) to arbitrary PRO – even though both of these are traditionally associated with [+human] feature as well.

(i)   A Martian at a conference of extra-terrestrials: Fortunately, one is not susceptible to human disease.
                                                                                                Safir 2000:(24)

where someone is asked to make a report on the effects of Mozart's music on various beings on different planets, the sentence such as (90) is perfectly acceptable.

(90) Zjistili jsme, že   Mozartova hudba dokáže rozveselit___ i na planetách, kam se
      found out   that Mozart's   music can   cheer up.PF even on planets where
      lidé   nikdy ne-dostanou a   které obývají pouze mimozemšťané.
      people never not-enter   and which inhabit only   extraterrestrials
      'We found out that Mozart's music can cheer (one) up also on the planets which

      people never enter and which are inhabited solely by extraterrestrials.'

The parallel sentence expressed in a situation with no personifiable object in (91) is not pragmatically felicitous:

(91) #Zjistili jsme, že   Mozartova hudba dokáže rozveselit___ i na planetách, kam se
      found out   that Mozart's   music can   cheer up.PF even on planets where
      lidé   nikdy ne-dostanou a   kde   ne-jsou žádná živá stvoření.
      people never not-enter   and where not-are any   live creatures
      'We found out that Mozart's music can cheer (one) up also on the planets which

      people never enter and where there are no live creatures.'

That GNO are not limited to humans is confirmed also by fairy-tale and fantasy-world scenarios, where non-human entities behave like persons. For example, it is completely acceptable for Pooh to make a generalized statement towards Eeyore who is sad:

(92) Poslechni si Mozartovu hudbu, ta rozveseluje___.
      Listen   Mozart's   music it cheers up.IMPF
      'Listen to Mozart's music, it cheers (one) up.'

In the same fashion, animals, and pets especially, are sometimes viewed as if they had human-like properties, as if they were their own personas. In those situations, they might be subsumed in the group of entities referred to by GNO as well. For example, a cat lover might say:

(ii)   a.   PRO$_{arb}$ To be a Martian means that one is not susceptible to human disease.
       b.   PRO$_{arb}$ To be an angel means PRO$_{arb}$ to be neither human nor divine.

Moltmann 2006:fn.5

(93)   Pouštím svým kočkám Mozartovu hudbu, protože uklidňuje___.
       play   my   cats   Mozart's   music because calms down.IMPF
       'I play my cats Mozart's music because it calms (one) down.'

Note, however, that the cats have to be mentioned explicitly in (93). Out of the blue, the generic statement about calming effects of Mozart's music is not understood as applying to cats or any other animals.

Overall, the examples gathered in this section confirm that the scope of GNO is much broader than simply the set of human beings. Even though the concept of personhood that I am relying on here would deserve some refinement from the conceptual-intentional perspective, it is clearly more faithful to GNO's interpretive properties than the concept of humanness. (For example, it would be interesting to discuss the relation between being 'persona' and being a 'conscious agent' or being 'persona' and having reason and will.) Moreover, it provides a connection between GNO's semantics and their gender feature, which represents the grammatical counterpart of personhood. An independent support for this treatment of gender feature on n comes from the existence of Czech overt nouns, discussed in 3.1.2, whose gender makes the same semantic contribution as in the case of GNO.

3.2   Number

In this section devoted to the number feature, I first guide the reader through somewhat complicated data on possible overt reflexes of GNO's number, concluding that GNO are deprived of this feature/projection altogether. Then I add into the picture the role of PRO controlled by GNO, which has many similarities with the so-called arbitrary PRO, and I show how its presence in the sentence can explain the grammaticality of plural marking on GNO-modifying adjectives. Finally, I relate the absence of a number projection in GNO's syntactic structure to its inability to receive case.

3.2.1   GNO – neither Singular, nor Plural

In terms of Chomsky's (1995:235-241) division between intrinsic and optional features, number belongs to the latter group. Different values of this feature are not tied to a particular

root or a derivational suffix, in contrast to different values of gender, but they can freely combine with nouns of various types. Even mass nouns which are typical 'singularia tantum' can almost always appear in plural in Czech, either with the meaning 'certain prototypical amounts of' or 'types of'.

(94)   a.   Mám   rád piv-o.
                have.1SG glad beer-ACC.SG.NEUT
                'I like beer.'

        b.   Koupím tři   piv-a.
                buy.1SG three beer-ACC.PL.NEUT
                'I'll buy three glasses of beer.'

        c.   Měli   jenom tři   piv-a.
                had.3PL just   three beer-ACC.PL.NEUT
                'They had only three types of beer.'

The only class of nouns that are not compatible with both number values in Czech are 'pluralia tantum', nouns that have only the plural form because they describe things that come only in pluralities, including pairs, e.g. *prázdniny* 'holidays', *nůžky* 'scissors', *oblaka* 'clouds'.

    The data on number specification of GNO as reflected on agreement markers are much more blurred than the data on gender discussed in the previous section, with the degree of acceptability often varying for different speakers and in different contexts. In general, reflexives bound by GNO within the same clause as well as adjectives predicated of GNO have a strong preference for the singular ending.[13]

(95)   Ani   nejlepší ochrank-a   ne-ochrání___$_i$ před sebou$_i$ samý-m   /
        neither best   security-NOM.SG.F not-protects   before self alone-INST.SG.M /
        $^{??}$sebou$_i$ samým-i.
        self alone-INST.PL
        'Not even the best security guard protects (one) from oneself.'

(96)   Tahle speciální meditac-e   usmiřuje___$_i$ se   sebou$_i$ samý-m   /
        this   special   meditation-NOM.SG.F reconciles   with self alone-INST.SG.M /
        $^{?/??}$sebou$_i$ samý-mi.
        self alone-INST.PL

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[13]Since plural adjectival forms are homophonous for masculine and feminine gender in all but nominative case in Czech, gender specification is omitted for adjectives in plural in the examples below because there is no way to determine it.

'This special meditation reconciles (one) with oneself.'

(97) Každá přežitá   nehoda dělá___ ostražitější-m   / ??/*ostražitější-mi.
      every survived accident makes more alert-INST.PL.M / more alert-INST.PL
      'Each survived accident makes (one) more alert.'

Interestingly, reflexives bound by or adjectives predicated of GNO via a PRO (controlled by the GNO) are more generous in allowing plural endings next to the singular ones.

(98) Nepříznivé okolnosti   mohou někdy   svádět___$_i$ [PRO$_i$
      unfavorable circumstances.NOM.PL.F can   sometimes tempt.IMPF
      ne-brat ohled na ostatní a PRO$_i$ starat se jenom o   sebe$_i$ sam-ého   /
      not-take regard for others and   care.REFL only   about self alone-ACC.SG.M
      sebe$_i$ sam-é].
      self alone-ACC.PL
      'Unfavorable circumstances sometimes tempt (one) not to consider others and care

      only about oneself/ourselves.'

(99) Kázání   toho mnicha přimějí___$_i$ [PRO$_i$ uvidět sebe$_i$ sam-a   /
      preaching that monk   urge   see   self alone-ACC.SG.M /
      sebe$_i$ sam-é   v pravém světle].
      self alone-ACC.PL in right   light
      'Preaching of that monk urges (one) to see oneself/ourselves truthfully.'

(100) Zkušenosti profesionálních trenérů učí___$_i$ [PRO$_i$ zůstat při   setkání s
      experiences professional   trainers teach   stay   during meeting wild
      divokým zvířetem   klidn-ý/klidn-í, ať se děje cokoli].
      animal calm-NOM.SG.M/calm-NOM.PL.M no matter what
      'The experience of professional trainers teaches (one) to stay calm when meeting

      a wild animal, no matter what.'

The use of the singular versus plural form in the examples above is not associated with a major difference meaning. This is the case for overt generically quantified objects as well, as shown in (101).

(101) Současný systém student-a   / student-y   zotročuje.
      current   system student-ACC.SG.M / student-ACC.PL.M enslaves.
      'Students are/the student is enslaved by the current system.'

I assume that the plural noun in (101) is interpreted as a generically quantified kind-denoting bare plural; the shift from kinds to properties is enabled by accessing the kind's instantiation set (Chierchia 1998, Dayal 2004), (cf. (72-b)). I also adopt Dayal's insight, going back to Jespersen 1927, that singular kind terms range over entities in the taxonomic domain, over a species/kind as a whole (and not over its individual instantiations in different worlds/situations). As a result, they are not transparent with respect to their instantiation sets, so generic quantification can be derived only on the basis of the properties of something like a representative, prototypical object, having the properties that we associate with the species itself (Dayal 2004:431-3).

In the same vein, all of the sentences in (95) through (97) could take an overt singular or an overt plural generic object with no difference in grammatical acceptability and with roughly identical meaning:

(102)   Ani   nejlepší ochrank-a   ne-ochrání člověk-a$_i$ před
        neither best   security-NOM.SG.F not-protects human-ACC.SG before
        sebou$_i$ samý-m   / lid-i$_i$ před   sebou$_i$ samým-i.
        self alone-INST.SG.M / people-ACC.PL before self alone-INST.PL
        'Not even the best security guard protects one/people from oneself/themselves.'

(103)   Tahle speciální meditac-e   usmiřuje člověk-a$_i$ se
        this   special   meditation-NOM.SG.F reconciles human-ACC.SG with
        sebou$_i$ samý-m   / lid-i$_i$ se   sebou$_i$ samý-mi.
        self alone-INST.SG.M / people-ACC.PL with self alone-INST.PL
        'This special meditation reconciles one/people with oneself/themselves.'

(104)   Každá přežitá nehoda dělá člověk-a   ostražitější-m   /
        each   survived accident makes human-ACC.SG more alert-INST.PL.M /
        lid-i   ostražitější-mi.
        people-ACC.PL more alert-INST.PL
        'Each survived accident makes one/people more alert.'

The issue is why the plural form is degraded for GNO in (95), (96), and (97), when it is equally acceptable for overt generic objects in the same position. We cannot simply say that GNO is marked as singular because there are several arguments against such a claim. First of all, there would be no way to account for the data in (98), (99), and (100) where agreement markers show that both singular and plural number are acceptable. In these sentences, PRO is exhaustively controlled by GNO which means it has to agree with GNO

in number and gender – the value of which is then overtly reflected on the adjectives agreeing with the controlled PRO. If GNO were singular, the plural forms of these adjectives should be ungrammatical, which they are not. Compare the following corresponding sentences but this time having an overt singular controller:

(105) Nepříznivé okolnosti   mohou někdy   člověka$_i$ svádět
       unfavorable circumstances.NOM.PL.F can   sometimes human.ACC tempt.IMPF
       [PRO$_i$ ne-brat ohled na ostatní a   PRO$_i$ starat se jenom o
               not-take regard for others and   care.REFL only about
       sebe$_i$ sam-ého   / *sebe$_i$ sam-é].
       self alone-ACC.SG.M   self alone-ACC.PL
       'Unfavorable circumstances sometimes tempt a person not to consider others and

       care only about oneself/ourselves.'

(106) Kázání   toho mnicha přimějí člověka$_i$ [PRO$_i$ uvidět sebe$_i$ sam-a   /
       preaching that monk urge   human.ACC   see   self alone-ACC.SG.M /
       *sebe$_i$ sam-é   v pravém světle].
       self alone-ACC.PL in right   light
       'Preaching of that monk urges a person to see oneself/ourselves truthfully.'

(107) Zkušenosti profesionálních trenérů člověka$_i$ učí [PRO$_i$ zůstat při
       experiences professional   trainers human.ACC teach   stay   during
       setkání s divokým zvířetem klidn-ý/*klidn-í,   ať se děje cokoli].
       meeting with wild animal   calm-NOM.SG.M/calm-NOM.PL.M no matter what
       'The experience of professional trainers teach a person to stay calm when meeting

       a wild animal, no matter what.'

Another argument against analyzing GNO as singular comes from the constructions with reciprocals that require a plural direct object. For example, in (108), the structure with GNO is grammatical.

(108) Tenhle druh propagandy umí jenom děsit__ a znesvářovat__$_i$ navzájem mezi
       this   sort propaganda can just   scare   and disunite   mutually among
       sebou$_i$.
       selves
       'This sort of propaganda can just scare and disunite (ones) among themselves.'

Such a structure would not be grammatical with an overt singular generic noun *člověk* but would require a noun in plural.

(109) Tenhle druh propagandy umí jenom děsit__ a   znesvářovat
       this   sort propaganda can just   scare   and disunite
       *člověk-a$_i$/lid-i$_i$ navzájem mezi   sebou$_i$.
       human-ACC.SG/people-ACC.PL mutually among selves
       'This sort of propaganda can just scare and disunite one/people among themsel-

       ves.'

In the parallel fashion, when the controlled predicate requires a plural subject, a GNO is a

perfectly acceptable controller where a singular noun would not be.

(110) Naše metoda učí__$_i$ hlavně [PRO$_i$ komunikovat v práci mezi   sebou$_i$
       our method teaches mainly   communicate at work between selves
       navzájem].
       mutually
       'Our method teaches people to communicate at work among themselves.'

(111) Naše metoda učí $^{??}$člověk-a$_i$/lid-i$_i$ hlavně [PRO$_i$ komunikovat
       our method teaches human-ACC.SG/people-ACC.PL mainly   communicate
       v práci mezi   sebou$_i$ navzájem].
       at work between selves mutually
       'Our method teaches one/people to communicate at work among themselves.'

It also turns that the predicates whose semantics requires a plural or a collective theme can

combine with GNO without problems.

(112) a. Společné nebezpečí spojuje__ (dohromady).
           collective danger   unites   together
           'A collective danger unites (one/ones) (together).'

       b. Společné nebezpečí spojuje národ/lidi   (dohromady).
           collective danger   unites nation.ACC.SG.M/people.ACC.PL together
           'A collective danger unites the nation/people (together).'

The data presented in this section point towards the following generalizations: First, GNO

cannot be specified for singular and plural number values as overt countable nouns are. If

they were, we would expect both number values to be equally acceptable in the contexts

such as those in (95) through (97), where overt generic nouns can be either singular or

plural, as shown in (102) through (104). Second, GNO cannot be assigned one number

value (presumably singular) as a default, as mass nouns are; compare Chierchia (2010:136),

who assumes that mass nouns in English "receive a semantically void, 'default' singular

morphological marking" since the semantic function associated with singular and plural number marking, checking the atomicity of a property denoted by nP, is not applicable to them. If GNO behaved like mass nouns in this respect, they would lead to the appearance of the default, singular number on all elements agreeing with the GNO, contrary to the data presented in (98), (99), and (100), and to the ill-formedness of sentences which require grammatically plural objects, such as the one in (108) or (110).

The explanation for these generalizations that I propose is that GNO in Czech do not have the category of number at all; they do not project NumP where number value is specified. (That number features are generated in a separate functional projection has been proposed by many authors; see Ritter 1991, Carstens 1991, Panagiotidis 2000, Borer 2005a.) This structural reduction allows GNO to avoid explicit marking of the (already slight) semantic distinction between singular and plural generically interpreted objects, described in relation to (101), and to receive its generic interpretation from the direct GEN-quantification of a variable introduced by a property-denoting n, as captured in (72-b).

If GNO are numberless, we expect the number-marked adjectives agreeing with GNO to bear the morphologically default number, which is singular in Czech (cf. the impersonal passive sentences in 3.1.3). I suppose that this is the reason why singular number marking prevails in the examples like (95) through (97). However, some sort of semantic/pragmatic agreement seems to be at play as well, which is why the plural marking is not completely ruled out either. Wechsler and Zlatić (2000:804) argue that outside of the domain of subject-verb agreement, pragmatic agreement can replace grammatical, index-based agreement. They give an example from Serbo-Croatian, which is reproducable in Czech too: The noun *děvče* 'girl' is grammatically of neuter gender so its prenominal modifiers as well as the participle within the agreeing verbal predicate have to be also of neuter gender. But a coreferential pronoun can be either neuter or feminine, the latter value reflecting the natural gender of the referent:

(113) Přišl-o/*-a   tam jedn-o/*-a   mal-é/*-á   děvč-e.   Bylo
       came-SG.N/SG.F there one-SG.N/SG.F little-SG.N/SG.F girl-NOM.SG.N was
       mu/jí   asi   pět let.
       it.DAT.SG.N/her.DAT.SG.F about five years
       'A little girl came there. It/she was about five years old.'

Interestingly, the reflexive adjective *samý* shows a similar twofold behavior when modifying the noun *děvče* in non-subject position. Its agreement marker can be either grammar-driven or pragmatics-driven (recall that the pronoun *sebe* 'self' is not gender-marked in Czech).

(114)   Rozhodl jsem se nechat to   děvče se   seb-ou   sam-ým/\(^?\)-ou.
        I decided   leave   that girl   with self-INST alone-INST.SG.N/INST.SG.F
        'I decided to leave that girl with itself/herself.'

I assume that the use of the (much less acceptable) plural marking on the adjective *samý* in (95) or (96) is caused by the similar contextual factors in the domain of number. Since the grammatical number on GNO is missing, the contextually determined number on GNO-modifying adjectives (singular or plural) competes with the morphological default for number (i.e. singular). This account is supported by the fact that the use of plural in generic statements is associated with one of the following presuppositions: either the generalized situation involves a plurality of individuals as theme, as in (96) where the meditation generally reconciles more than one person at a time, so GNO is interpreted collectively, or the generalized situation applies to more than one individual distributively, where there have to be more than one individual reconciled by the meditation in different situations. None of these presuppositions is associated with the statement employing a singular-marked GNO-modifying adjective: the generalization would be valid even if the mediation reconciles an identical individual in each situation. Since singular number is pragmatically more neutral in this sense (it is not associated with presuppositions about the number of entities undergoing the generalized event) and also morphologically default, it is expected to be preferred over the plural.

3.2.2   The Relevance of Number-Marked PRO

We saw that the plural marking on GNO-modifying adjectives is much more acceptable in the sentences like (98) through (100), where PRO mediates the relation between the two. In these sentence, the adjective enters an Agree relation with PRO which in turn should get its number specification under Agree with the controlling GNO. If, however, GNO has no number value to pass on, as we concluded above, PRO is "left on its own" when it comes to number valuation. This makes such GNO-controlled PRO akin to truly arbitrary PRO

which has no structurally represented controller at all (providing such PRO really exists and all cases of arbitrary PRO cannot actually reduce to PRO controlled by an implicit argument).

It is known that controlled PRO can be marked as either singular or plural, which is why I assume that PRO, in contrast to GNO, has the number layer in its internal structure. (This is confirmed by Dotlačil (2004:52), who argues that PRO in Czech has a complete set of φ-features, which can make it an intervener for Agree relation for the purpose of Case-valuation.[14]) Importantly, it is not only overtly controlled PRO but also the so-called PRO$_{arb}$ which can be marked as either singular or plural, depending on the context. While the singular marking of arbitrary PRO is almost always possible (see (117-a) for an example in which it is not), the plural marking has to be justified by the existence of an implicit plural controller, supplied either by the discourse or by the broader utterance context. For example, a simple generic statement as in (115-a) pronounced out-of-the-blue appears only with a singular agreement on the adjective predicated of PRO. But if embedded in a broader context where PRO can be referentially linked to the plural noun 'parents', as in (115-b), plural agreement marking is allowed as well. In (116), the discourse presence of a plural noun is not even needed, since the lexical semantics of the controlled predicate itself evokes situations where more than one person is involved at once.

(115) a. Je těžké [PRO zůstat sám-∅/$^{C\#}$sam-i].
           is hard   stay   alone-NOM.SG.M/alone-NOM.PL.M
           'It is hard to stay alone.'

       b. Asi   nejtežší v životě mnohých rodičů je [PRO$_{arb}$ zůstat
           probably hardest in life   many   parents is   stay
           sám-∅/sam-i   po odchodu dětí na školu].
           alone-NOM.SG.M/alone-NOM.PL.M after departure kids to school

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[14]For arguments in favor of positing PRO-subject in controlled clauses in Czech, see Dotlačil 2004. The arguments revolve around two facts: (1) PRO binds subject-oriented reflexives, such as a possessive reflexive *svůj*; (2) PRO licences secondary predicates. In addition, these predicates can agree in case with the overt controlling noun in the main clause, but they can also bear nominative, the case of subjects in Czech. Both of these facts are exemplified with the following sentence.

(i) Karel   přiměl Jirk-u$_i$ [PRO$_i$ vyprávět o   sobě$_i$ a   o své$_i$ ženě
     Charles.NOM.SG.M made   Jirka-ACC.SG.M   talk   about himself and about his-self wife
     opil-ý/opil-ého].
     drunk-NOM.SG.M/drunk-ACC.SG.M
     'Charles made George talk about himself and his wife (while George being) drunk.'

'Probably the hardest thing in the life of many parents is to stay alone after kids leave to school.'

(116) Není dobré [PRO stávkovat nepřipraven-ý/nepřipraven-í].
isn't good   strike   unprepared-NOM.SG.M/unprepared-NOM.PL.M
'It's not good to strike unprepared.'

That context plays a crucial role in PRO's number determination is confirmed also by the example (117-a), which allows only plural number for "arbitrary" PRO – even though the collective predicate *shromažďovat se* 'gather' can take singular collective nouns as overt arguments, cf. (117-b). Moreover, even when there is an overt singular controller as in (117-c), PRO can still have the pragmatically determined plural number, as reflected on the agreeing adjectives.

(117) a. Není dovoleno [PRO shromažďovat se na veřejnosti
isn't allowed   gather   in public
??ozbrojen-ý/ozbrojen-í].
armed-NOM.SG.M/armed-NOM.PL.M
'It is not allowed to gather in public armed.'

b. Celý kmen   se shromáždil na návrší ozbrojen-ý/*-í
whole tribe.NOM.SG.M gathered   on hill   armed-NOM.SG.M/NOM.PL.M
a   připraven-ý/*-í   k boji.
and ready-NOM.SG.M/NOM.PL.M to fight
'The whole tribe gathered uphill armed and ready to fight.'

c. Našemu kmeni_i   bylo nařízeno [PRO_i shromáždit se na návrší
our   tribe.DAT.SG.M was ordered   gather   on hill
ozbrojen-ý/-í   a   připraven-ý/-í   k boji].
armed-NOM.SG.M/NOM.PL.M and ready-NOM.SG.M/NOM.PL.M to fight
'Our tribe was ordered to gather uphill armed and ready to fight.'

Many theoreticians assume that PRO_arb is (always) controlled by an implicit experiencer in the main clause, for example, in (115-a): *It is hard (**for one**) to stay alone.* Nevertheless, the syntactic status of such an implicit experiencer is unclear. I purposefully avoid going into the details of this matter here, in order to keep focus on the syntactic status of GNO. Importantly, arbitrary PRO can be marked as singular or plural on pragmatic grounds even in the contexts where the presence of such an implicit experiencer is ruled out. In (118), the experiencer is overt (*malé děti* 'little kids') and referentially disjoint from the arbitrary

PRO, which refers to those who could be angry in kids' presence, typically parents or other caregivers. Since both the collective or the distributive interpretation of plural PRO is pragmatically supported in this case – multiple people can be angry in kids presence at once or different people can be angry on each occasion – the plural value of PRO is not any less acceptable than the singular value.

(118)   Pro malé děti není dobré [PRO být v jejich přítomnosti přespříliš
         for little kids isn't good   be in their presence   overmuch
         rozčilen-ý/rozčilen-í]
         upset-NOM.SG.M/upset-NOM.PL.M
         'It isn't good for little kids to be too much upset in their presence.'

I suppose that the same mechanism of number valuation on PRO is behind the grammaticality of examples with GNO-controlled PRO in (98), (99), and (100). The interesting twist is that generic statements with generically quantified persona themes can be probably always understood as affecting multiple people, if not collectively than at least distributively, where a different person can be affected in each relevant situation. Consequently, the plural number on PRO and on expressions that agree with it in number should always be pragmatically substantiated.

3.2.3   Missing NumP and GNO's Inability to Receive Case

In addition to valued interpretable φ-features, nouns are assumed to have an unvalued case feature which gets assigned either configurationally ('structural case')[15], or together with the noun's theta-marking ('inherent case'). Since GNO have the syntactic role of direct objects, one might expect them to bear structural accusative, the case of direct objects in nominative-accusative languages like Czech.[16] Accusative, as well as all other cases, is morphonologically expressed by inflectional endings in Czech. Since GNO have null phonology, they cannot express morphological case themselves (because of a general ban on

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[15]Two competing approaches to structural case assignment can be found in the literature, agreement-based approach (Chomsky 2000, 2001, Pesetsky and Torrego 2006, 2007) and structural-prominence approach (Marantz 1991, Bittner and Hale 1996, McFadden 2004, Bobaljik 2008, Safir 2010); see also Baker and Vinokurova 2010 and Baker 2015 for arguing that both mechanisms can coexist in one language.

[16]For a nice summary of the literature on structural accusative case assignment, see Pesetsky and Torrego 2011:fn.6.

attaching overt suffixes to non-overt stems). But we might still be able to determine GNO's case through overtly marked case on adjectives that are predicated of GNO in sentences with GNO as small clause subjects, see 2.2.4. The reason is that such secondary predicates bear either idiosyncratic instrumental case, or they can agree in case with their subject, the main clause's object, as shown in (119-a) and (120-a) (the latter option is less preferred by some speakers). Nevertheless, the examples (119-b) and (120-b) show that there is a sharp contrast between GNO and their overt counterparts when it comes to allowing this sort of case agreement: GNO is compatible only with idiosyncratic instrumental case on the adjective that is predicated of it. This suggests that GNO are incapable of bearing case in the first place.

(119) a. Na tyhle prášky pozor, dělají člověk-a
           of these pills   beware make human-ACC.SG.M
           otupěl-ým/otupěl-ého.
           dull-INST.SG.M/dull-ACC.SG.M
           'Beware of these pills, they make one dull.'

       b. Na tyhle prášky pozor, dělají___ otupěl-ým/*otupěl-ého.
           of these pills   beware make   dull-INST.SG.M/dull-ACC.SG.M
           'Beware of these pills, they make (one) dull.'

(120) a. Špatně zvolené oblečení může dělat člověk-a
           badly chosen clothes   can   make human-ACC.SG.M
           tlustš-ím/tlustší-ho.
           fatter-INST.SG.M/fatter-ACC.SG.M
           'Badly chosen clothes can make one bigger.'

       b. Špatně zvolené oblečení může dělat___ tlustším/*tlustší-ho.
           badly chosen clothes   can   make   fatter-INST.SG.M/fatter-ACC.SG.M
           'Badly chosen clothes can make (one) bigger.'

One might be tempted to relate GNO's caselessness to its missing D-projection since case is often assumed to be a property of DPs (Danon 2006). Morphological support for this claim comes from the observation that case inflection is primarily visible on D-elements, such as articles, pronouns or clitics (Landau 2010:381). However, this assumption is problematic in article-less languages like Czech where the presence of a DP-layer in nominals has been disputed on syntactic grounds (Bošković 2008; Despić 2009; Despić 2011; Bošković 2012), accompanied by the claims that possessives and demonstratives can be analyzed as modifiers

of a lower functional projection than the DP (however, I am not attempting to take a firm stand on this lengthy dispute here). What is more important is that the semantic motivation for the presence of a DP in nominal projections, which saw D as a prerequisite for their referentiality/argumenthood (Longobardi 1994), was undercut in the light of the research on kind terms (Chierchia 1998) and definitely interpreted bare nouns in article-less languages like Hindi or Russian (Dayal 2004), which are argued to be bare NPs/NumPs; see sections 5.2.3 and 7.3.1 below for more details on the interpretation of morphologically bare nouns in Czech inspired by Chierchia's and Dayal's work. We do not even have to go as far as Russian or Hindi to show that the category of determiner is not needed in order for a noun to become a case-bearing syntactic argument. Chierchia (1998) shows that in English, bare plural nouns or mass nouns function as kind-denoting accusative arguments while being just number-specified NPs (121-a); these same constituents can also have a low-scope indefinite interpretation if they undergo the covert type-shift introducing the local existential quantification over instances of the kind, as in (121-b) (Chierchia 1998:364).[17]

(121)   Non-D internal arguments in English

    a.   Kind-denoting: *Native Americans invented chocolate but also pyramids.*

    b.   Indefinite: *John was drinking chocolate / looking for pyramids.*

At the same time, there are still good reasons to analyze case features as features that are visible at the level of the maximal extended projection of a nominal (Preminger 2011:159) and that cannot be assigned to a bare nP. Following Bittner and Hale (1996), many researchers assume that case features are located in a separate functional projection KaseP (KP), which is the topmost nominal projection; see Caha 2009 for elaborating the layers within KP in Czech and other languages.

In languages like Czech, nouns have to be specified for number and gender (including the default values) if they are to receive case. This is reflected in the existence of separate declension paradigms for each number and gender as well as in the synthetic character of

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[17]See Dayal 2013 for an alternative approach to the existential interpretation of bare plurals but also based on their non-DP status.

case inflectional endings, which express gender and number at the same time.[18] Since the number φ-feature is generated higher than the gender φ-feature, it follows that the K-head has to select at least for a NumP complement.[19] Also for Chierchia (1998) and Dayal (2004), who argue that "bare nouns" can function as arguments, the number of such bare nouns has to be specified because the type-shifting operations are sensitive to its [Sg] versus [Pl] value. Even though Chierchia and Dayal speak about determinerless argument NPs, what they effectively refer to are determinerless argument NumPs, once we work with a more articulated nominal functional structure where number is given its own functional projection, as in (5-a).

The functional sequence KP $\gg$ NumP $\gg$ nP ensures the sensitivity of case-marking to number-specification as well as to gender-specification of nouns if accompanied by the assumption that K agrees in φ-features with Num and n, and morphological case is then spelled-out on the K-head. This can be formally achieved in the feature valuation system based on downward probing Agree (Chomsky 2000, Pesetsky and Torrego 2007), where different φ-features can probe independently of each other. Importantly, if KaseP always selects minimally NumP in Czech and GNO do not project NumP, as argued for in the previous section, GNO's inability to be assigned case and then pass it on to the secondary predicate follows. The ungrammaticality of accusatively marked adjective in (119-b) is then completely expected.

An alternative view of case assignment, which nevertheless also supports the dependency of case on number, is presented in Embick and Noyer 2007. These authors analyze case features as purely morphological features, inserted at PF and not contained in syntax proper. They focus on the declension system in Latin, which has six different cases in singular and six in plural, pretty much on a par with the declension system in Czech, which has seven cases for each number, including vocative. Since in Latin (as well as in Czech and many other Indo-European languages), case and number are realized in the same morphological

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[18]The intuition about valued φ-features as a prerequisite for valuing the noun's case feature was in a way incorporated also in Chomsky's definition of Agree relation. Chomsky (2000, 2001) assumes that structural case on a noun gets valued by a verbal head (T or Voice) under Agree in exchange for assigning noun's φ-features to unvalued φ-features on a verb.

[19]Given the existence of number neutral nouns in languages like Japanese or Malagasy, the dependence of case-marking on a valued number feature should be understood as a language-specific parameter rather than as a language universal.

position, Embick and Noyer (2007:308) propose that case features are inserted directly to the Num node which also contains the feature [±Plural]. When a vocabulary item for a particular case marker is inserted, it spells-out the case features and the number feature altogether. If the number feature was not present in Num, the vocabulary item for case marker could not be inserted since it cannot have more features than the node it is inserted to. In other words, the dependence of case on number in languages like Latin follows from the non-existence of Num-spelling vocabulary items that are underspecified for number value.

Since GNO can function as direct objects but cannot be case-marked, it follows that the assignment of accusative is not obligatory in active clauses based on transitive predicates in Czech. There is nothing surprising about this conclusion: Czech verbs do not display any form of object agreement, suggesting that there are not any unvalued φ-features on an accusative-assigning head (labeled as little v in Chomsky 1995) that would have to be valued in the course of the derivation under agreement with direct object; compare the same reasoning of Baker and Vinokurova (2010:596) applied to case assignment in Sakha. Rather, I assume that some form of case realization disjunctive hierarchy proposed in Marantz (1991) holds for Czech. Concretely, accusative case assignment appears to be dependent on the existence of another not-lexical-case-bearing noun that c-commands the accusative-bearing noun within the same domain, presumably corresponding to the phase defined by VoiceP.

While it is in theory possible that there are null nouns which do have case features (PRO is one possible candidate), the opposite situation, overt nouns without morphological case, is inconceivable in Czech. For all overt nouns, having a nominal morphological form is inseparable from belonging to a certain declension paradigm and expressing morphological case (see Franks and Pereltsvaig 2004). So null nouns are presumably the only ones that can afford *not* to have case in languages like Czech. GNO seem to have taken advantage of this opportunity.

3.3   Non-Presence of Person Features

In the pioneering works on the internal structure of DP, person features were assumed to be located in the D-head, along with other φ-features (Abney 1987:144). Number is nowadays

commonly associated with a separate functional projection and gender with a nominalizing head, but there do not seem to be arguments for locating the features specifying the roles of speech participants anywhere other than on D. In support of this view, Ritter (1995:421) observes that person entails definiteness but not the other way round. Panagiotidis (2002:19) calls attention to the affinity among the features [Author] and [Participant] and other features encoding deixis and definiteness which are located on D, drawing a parallel between the expressions like *we (linguists)* and *these (linguists)*.

While the localization of the grammatical category of person is not considered problematic, there is a controversy in the literature as to which specific features actually constitute it. Some scholars maintain that only first and second person features, that is just the features [Author] and [Participant] can be present in D, with third person pronouns being truly underspecified for person, giving thus rise to the morphological default (Harley and Ritter 2002, Panagiotidis 2002, Adger and Harbour 2007, to name a few). Nevins (2007), by contrast, argues that the view of third person as non-person cannot be maintained if we want to account for the morphological effects of the Person-Case Constraint. He concludes that a binary system of person features has to be used, rather than a privative one:

(122)   1st person = [+Author, +Participant]

         2nd person = [–Author, +Participant]

         3rd person = [–Author, –Participant]

The debate sketched above pertains mainly to pronouns; as for nouns, it is assumed that nPs or NumPs do not have any person features themselves. They can only be taken as complements of person-specified D, as e.g. in *I linguist* or *you linguists* (Panagiotidis 2002).

The interpretation of GNO suggests that they involve all three persons semantically. We already know that GNO range over entities that can be characterized as personas and that are usually restricted by the context in some way, but it appears that the speaker and the addressee are always implied to be among those personas. This is why GNO are especially common in headlines and advertisements which aim to give an impression of a statement verified by its author, and to appeal to and possibly apply to the reader/listener. Not unexpectedly, the same sort of involvement of the semantic speaker and addressee is

attested for English generic *one* and arbitrary PRO. Moltmann (2006, 2010) analyzes the special relation of *one* and PRO$_{arb}$ to the first person in the philosophical sense within the Simulation Theory as "generalizing detached self-reference", roughly corresponding to "putting oneself into the shoes of anyone meeting relevant conditions".

One way to show that the first and second person referents are in the denotation of GNO is through the exceptions to generic statements. It is known that generic quantification allows exceptions. If the speaker and the addressee can constitute such exceptions, they have to be among the potential entities that the generalization applies to in the first place. The data from Czech confirm that they are.

(123)   Jógová cvičení   sice   uklidňují__, ale já jsem výjimka, mě ne-uklidňují.
         yoga   exercises indeed calm.IMPF   but I am   exception me not-calm
         'Indeed, yoga exercises calm one, but I am an exception, they don't calm me.'

(124)   Jógová cvičení   sice   uklidní__, ale ty   jsi výjimka, tebe ne-uklidní.
         yoga   exercises indeed calm.PF   but you are exception you not-calm
         'Indeed, yoga exercises make one calm, but you're an exception, they won't make

         you calm.'

Note that if we replace GNO with another generic noun that does not range over the speaker/addressee, the same exception is infelicitous. For example, if the speaker is a female in her thirties, the following generalization does not make sense.

(125)   C#Jógová cvičení   sice   starého člověka / staré lidi   uklidňují__, ale já
            yoga   exercises indeed old   human / old   people calm.IMPF   but I
         jsem výjimka, mě ne-uklidňují.
         am   exception me not-calm
         'Indeed, yoga exercises calm the old man / old people, but I am an exception, they

         don't calm me.'

On the other hand, if the speaker and addressee have the properties that make them qualify for the set of entities that the generic quantifier ranges over, they can represent an exception from the general rule once again. For example, it is possible for the author of this dissertation to say:

(126)   Debaty o   pravopise   generativního lingvistu / generativní lingvisty
         debates about orthography generative   linguist   / generative   linguists
         ne-zajímají, ale já jsem výjimka, mě zajímají.
         not-interest but I   am   exception me interest
         'Debates about orthography do not interest the generative linguist / generative

         linguists, but I am an exception, they interest me.'

These examples confirm that GNO behave much like other generically interpreted nouns
when it comes to the first and second person semantics. The main difference is that GNO
always range over the speaker and the hearer in the given speech situation, while all other
nouns range over them only if the speaker and the hearer belong to the set of entities
with the property P_n, where P_n is determined by the lexical content of the generically
interpreted noun and restricts the range of GEN (e.g. the property of being an old person
in (125) or the property of being a generative linguist in (126)). This is because GNO are
based on the conceptually broadest nPs, bearing only the "persona semantics" of iGender
feature (discussed in 3.1.3), and the speaker/hearer are always personas – while they are not
always P_n. The parallelism between GNO and overt nouns when it comes to marking for the
person feature is supported by the fact that the closes overt counterpart to GNO in Czech,
the noun *člověk* 'a human', is associated with the same speaker and addressee involvement
as the one attested in the case of GNO (see 2.2.1 for examples). A close parallel to feminine-
gender marked GNO is the noun *žena* 'woman'. Even though we generally categorize verbal
agreement with overt nouns as 3rd person agreement, the following examples show that in
some contexts, overt nouns can be used to refer primarily to the author (as in (127-a)) or
the addressee (as in (127-b)).

(127)   a.   *[A woman to someone who wants to hit her:]*

               Ženu   ani květinou   ne-uhodíš. (Czech saying)
               woman.ACC even flower.INST not-hit.2SG
               'Don't hit a woman even with a flower.'

         b.   *[A man to a woman who wants to pay for herself in a pub:]*

               Ženu   přece ne-nechám platit.
               woman.ACC surely not-let.1SG pay
               'Surely I won't let a woman pay.'

I suppose that the parallelism between GNO and other generically interpreted nouns reflects the fact that neither the former nor the latter are specified for either of the three grammatical person features in (122), which is what allows these nouns to denote all three persons semantically. It is worth mentioning that according to Nevins 2007, something similar is true for impersonals: they can refer to any person specification, even though pragmatics usually prefers one.

(128)   Interpretive possibilities for impersonal pronouns (Nevins 2007:307)

$[+P, +A] \bigcup [+P, -A] \bigcup [-P, -A]$

Although Nevins leaves the details of implementation of this insight for future research, he suggests that impersonals are truly underspecified for [±Participant, ±Author] features since they are compatible with both [+] and [−] values for each of these features, which is equivalent to them bearing all feature specifications simultaneously. The same is true for GNO, modulo their interpretable gender, which forces them to denote in the domain of humans and human-likes only. We saw above that GNO can refer to any member from the union of the speaker, the addressee, and everyone else, so none of the possible combinations of binary features [±Participant, ±Author] is applicable to GNO in itself.

This conclusion about the missing person feature in the syntax of GNO is independently supported by the missing evidence for the D-projection, where person features are assumed to be generated. Firstly, there is not much evidence for the D-head in Czech nouns in general (see 3.2.3), and we saw that GNO behave much more like nouns than like pronouns. Secondly, I concluded that GNO behave like other generically quantified nouns in Czech when it comes to the semantics of person features. Such nouns are not assumed to have the projection of D either, being just NumPs (or KPs, if the case projection is considered). They are morphologically bare and semantically kind terms at heart, the generic quantification of which is enabled by the so-called realization relation, relating the given kind to its instantiations in the relevant generically quantified situations (see 2.3.2 and 7.3.2 for further details).

3.4   Conclusion and Some Follow-Ups

3.4.1   GNO as Pronominal Nouns

Examining one-by-one the syntactic features standardly associated with the extended no-
minal projection, I arrived at the following: GNO have an interpretable gender feature
associated with the categorizing n, but there does not seem to be any evidence that GNO
have number and person features, or that they can get case. I explain this as a result of the
missing Num and D in GNO's syntactic structure.

I started this dissertation with Rizzi's (1986) claim, reiterated in Landau 2010, about
GNO being syntactically pronouns or full-fledged DPs. We can now safely conclude that the
only thing which GNO and regular pronouns have in common and which regular nouns do
not have is their "conceptual emptiness". Neither GNO nor pronouns have a conceptually
loaded, descriptive root.

In the linguistic tradition following Postal 1969, all pronouns have been assumed to
contain an abstract, null or overt noun in their structure, in addition to the determiner and
possibly other functional projections. (Note that this is in contrast to pronouns conceived
as intransitive determiners in Abney 1987. Also note that Postal himself only considered
the presence of a phonologically null noun inside personal pronouns in his theory.) This null
noun is marked as e/*one* in (129).

(129)   Structural template of pronouns (inspired by Postal 1969)
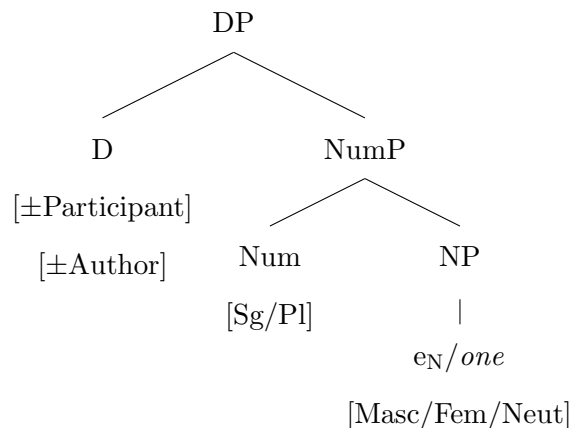
According to Panagiotidis 2002, 2003, this noun is empty in the sense that it does not denote
any concept, and it bears only the categorizing N feature and one of the gender features.

It is precisely this non-descriptiveness or non-predicativeness that makes a pronoun truly pro-nominal, being able to stand for other nominals whose N is descriptive and does denote some property.

In the line of the morphosyntactic research that I pursue here (see 1.2 and 3.1.2), lexical-categorial and gender features are dissociated from a descriptive root. As a consequence, there is no more need for a "conceptually empty noun in the lexicon", postulated by Panagiotidis, op.c., bearing an N feature and a gender feature. The function of such a categorizer and a gender-bearer is fulfilled by an n-node with a valued gender feature. (See also the re-conceptualization of 'empty noun' in Panagiotidis 2011.)

I argued in 3.1 that such a categorizing node is present for GNO, and since I also determined that no other functional category merges with it, it is the only node that constitutes the GNO. As a result, GNO, while syntactically represented, do not have any internal syntactic structure of their own. This formulation, of course, assumes the theory of Bare Phrase Structure. In X-bar theory notation, the internal syntax of GNO would be captured as follows:

(130)   Shortage of structure in GNO:

$$
\begin{array}{c}
\text{nP} \\
| \\
\text{n}' \\
| \\
\text{n} \\
[\text{iGender: }]
\end{array}
$$

The existence of n-heads that do not merge with a root is far from unexpected. Discussion about "non-descriptive nouns" or "pronominal nouns" periodically resurface in the linguistic literature of the last fifteen years. For example, Déchaine and Wiltschko (2002, 2003) argue that pronouns can be DPs, φPs or NPs, giving examples from English for each of these types (1st and 2nd person pronouns are analyzed as DPs, 3rd person pronouns as φPs and non-numeric *one* as an NP). In fact, Emonds 1985 already talks about 'grammatical nouns' and 'grammatical verbs' as instances of N and V heads that do not have any descriptive, concept-denoting features – which is exactly what nPs with only a gender feature but no

root complement are.

Substantially more attention, however, has been paid to overt examples of grammatical nouns and verbs, or more broadly defined semi-lexical categories (see especially Corver and van Riemsdijk 2001), than to their phonologically null counterparts. Here, the work of Panagiotidis (2002, 2003) on 'empty nouns' represents a notable exception as far as the nominal domain is concerned. My conclusion about GNO being simple n-nodes with just a gender feature dovetails nicely with a broader generalization by Panagiotidis (2003:414) that phonologically null empty nouns – nouns which cannot bear any concept-denoting features – are restricted to bearing just semantic, LF-interpretable features that canonically appear as derivational morphemes, such as gender or honorific features (as in Japanese 'N-pronouns').

The structural analysis of GNO that I provide supports the existence of phonologically null constituents as small as an n-head, which could be viewed as the "smallest of pronouns" or as the "emptiest of nouns", depending on one's viewpoint. In the typology fashioned after Déchaine and Wiltschko, GNO could be characterized as the examples of pronominal n(P)s (or "nP pronouns").

3.4.2   Null Empty Nouns Inside Substantivized Adjectives

The natural extension of the analysis of GNO provided in this chapter is to explore whether there are any other occurrences of the same null, non-descriptive n anywhere else in the Czech language. The scope of this dissertation does not allow me to elaborate on this issue in detail, but even a quick glimpse at the data suggests the answer is yes. We need to postulate a phonologically null n with an interpretable gender in Czech regardless of the existence of GNO, namely to account for the formation of personas-denoting 'substantivized adjectives', which are referential nominal phrases with an adjectival core.

As already mentioned in relation to (155), Czech has a rich inventory of substantivized adjectives, not unlike English and many other languages. They are, descriptively speaking, adjectives used in the place of nouns. This broad definition subsumes several different constructions, especially (A) contextual nominal ellipsis, (B) true cases of lexical conversion from adjectives to nouns, and (C) the so-called human constructions and abstract object constructions (cf. Kester 1996a,b, Glass 2014, Richtarčíková 2014, McNally and de Swart

2015).

Nominal ellipsis (or N-ellipsis) is a well-described phenomenon of eliding a contextually supplied nominal phrase, and it is very productive in Czech.

(131) a. Věra pije   černý čaj, ale uvařili jí   zelený___.
           Vera drinks black tea but cooked her.DAT green.ACC.SG.M
           'Vera drinks black tea, but they made her a green one.'

       b. [*Pointing at hats in a store.*] Dejte mi ten zelený___.
                                            give   me the green.ACC.SG.M
                                            'Give me the green one.'

On the other side of the spectrum are the lexicalized cases of substantivized adjectives, where the elided noun has a particular concept-denoting meaning that cannot be changed by the context. For example, the neuter form of the adjective *plzeňské* 'of-Pilsen' is always interpreted as Pilsen beer, i.e. Pilsner; the feminine adjectival form *žitná* 'of-rye' is always interpreted as rye moonshine if not accompanied by an overt noun, and the feminine adjective *prodloužená* 'extended' is idiomatized as a name for a festive extended dancing lesson happening in the middle of a dancing course.

(132) a. Ne-mají tam   dobré plzeňské___.
           not-have there good Pilsen.ADJ.ACC.SG.N
           'They don't have a good Pilsner there.'

       b. Pil   jsi   někdy žitnou___?
           drank AUX.2SG ever   rye.ADJ.ACC.SG.F
           'Have you ever been drinking distilled rye spirit?'

       c. Ne-snáším   prodloužené___.
           not-tolerate extended.ACC.PL.F
           'I hate extended dancing lessons.'

As for the nominal ellipses in (131), several competing analyzes can be found in the literature, including Panagiotidis 2003, who argues that they contain an empty noun which can be either null (e_N) or overt (*one* in English) and whose reference is anaphorically determined from the context. Importantly, there is a third group of substantivized adjectives, not fitting either of the classes mentioned above. They do not require a contextually salient antecedent, but they are rather productive and do not have a descriptively narrow meaning like lexicalized substantivized adjectives. In Czech, such adjectives are either marked for

masculine or feminine gender, in which case they denote personas, or they are unspecified for gender (they are morphologically neuter), in which case they denote impersonal, usually abstract entities. The former can be either singular or plural, the latter can be marked only as singular. (See Richtarčíková 2014 for recognizing the same groups of nominalized adjectives in Slovak, a language which is closely related to Czech.)

(133)   Gender-specified non-anaphoric substantivized adjectives

  a. Chudí___, staří___ a nemocní___ to ne-mají v Americe
    poor.NOM.PL.M old.NOM.PL.M and sick.NOM.PL.M it not-have in America
    lehké.
    easy
    'The poor, the old, and the sick don't have it easy in America.'

  b. Na chodbě jsem potkal (jednu) hlucho-němou___ a
    on corridor AUX.1SG saw one.ACC.SG.F deaf-dumb.ACC.SG.F and
    (jednoho) chromého___.
    one.ACC.SG.M lame.ACC.SG.M
    'I met a deaf-and-dumb (female) and a lame (one) in the corridor.'

  c. Na zkoušky chodí samí nepřipravení___ a jen málo
    for exams go sole un-prepared.NOM.PL.M and only few
    zodpovědných___.
    responsible.GEN.PL
    'The exams are attended mostly by the unprepared (ones) and only few responsible (ones).'

  d. Ne-najímej (žádného) ne-dostudovaného___.
    not-hire any.ACC.SG.M not-studied.ACC.SG.M
    'Don't hire any studying (one).'

(134)   Gender-unspecified non-anaphoric substantivized adjectives

  a. Tehdy narazíš na ne-čekané___.
    then stumble upon un-expected.ACC.SG.N
    'And then you'll encounter the unexpected.'

  b. To ne-vyslovené___ je často (to) nej-důležitější___.
    the un-pronounced.NOM.SG.N is often the most-important.NOM.SG.N
    'The unpronounced is often the most important.'

Panagiotidis (2003) labels the group in (133) as 'human noun ellipsis', after Kester 1996b, and the group in (134) as 'abstract noun ellipsis'. He argues that both of these are extended projections of empty nouns as conceived in (129). It is the group of gender-bearing

substantivized adjectives in (133) that is of a particular interest here. In Czech, they can be formed on the fly from most adjectives derived from passive and active participles but also from many regular, "underived" adjectives. Recall that I recast Panagiotidis's 'empty noun' as an n-node with no root complement, and that GNO syntactically correspond to such a node bearing a semantically interpretable gender feature (and quantified by a non-overt operator). This means that we can unify n-heads giving rise to GNO and n-heads that are at the root of human noun ellipses. Unlike phonologically null n-heads of GNO, the latter merge with an adjectival projection, presumably within NumP, which gives the projected structure not only descriptive content but also the capacity to be marked as either singular or plural. As a result, these apparent adjectives can be treated like other regular concept-denoting nouns by the syntactico-semantic component, including the possibility of merging with various nominal determiners, quantifiers or modifiers.

(135)   Substantivized adjectives with a null "persona" head

```
                    NumP
                   /    \
                 Num     nP
                [Sg/Pl]  /  \
                      AdjP    n
                       |    [iGender:Masc/Fem]
                      Adj
```
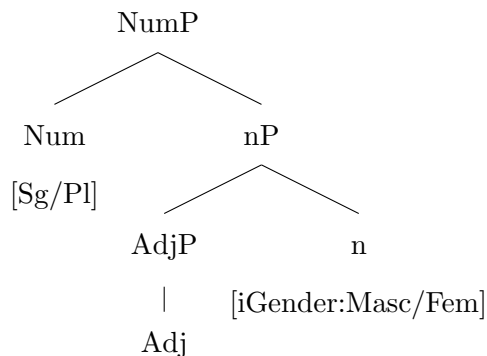
The analysis above represents a natural extension of both Kester 1996b and McNally and de Swart 2015 who analyze the parallel human adjectival constructions in Dutch. Kester concludes that these constructions have a null noun pro (N-pro) with the semantic feature [+human]. McNally and de Swart agree and add that this noun contributes a free variable and the sortal restriction that the value of this variable must be human, that it denotes "the property of human kinds": $[[_N pro]] = \lambda x_k[human(x_k)]$ (McNally and de Swart 2015:324). However, none of these authors explain where the feature [+human] or the human semantics comes from and why there is only this one features with the sortal semantics and not some

other ones. I discussed the doubtfulness of taking [+human] as a primitive of grammar and how the proposed theory addresses it in 3.1.3.

Multiple arguments support the unification between the two cases of covert n-nodes, those inside GNO and those inside human noun ellipses. First, just like in the case of GNO, masculine substantivized adjectives of the type found in (133) denote either male entities or entities without regard to their biological gender, depending on the context. For example, the most felicitous interpretation of (133-d) is that you should not hire any *person* who is still studying, not just any studying male. On the other hand, in (133-b) where it is expected on pragmatic grounds that the biological gender of both individuals is known to the speaker, the masculine substantivized adjective *chromý* 'lame' refers to a male. Feminine substantivized adjectives refer only to female indidividuals, regardless of the context; compare the feminine version of (133-d):

(136)   Ne-najímej (žádnou)   ne-dostudovanou___.
        not-hire   any.ACC.SG.M not-studied.ACC.SG.F
        'Don't hire a(ny) female who is still studying.'

The same holds for plural substantivized adjectives: plural masculine forms refer to people in general (a more common case) or to males only; plural feminine forms refer exclusively to females.

Second, the gender-marking substantivized adjectives do not denote just humans but all persona-having entities, providing we allow for the worlds where such entities exist, as we did when testing GNO for the same characteristics (see (90)).

(137)   Na planetách, které spravují Marťani, jsme   ne-našli chudé___   ani
        on planets   which rule   Martians AUX.1PL not-found poor.ACC.PL nor
        nemocné___.
        sick.ACC.PL
        'We didn't find any sick or poor on the planets ruled by Martians.'

In (137), *chudí* 'poor ones' and *nemocní* 'sick ones' do not refer simply to poor and sick Martians, or sick and poor humans but to all sick and poor human-like beings – all beings with persona. On the other hand, animate entities not perceived as personas, are excluded from their denotation. For example, even if animals too can be sick, the following sentence

cannot mean that my colleague takes care of sick dogs.

(138)   Moje známá___   pečuje v psím útulku o   nemocné___.
        my known.NOM.SG.F cares   in dog   shelter for sick.ACC.PL
        'My colleague takes care of the sick in a dog shelter.'

Third, the presence of the interpretable gender feature as defined in (87) in the structure of these expressions is confirmed also by the observation that even if some of these adjectives can describe inanimate entities when merged with overt nouns, they denote only human-like entities when merged with an empty (non-anaphoric) noun.

(139)   a. Podej prosím ten formulář pro závislé
            pass   please the form   for dependent.ACC.PL
            činnosti/veličiny/pacienty.
            activities/values/patients
            'Pass me the form for the dependent activities / dependent values / addicted patients, please.'

        b. Podej prosím ten formulář pro závislé___.
            pass   please the form   for dependent.ACC.PL
            'Pass me the form for the addicted, please.'

Seen from the opposite perspective, a human-denoting adjective that is not in the role of an obligatory predicate or does not modify a noun (or a pronoun) from which it could receive its case and φ-features under Agree can always be reanalyzed as a case of human noun ellipsis. This is why we cannot find the adjectival modification of GNO in Czech, including the optional secondary predicates, as exemplified in (155) (repeated here for convenience).

(140)   a. Ten doktor vyšetřuje lidi   nahé.
            this doctor examines people naked.ACC.PL
            'This doctor examines people naked, i.e. they have to be naked during the exam.'

        b. Ten doktor vyšetřuje nahé.
            this doctor examines naked.ACC.PL
            'This doctor examines naked ones, i.e. those who are naked.'

Unlike obligatory secondary predicates, which can get idiosyncratic case (see (57) – (60)), adjectival depictives have to agree in case, number, and gender with their antecedent/controller.

But GNO are structurally too small to provide that, being marked only for gender associated with n. At the same time, a context that would allow personas-denoting GNO is also always a context that allows the interpretation of a "free-standing" adjective as merging with the covert iGender-bearing nominal head, giving rise to the nominal projection of its own. Compare (141-b), where persona interpretation of the null noun is not possible on pragmatic grounds.

(141)   a.   Karel   kupuje ryby   vykuchané.
                  Charles buys   fish.ACC.PL disemboweled.ACC.PL
                  'Charles buys fish disemboweled.'

             b.   *Karel   kupuje vykuchané.
                  Charles buys   disemboweled.ACC.PL
                  'Charles buys disemboweled.'

Fourth, not only descriptive, concept-denoting substantivized adjectives inflected for gender could be analyzed as having a non-overt n with iGender feature at the root of their projection. The behavior of an adjectival quantifier *každý* 'every' in Czech suggests that in certain cases, it should be analyzed on a par with persona-denoting substantivized adjectives. Like other adjectival forms, *každý* can merge with overt nouns denoting both animate and inanimate entities (due to its distributivity, it is restricted to singular nouns and non-collective predicates, just like *every* in English). But it can also stand by itself, in which case the meaning of an empty noun in its restrictor is either determined contextually as in (142-a) (the case of N-ellipsis of the sorts exemplified in (131)), or the universal quantifier simply ranges over human and human-like entities as in (142-b) (the case where n has iGender feature).

(142)   a.   Měli tam   deset čajů na ochutnávku, tak jsem   každý___
                  had there ten   teas for tasting   so   AUX.1SG every.ACC.SG.M
                  ochutnal.
                  tasted
                  'They had ten types of tea for tasting there, so I tasted each.'

             b.   Každý___   potřebuje občas   opravit.
                  every.NOM.SG.M needs   sometimes repair
                  'Everyone needs a repair sometimes.'

In (142-b), I purposefully picked an example which calls for an inanimate entity in the

restrictor of *každý* on pragmatic grounds. Nevertheless, the only possible interpretation is the one where every *person* needs a "repair" sometimes.

Finally, the existence of abstract-entity-denoting substantivized adjectives, exemplified in (134), fits in perfectly with the analysis of human substantivized adjectives as involving a null n marked for iGender. I propose that these nominalized adjectives, by contrast, are not marked for gender at all, which is why they are morphologically neuter. Furthermore, they are not marked for singular and plural number either, which again results in a morphological default – singular, attested also in the case of non-adjectival mass nouns in Czech (cf. also the data on impersonal passives in 3.1.3). Under this approach, the existence of the two particular types of non-anaphoric, non-lexicalized substantivized adjectives is no longer a coincidence: it follows from whether or not the interpretable gender is assigned to a bare nominalizing node n merging with an adjectival phrase. (For proposals regarding the semantics of abstract object constructions see especdially Glass 2014 and McNally and de Swart 2015.)

3.4.3   Note on Nullness

To conclude, I would like to offer a thought on why generic objects in Czech can have either a covert form (GNO) or an overt form *jeden* 'one', both being conceptually empty, while the conceptually empty n associated with substantivized adjectives is always null. The following example shows that in Czech, it is impossible to replace the null n inside substantivized adjectives with an overt non-descriptive expression in the manner of a non-numeric *one(s)* in English.

(143)   a.   Poznámky si píše jenom (ten) zapomnětlivý   (*jeden)
             notes.ACC writes just   that forgetful.NOM.SG.M one.NOM.SG.M
             'Just the forgetful one makes notes.'

        b.   Poznámky si píšou jenom (ti)   zapomnětliví   (*jedni).
             notes.ACC write   just   those forgetful.NOM.PL.M one.NOM.PL.M
             'Just the forgetful ones make notes.'

This observation correlates with the fact that Czech adjectives inflect for gender, number and case, just like Czech nouns; in contrast, English adjectives do not provide any evidence about the feature specification of NumP that is systematically morphologically marked

on nouns. The similar contrast is attested between Dutch and English, and it has been hypothesized (Kester 1996a,b) that Dutch licences null nouns precisely because its adjectives are inflected, unlike English adjectives. Indeed, the limited data that we have confirm the following entailment:

(144)   obligatoriness of adjectival inflection ⊨ non-overtness of n-head inside the substantivized adjective construction (in a given language)

Nevertheless, obligatoriness of inflection cannot be the necessary condition for non-overtness since English has non-overt empty nouns as well (sometimes as a simple alternative to overt *one(s)*, other times as a way to express a difference in meaning, as in (145-d)):

(145)   a.   I like this/that one/e_N.
         b.   I don't like this scarf from Paris, but I like that one/e_N from Prague.
         c.   As for loudspeakers, these are the most reliable ones/e_N.
         d.   The poor e_N / the poor ones / the poor one shall rule.

Panagiotidis 2003:(12)–(15)

In English, the number value of phonologically null empty nouns inside substantivized adjectives cannot be marked on these adjectives, but it can be determined from other linguistic and extra-linguistic factors. Still, in some cases, the use of an overt form, like *one* or *ones*, is needed to unambiguously mark the value of the number feature. This could be the reason why non-overt forms coexist next to overt ones in languages like English (see Panagiotidis 2003:423 for more thoughts on the topic).

The existence of both overt and covert generic objects in Czech is in a way parallel to the alternation between *one* and e_N in English. Assuming that all overt nouns (in Czech) have to be marked for number, be it a semantically interpretable number or a morphological default, substantivized adjectives with their inflectional endings take care of overt number manifestation for a descriptively empty n that cannot take on its own inflection markers. In contrast, the generic quantifier is null and not marked for nominal categories either, so it cannot serve the same identifying purpose for a null n as an adjective would. That's why it is not surprising that Czech empty nouns inside GNO, unlike those inside substantivized

adjectives can sometimes have an overt, number-marked non-descriptive form next to the covert one – expressed like in English by a non-numeric singular *jeden* 'one' (see 2.2.1).

3.5   Summary

Chapter 3 contains the core of my research on syntactic properties of generic null objects. I utilize the same structures like Rizzi, Authier, and Landau, namely the structures with control, reflexive binding, and secondary predication, but with a different goal. Instead of simply checking whether GNO can appear in these constructions, I examine the possible range of values on agreement markers of adjectival expressions that are predicated of GNO and controlled or bound by GNO (sometimes indirectly, via intermediate PRO subject). This is enabled by using a flectional language like Czech as a testing material. In (87), I show that even though GNO prevailingly display masculine gender, associated with semantic neutrality, the feminine gender is licensed in contexts where the generalization is meant to apply exclusively to females. I find a counterpart to this behavior in the class of human-denoting, morphologically derived nouns (a subgroup of which are agentive nouns in *-tel* '-er'). I propose that in both cases, the interpretable gender feature located in the n-head is responsible for the observed gender-agreement, and also for the fact that these nouns denote only in the domain of personas. The difference between the two is that GNO's n-node is phonologically null, but it is expressed as a nominalizing suffix in the case of overt nouns.

When it comes to number marking, it is revealed that GNO have a strong preference for singular agreement markers, while plural is less preferred but not ungrammatical. Moreover, in sentences where number-marked adjectives are related to GNO via GNO-controlled PRO, plural becomes acceptable in the contexts where it is supported pragmatically. To make sense of these data, I rule out the possibility that GNO bear default number (singular) since it would leave the possibility of plural marking unexplained; I also rule out the possibility that GNO can be either singular or plural, on a par with overt count nouns, since it would leave unexplained the substantially lower preference for plural marking in sentences without an intermediate PRO. I propose that GNO do not project the category of Num at all. The attested number marking on agreeing adjectives within the same clause has to be the combined effect of singular being a grammatical default in Czech and the pragmatic

determination of the number value also playing some role. In sentences where GNO controls a PRO which in turn agrees with an element with φ-features, the data can be explained if PRO itself is number-marked, in contrast to GNO. Finally, I argue, the missing NumP in the GNO structure is confirmed by their inability to receive case. In flectional languages like Czech, in which case, number, and gender are expressed synthetically in one affix, the presence of KaseP depends on the presence of both NumP and gender-bearing nP in the nominal structure. If the number projection is not present, the nP is not expected to bear case, which also means that other elements cannot agree with it in case. That this is the case for GNO is confirmed by the examples with obligatory small clauses in 3.2.3, in which the adjective that normally agrees with an overt generic accusative subject cannot agree with it if it is GNO.

To complete the set of the examined φ-features, I argue in 3.3 that GNO do not have any of the person features [±Author], [±Participant], located in the D-head, on a par with overt nouns. The ever-present semantic involvement of the speaker and the addressee in the GNO denotation is a result of their general semantics, namely their lack of a concept-naming root, such that the only contentful semantics is brought about by their interpretable gender feature. This brings us to the issue of how to properly classify GNO in terms of the traditional distinction between pronouns and nouns. I follow Postal (1969) and Panagiotidis (2002, 2003, 2011) in assuming that there is a conceptually empty noun inside every pronoun, which can be either overt or phonologically null. Putting this together with my findings about the feature composition of GNO, I argue that GNO are an example of such an empty noun, bearing the categorial n feature and iGender feature, but not merging with any root. The minimalist syntax of GNO when they enter the syntactic structure thus gets reduced to a single node, which could be captured, together with its semantics as follows.

GNO's syntax and semantics at the point of insertion: n[iGender: iMasc/iFem]

whereby $[\![\text{iMasc}]\!] = \lambda x \lambda s[\text{persona}(x,s)]$

$[\![\text{iFem}]\!] = \lambda x \lambda s[\text{female}(x,s) \wedge \text{persona}(x,s)]$

In order to get a sentence with GNO, the individual variable introduced by the conceptually empty n-node needs to be bound by the silent generic operator GEN (see 2.3). However, that is not the only way to license the presence of such a node in an argument position. In 3.4.2,

I provide evidence for the presence of the same node inside persona-denoting substantivized adjectives, and I suggest it is precisely the existence of these adjectives what disallows GNO from becoming subjects of optional small clauses in (61-b).

Part II

Indefinite Null Objects

In the linguistic literature, indefinite null objects (INO) have been commonly contrasted with the definite/anaphoric null objects. One of the merits of this dissertation is that it discusses them rather in comparison with generic null objects (GNO), which gives the reader a novel perspective that has not been taken into account before. I provide an overview of the main distinctions between the two types in 4.2, and then argue against INO's syntactic representation in 4.3, on the basis of the same tests that were applied in 2.2 to support GNO's syntacticity. In 4.4, I tackle the large task of reviewing the existing literature on INO, including the most influential lexicalist proposals in 4.4.1, the already mentioned confrontation with definite null objects in 4.4.2, as well as the broader, pragmatics considering perspectives on intransitivization in 4.4.3, and the perspective of Czech grammarians in 4.4.4.

Chapter 5 is devoted to the details of deriving INO as a result of ∃-closure operating in syntax, in the categorizing v-projection, at the point where v otherwise merges with a direct internal argument. I examine INO's "narrowest scope indefiniteness" in 5.1 and their thematic properties in 5.2.1, concluding they are themes/patients in the broadest, syntactic sense of the θ-role associated with the direct internal arguments of a verb. In 5.2.2, I demonstrate the need for a type-shifter of the form $\lambda T_{\langle e,vt \rangle} \lambda e \exists x \ [T(x)(e)]$ that existentially binds this argument, and I point to similarities between this type-shifter and Chierchia's (1998) Derived Kind Predication that derives low-scope indefiniteness of bare plural and mass nouns in 5.2.3. Section 5.3 explores broader syntactico-semantic implications of the proposal. I first strengthen the argument for the syntactic derivation of INO in 5.3.1 by evincing the productivity of intransitivization with secondary imperfectives, which are argued to be a product of morphosyntactic derivation in Asp. In 5.3.2, I draw the parallel between the proposed generalized existential closure of the internal argument and the existential closure deriving the implicit external argument of passives in Bach 1980, Pylkkänen 2002 and Bruening 2016. Afterwards, I turn to two proposals for intransitivization that are similar to my own in conceiving it as a general mechanism rather than as an operation on individual lexical predicates. In 5.3.3, I explain why INO cannot be analyzed as phonologically null ARB properties merging in the place of an internal argument, as suggested by Babko-Malaya 1999, and in 5.4.1, I criticize Alexiadou *et al.* 2014 for deducing the

inability of certain predicates to intransitivize from the presence of a resultative become-subevent in their lexical conceptual structure. I suggest that the split into INO-allowing and INO-disallowing predicates in English follows from the different syntaxes of their event structures, namely from the fact that the latter are derived from state-denoting roots that directly merge with an internal argument, before the structure gets even verbalized, and thus before the intransitivization rule can be put to effect. In 5.4.2, I offer an explanation for why even INO-allowing predicates are not encountered in the intransitive form as often one might expect, based on the role that internal argument play in determining event telicity in English.

The last chapter of Part II is concerned with the ways in which INO derivation and interpretation is influenced by pragmatics. After reviewing some of the scholarly remarks on this topic in 6.1, I demonstrate in 6.2 that some contextual information about the kind/property of individuals denoted by INO is always needed for the successful application of intransitivizing $\exists$-closure. Nevertheless, the predicates differ in whether their own lexical semantics can provide this information or whether further clues are necessary, either in the linguistic discourse or in the utterance context. The former group of predicates can appear with what I call default INO, an INO instantiating the natural class/kind, to which the internal arguments of these predicates generally belong. Nonetheless, this default INO interpretation can be always overridden by further contextual information. The latter predicates, in contrast, do not call for a single well-defined kind or class of objects that could serve as a hypernym for the names of their logical objects. As a result, they never allow intransitivization out-of-the-blue, without the contextual specification of the defining property of an INO that goes beyond the predicate's meaning. In 6.2.3, I propose to embed this as a presupposition for the application of the intransitivizing existential operator introduced in (230). The final form of the intransitivization operation is then (informally) stated as follows:

$$\exists_{\text{Intr}} \rightsquigarrow \lambda T_{\langle e, vt \rangle} \begin{cases} \lambda e \exists x[T(x)(e)] & \text{if C supplies the kind that x instantiates;} \\ \text{undefined otherwise} \end{cases}$$

To round off the discussion, in 6.2.4, I present two specific constructions with null objects, verbs describing professions and abilities. I argue against their analysis as "special" or

lexicalized cases of null objects and I show how they naturally fit into the intransitivization paradigm proposed in this thesis.

Chapter 4

Lexicalized Entities, Invisible to Syntax

4.1 Setting the Scene

In contrast to the rather rarely discussed generic null objects, null objects with indefinite interpretation, as in (146), are an evergreen in linguistics, regardless of the chosen theoretical framework.

(146)   John ate___ / is eating___.

Some researchers talk in relation to (146) about 'pseudo-intransitive' (Lees 1960), 'intransitivized', or 'detransitivized' verbs, rather than about 'null objects', which suggests that in the case of INO, the focus has been on the properties of null indefinite objects to the properties of verbs that allow them. Since the majority of research on intransitivized verbs has been done on the material from English, the current understanding of this phenomenon is shaped by the specifics of the English language, where, it has been argued, only a limited set of verbs allow it. Levin (1993) identified some forty English verbs that undergo what she calls 'unspecified object alternation', most of them being verbs of creation, consumption and household chores. This number already is not negligible; moreover, Levin's list was not meant to be exhaustive but only serves as an exemplification. Nevertheless, the general consensus has it that intransitivization in English is idiomatized to the extent that it is specified for each individual predicate or a lexical class of predicates whether it allows the existential closure of its internal argument (see 4.4.1 for references).

Any linguist interested in uncovering the general principles of grammar should not overlook that some sort of null indefinite objects can be found in a vast number of languages other than English, and as different as German, Greek, Hebrew, Hungarian, Japanese, Polish, Russian, and Shipibo, to name a few (based on, respectively, Alexiadou *et al.* 2014,

Giannakidou and Merchant 1997, Landau 2010, Kiefer 2006, Kawahara 2007, Ruda 2016, Babko-Malaya 1999, and Mark Baker, p.c.). The intriguing question is whether INO are derived in the same way in all of these languages, or whether there might be other, possibly more general mechanisms to generate them than the one described for English (even though it might not again be operative in all of them). This question is even more justified in the light of the fact that antipassivization, the process parallel to intransitivization, albeit morphologically marked and found mainly in ergative languages, is treated as a generally available valency-decreasing operation that existentially binds the lowest argument (see Wunderlich 2012:2233 for an overview). In this thesis, I look in detail at the data from Czech, a West-Slavic language where INO are very productive. I argue that in this language, intransitivization has to be formulated as a generalized $\exists$-closing operation that is available at a v-node any time it denotes an event predicate seeking for an individual argument. If it is not allowed on the surface, it is due to grammatical reasons (perfective aspect) or pragmatic reasons (missing contextual information). My argument for this treatment of intransitivization is threefold. First, intransitivization in Czech is not limited to particular predicates or their classes; almost all transitive imperfective verbs, cutting across different lexical semantic classes, can combine with INO in the appropriate context. Putting the burden of identifying all of these verbs on the lexicon goes against the minimalist requirements of economy and non-redundancy if a single set of derivational rules can lead to their determination as well (see Chomsky 1991:55–56).

Second, the lexicon-based approach has no way to account for the systematic disjunction between the perfectivity of verbs and the grammaticality of INO since (im)perfectivity is a grammatical category that is determined in the aspectual head. It is especially the existence of intransitivization-allowing syntactically derived imperfective verbs (the so-called secondary imperfectives) that makes the lexically specific derivation of INO untenable. These verbs share their lexical base with perfective verbs, effectively having the same lexical semantics, yet only the former but not the latter are compatible with INO. Given the complexity of the topic of Slavic aspect and the intricacies of aspect-related phenomena in individual Slavic languages, I discuss the aspectual properties of INO separately, in Part III. I present them in a broader context of the relationship between the perfectivity/telicity

of predicates and the syntactico-semantic type of their object phrases, including the comparison between INO and GNO in the role of complements of perfective verbs.

Third, one cannot ignore the role that is played in INO licensing by the context, both situational and textual. The proposed intransitivization rule can elegantly accommodate this fact in terms of presupposition while implementing the same generalization in the lexicon would not be feasible in a principled way.

4.2 Introducing Czech INO, against the Backdrop of GNO

A striking initial observation when comparing different sentences with INO is that they can be found only with imperfective verbs. Czech imperfectives can have either an ongoing, progressive-like reading, or a habitual reading, and INO can be found with both of these readings.

(147) Táta často vyřezává__ / *vyřeže__ / *dokáže vyřezat__ / právě teď
Daddy often carves.IMPF / carves.PF / can   carve.PF   / right now
vyřezává__.
carves.IMPF
'Daddy often carves / will carve out / can carve out / is carving right now.'

INO are traditionally claimed to have as the lexically closest overt counterpart the indefinite pronouns *něco* 'something.ACC', or *někoho* 'somebody.ACC'. Nevertheless, these overt indefinite pronouns are fully compatible with perfective verbs, in sharp contrast to INO[20]:

(148) Táta často něco   vyřezává / něco   vyřeže   / dokáže něco
Daddy often something carves.IMPF / something carves.PF / can   something
vyřezat / teď něco   vyřezává.
carve.PF / now something carves.IMPF
'Daddy often carves something / will carve something out / can carve something
out/ is carving something now.'

---

[20]Since the expressions like 'someone' or 'something' behave very differently from INO also when it comes to their scope properties, I do not translate Czech INO in English glosses as 'somebody' or 'something'. I rather leave the object empty in the gloss as well, even if it sometimes results in an ungrammatical English sentence.

In 6.2.3, I argue that a much closer overt counterpart of INO are indefinite bare plurals or mass nouns with a contextually determined lexical content. In the example above, it would be the phrase *věci ze dřeva* 'things from wood' or a similar expression. However, as I show in 5.2.3, BP&MN are similar to INO only meaning-wise; when it comes to their syntactic properties, INO differ from BP&MN significantly as well.

INO can denote both inanimate ((149)) and animate ((150)) entities, depending on the lexical semantics of the verb and on the context in which the verb appears.

(149)   Karel   celý den psal___   / četl___   / jedl___   / stavěl___   /
        Charles all   day wrote.IMPF / read.IMPF / ate.IMPF / built.IMPF /
        boural___   / pekl___   / fotil___   / natíral___
        pulled down.IMPF / baked.IMPF / photographed.IMPF / coated_with_paint.IMPF
        / vyprávěl___   / tvořil___   / počítal___.
        / narrated.IMPF / created.IMPF / counted.IMPF
        'Charles was writing / reading / eating / building / demolishing / baking / pho-
        tographing / coating with paint / narrating / creating / counting all day.'

(150)   Karel   celý den léčil___   / masíroval___   / šidil___   / křtil___   /
        Charles all   day cured.IMPF / massaged.IMPF / cheated.IMPF / baptized.IMPF /
        učil___   / obtěžoval___.
        taught.IMPF / bothered.IMPF
        'Charles was curing / massaging / cheating / baptizing / teaching / bothering all
        day.'

Several verbs from (149) could appear with an animately interpreted INO in an appropriate context, and vice versa. The division between (149) and (150) captures just a tendency, not two strictly separated classes.

The referential span of INO that includes both animates and inanimates is one of the characteristics that distinguishes them from the generic null objects, discussed in the first part of this dissertation. GNO can denote human and human-like entities only (see 3.1.3), and they appear only in sentences with so-called generic reference, i.e. sentences that denote some general truth. As a result, imperfective verbs with generic null objects are always interpreted habitually and can never denote a single ongoing event, in sharp contrast to imperfective verbs with INO. In generic contexts, GNO combine with both perfective and imperfective verbs, which again contrasts with INO, licensed only with imperfectives.

(151) Mozartova hudba rozveseluje__ / rozveselí__ / dokáže rozveselit__ / *právě
       Mozart's music cheers up.IMPF / cheers up.PF / can   cheer up.PF / right
       teď rozveseluje__.
       now cheers up.IMPF
       'Mozart's music cheers one up / can cheer one up / is cheering one up right now.'

The closest overt counterpart of GNO is the generically interpreted singular noun *člověk*
'man, human' rather than *někdo* 'someone'. In 4.3, I argue that another crucial difference
between GNO and INO is that there is no evidence for the syntactic representation of the
latter, while there is evidence for the syntactic representation of the former (see 2.2).

   This short summary of the GNO-INO distinction predicts that an imperfective, habi-
tually interpreted verb that takes human objects should allow both INO and GNO as its
internal argument. This is indeed the case, as confirmed by the following sentences with
the predicate *vyšetřovat* 'medically examine'. In (152), the null patient is interpreted as
indefinite, and as expected, only the imperfective form of the verb is allowed. In (153), the
null patient is interpreted generically, and both the imperfective as well as the perfective
verb form are allowed.

(152) Doktor Dvořák (teď/pravidelně) vyšetřuje__/*vyšetří__   ve vedlejší
       doctor Dvorak now/regularly   examines.IMPF/examines.PF in next
       místnosti.
       room
       'Dr. Dvořák is examining / examines in the next room (now/regularly).'

(153) Doktor Dvořák vyšetřuje__/vyšetří__   za pomoci rentgenu, jenom když
       doctor Dvorak examines.IMPF/examines.PF with help roentgen only   when
       musí.
       must
       'Dr. Dvořák examines one with the help of X-ray only when he has to.'

In most cases, the context distinguishes between the two types of null arguments, as in
the examples above. But it is possible to construct an ambiguous sentence where both
interpretations are at play.

(154) Doktor Dvořák vyšetřuje__   každý den v jiné   místnosti.
       doctor Dvorak examines.IMPF every day in another room
       A: 'Every day, Dr. Dvořák examines/is examining in another room.'

B: 'Every day, Dr. Dvořák examines one in another room.'

The indefinite interpretation, captured in A, is much more likely and it says that every day there is a different room in which Dr. Dvořák examines people, whereby different people can be examined by him in that room every day. On the generic interpretation in B, the sentence says that when one is examined by Dr. Dvořák, one is examined every day in a different room. In that case, GNO takes the wide scope with respect to the universal quantifier. (In addition, the sentence has to be uttered by someone who has either a personal experience with being repeatedly treated this way or to whom such experience was mediated, let's say as a word-of-mouth, as discussed in 3.3.) The B reading can be forced if the statement in (155) is followed by a clause with an overt generic noun co-referring with the empty position.

(155)   Doktor Dvořák vyšetřuje___$_i$ každý den v jiné   místnosti, a   člověk$_i$
         doctor Dvorak examines.IMPF every day in another room   and human
         aby   si   pak pořád zvykal na nové prostředí.
         COND REFL then always used   to new environment
         'Every day, Dr. Dvořák examines one in another room, and one then always has

         to be getting used to a new environment.'

Notice that when the reading A is true, it is expected that reading B will be true as well, on the basis of common sense. However, A does not entail B. If Dr. Dvořák normally examines his patients in a different room every day, but the speaker happens to be the person who is always treated by Dr. Dvořák in the same room, he can rightfully deny the truth of B, on the basis of his own experience, while A is still true. One possible scenario to achieve this is if Dr. Dvořák indeed treats his patients in different rooms on different days, but for the recurring patients, he remembers what room was used on the day of their first visit and he always uses that same room with that particular patient in the future.

4.3   Evidence Against the Syntactic Representation of INO

In this section, I present several arguments that point towards the conclusion that INO in Czech are not represented as syntactic entities. As is clear from my summary of INO-oriented research in the subsequent section, 4.4, most people assume this holds for INO in English as well.

Before rejecting the need for a syntactic representation of some non-overt linguistic entity, one should establish that such entity indeed exists, albeit at a level that is yet to be determined, and so it makes sense to introduce it as a theoretical concept. Cote (1996:117) puts forward the following three tests to determine whether or not a clause contains a null object: (A) The verb generally licenses an overt internal argument; (B) the overt argument carries the same basic semantic role as the hypothesized null object; (C) the hypothesized null object refers to a particular discourse entity, either by requiring an antecedent in the discourse, or by adding a new entity into the discourse context. The introductory INO example in (148) already confirms INO's compliance with the first two criteria: the verbs I claim to allow INO have overt direct internal arguments, and these arguments have the same semantic role of 'logical objects' or 'patients/themes'. (See 5.2.1 for more on INO's thematic role.) As for the last criterion, INO do not need an antecedent, but they do introduce a new discourse entity, which can be subsequently referred to with a pronoun (cf. Cote 1996:158 for the same observation in the case of English INO). In (156-a), the third person neuter pronoun *to* 'it' in the second clause refers to the object of Charles's eating. The same is true for (156-b), though in this case, *to* is referentially ambiguous since the object of praising can be either the output of Mary's painting or the painting activity as a whole.

(156)   a.   Karel   jedl___   rychle. Bylo to vynikající.
             Charles ate.IMPF quickly was it delicious
             'Charles was eating quickly. It was delicious.'

        b.   Marie malovala___   a   Karel   jí   to pořád chválil.
             Mary painted.IMPF and Charles her it always praised
             'Mary was painting and Charles was always praising it for her.'

Notice that this is completely ruled out for pure intransitive verbs. In (157-a), *to* can only refer to the eventuality of Charles's sleeping. In (157-b), there is no way *to* would refer to the unexpressed goal of Mary's path (and it cannot refer to the event of coming for pragmatic reasons, hence the semantic oddness of the whole expression). The sentence would only be acceptable if the referent of *to* was established in the previous discourse, which does not exist here.

(157)   a.   Karel   spal.   Bylo to děsivé.
             Charles slept.IMPF was   it scarry
             'Charles slept. It was scary.'

        b. #Marie přicházela, ale bylo to zavřené.
             Mary came.IMPF but was it closed
             'Mary was coming, but it was closed.'

To follow up on the criteria for positing a null object set up by Cote, INO can not only do without a discourse antecedent or another contextually salient entity, but if there is a salient antecedent, INO is not allowed to refer to it.

(158)   Jedl   jsi   tu   polévku? – #Jedl   jsem___.
        Ate.IMPF AUX.2SG that soup?   ate.IMPF AUX.1SG
        'Were you eating that soup?' – 'I was eating.'

Even when there is apparent referential equivalence between INO and the salient antecedent, it can always be canceled.

(159)   Uklízel   sis   pokoj? – Uklízel   jsem si___, ale ne pokoj.
        Cleaned.IMPF AUX.2SG room?   cleaned.IMPF AUX.1SG   but not room
        'Were you cleaning your room?' – 'I was cleaning, but not my room.'

These data also suggest that INO are semantically closer to regular nouns, introducing new entities in the discourse, than to pronouns that get their interpretation through antecedent identification or through deixis. If INO belonged to the class of referential pronouns, we would expect the opposite behavior from the one illustrated in (158) and (159), as shown below.

(160)   Jedl   jsi   tu   polévku$_i$? – Jedl   jsem   ji$_{i/*j}$.
        Ate.IMPF AUX.2SG that soup?   ate.IMPF AUX.1SG her
        'Were you eating that soup?' – 'I was eating it.'

(161)   Uklízel   sis   pokoj? – Uklízel   jsem si ho, #ale ne pokoj.
        Cleaned.IMPF AUX.2SG room?   cleaned.IMPF AUX.1SG him   but not room
        'Were you cleaning your room?' – 'I was cleaning it, but not my room.'

Given the topic of the first part of the thesis, it is fair to note that Cote's third criterion for there being a null object, the object's demonstration of referentiality, cannot be met

by GNO, given their status of quantifier-bound variables. It would be more accurate to generalize her view of null objects by saying that the semantic variables they correspond to can either introduce a new referent, pick up a discourse referent, or be bound.

4.3.1 INO versus Verb-Stranding VP Ellipsis

It should be mentioned that in contrast to the unacceptable question-answer pair in (158), the following sentences are grammatical, whereby the non-expressed direct object is interpreted on a par with overt pronouns in (160) and (161), as referring to the same entity as the overt object in the question:

(162)   Jedl   jsi   tu polévku? – Jedl   [e].
        ate.IMPF AUX.2SG that soup?   ate.IMPF
        'Were you eating that soup?' – 'I was.'

(163)   Uklízel   sis   pokoj? – Uklízel   [e].
        cleaned.IMPF AUX.2SG room?   cleaned.IMPF
        'Were you cleaning your room?' – 'I was.'

(164) and (163) are examples of verb-stranding VP ellipsis (VVPE), a construction that forms a natural class with auxiliary-stranding VP ellipsis in English, and that can be found in a number of other languages, such as Modern Hebrew, Modern Irish or Swahili (Goldberg 2005). VVPE is analyzed as a PF deletion of a vP/VP, out of which the main verb has raised, presumably to T (though see Gribanova 2013 for arguing that in Russian, VVPE is present even though the verb only raises to Asp). In contrast to INO, which are limited to imperfective clauses, VVPE is not sensitive to the verbal aspect, as confirmed by the following VP ellipsis stranding a perfective verb.

(164)   Snědl jsi   tu polévku? – Snědl [e] / *Snědl jsem___.
        ate.PF AUX.2SG that soup?   ate.PF   ate.PF AUX.1SG
        'Did you eat that soup?' – 'I did / I ate.'

Across languages, VVPE is rather strictly limited in that it follows the verb identity requirement (Goldberg 2005:170). Moreover, Czech VVPE seems to be limited to question-answer pairs (pending further research). This contrasts with a more common VP ellipsis after a modal verb, which can be found in subordinate clauses as well, as observed by McShane

(2000:203).

(165)   Marie ne-smí   číst   tu knihu od   tebe, ale doufám, že   Karel smí [e].
           Mary not-must read.IMPF the book from you   but hope.1SG that Ch.   can
           'Mary is not allowed to read the book from you, but I hope that Charles is.'

(166)   *Marie ne-přečetla tu knihu od   tebe, ale doufám, že   Karel   přečetl [e].
           Mary not-read.PF the book from you   but hope.1SG that Charles read.PF
           'Mary did not read the book from you, but I hope that Charles did.'

Instead of stranding the tensed main verb, (166) can be expressed as follows:

(167)   Marie ne-přečetla tu knihu od   tebe, ale doufám, že   Karel   ano.
           Mary not-read.PF the book from you   but hope.1SG that Charles yes
           'Mary did not read the book from you, but I hope that Charles did.'

Even though there are clear differences between VVPE and INO, the two might be confused in the context of a question-answer pair with an imperfective tensed verb in third person, as in the following example:

(168)   Sbíral   Karel   jabka? – Ano, sbíral   [e].
           collected.IMPF Charles apples?   yes   collected.IMPF
           'Was Charles picking apples?' – 'Yes, he was.'

For cases like this, Goldberg (2005) provides several tests distinguishing between VVPE and argument drop. Even though most of her tests do not apply in Czech, there is one that can be used successfully. It is based on the observation that certain constituents cannot elide independently. If they then elide together with a verb, we can be sure that we are dealing with VP ellipsis. Concretely, it is known that the VP-adjuncts, both PPs and adverbs, cannot become silent and still semantically present on their own:

(169)   a.   Karel   chodil   s kamarádem do školy a   Marie chodila   do školky.
                Charles went.IMPF with friend   to school and Mary went.IMPF to nursery
                'Charles was going to school with a friend and Mary was going to a kinder-

                garten (not with a friend).'

        b.   Karel   náruživě   četl   detektivky a   Marie četla   pohádky.
                Charles passionately read.IMPF thrillers   and Mary read.IMPF fairy tales
                'Charles passionately read detective novels and Mary read fairy tales (not

passionately).'

In the following VVPE-allowing contexts, not only the direct object but also PP-adjuncts and manner adverbs are elided but still semantically present in the second clause. This supports the analysis of these examples as cases of verb-stranding VP ellipsis. As expected, not only imperfectives (170) but also perfectives (171) can undergo this type of elision.

(170)   a.   Sbíral   Karel   včera   jabka do pytle? – Ano, sbíral ___.
                 collected.IMPF Charles yesterday apples into bag   yes   collected.IMPF
                 'Was Charles yesterday gathering the apples into a bag? – Yes, he was (yes-

                 terday gathering the apples into a bag).'

    b.   Věšela   Marie prádlo pečlivě? – Ano, věšela ___.
                 hanged.IMPF Mary clothes carefully   yes   hanged.IMPF
                 'Was Mary carefully hanging the clothes? – Yes, she was (carefully hanging

                 the clothes).'

(171)   a.   Posbíral   Karel   včera   jabka do pytle? – Ano, posbíral ___.
                 collected.PF Charles yesterday apples into bag   yes   collected.PF
                 'Did Charles gather the apples into a bag? – Yes, he did (gather the apples

                 into a bag yesterday).'

    b.   Pověsila   Marie prádlo pečlivě? – Ano, pověsila ___.
                 hanged.PF Mary clothes carefully   yes   hanged.PF
                 'Did Mary carefully hang up the clothes? – Yes, she did (carefully hang up

                 the clothes).'

For comparison, I provide the following null-object-allowing contexts, where a PP-adjunct or a manner adverb in the antecedent clause cannot be elided in the target clause as a part of VP ellipsis because it is semantically incompatible with another adjunct that appears in the target clause overtly. Hence we must be dealing with something other than VVPE. In this case, only imperfectives allow their object to be phonetically null (172), while perfective verbs lead to ungrammaticality (173), suggesting we are dealing with INO. (For more on cases of contextually specified INO, see Chapter 6.)

(172)   a.   Všichni sbírali   jabka   na   hromadu, ale Karel   rychle
                all   collected.IMPF apples onto pile   but Charles quickly
                sbíral __   do   pytle.
                collected.IMPF into bag
                'Everybody was gathering the apples onto a pile, but Charles was quickly

                gathering (apples) into a bag.'

         b.   Marie pečlivě věšela   prádlo, ale všimla si, že   Karel   věší __
                Mary carefully hanged.IMPF clothes but noticed   that Charles hangs
                jen tak ledabyle.
                just so   carelessly
                'Mary was carefully hanging the clothes, but she noticed that Charles was

                hanging (clothes) carelessly.'

(173)   a.   Všichni posbírali   jabka na   hromadu, ale Karel   posbíral   *(jabka)
                all   collected.pf apples onto pile   but Charles collected.PF apples
                do   pytle.
                into bag
                'Everybody gathered the apples onto a pile, but Charles gathered them into

                a bag.'

         b.   Marie pečlivě pověsila   prádlo, ale všimla si, že   Karel   *(ho) pověsil
                Mary carefully hanged.PF clothes but noticed   that Charles   it   hanged
                jen   tak ledabyle.
                only so   carelessly
                'Mary carefully hanged up the clothes, but she noticed that Charles hanged

                (it) up carelessly.'

4.3.2 INO's Inability to Control, A-Bind or Become SC Subjects

Once the need for the theoretical concept of indefinite null objects is justified, we can expose
them to the same syntactic relations that GNO were exposed to in 2.2, in an attempt to
verify their independent presence in syntax: reflexive binding, secondary predication, and
control.

First of all, INO clearly cannot serve as binders for Condition A. Even though the
reflexive pronouns in (174-a) and (175-a) can be bound either by the subject or by the
object, once the overt direct object is replaced by an INO, the reflexive can be bound only
by the subject.

(174)   a.   Karel$_i$ maloval   nějaké objekty$_j$ vedle sebe$_{i/j}$.
             Charles drew.IMPF some   objects   next self/selves
             'Charles was drawing some objects next to himself/themselves.'

        b.   Karel$_i$ maloval___$_j$ vedle sebe$_{i/*j}$.
             Charles drew.IMPF   next self/selves
             'Charles was drawing next to himself.'

(175)   a.   Karel$_i$ včera   na schůzi   zbytečně   poštvával   ty   lidi$_j$
             Charles yesterday at assembly unnecessarily prompted.IMPF those people
             proti   sobě$_{i/j}$.
             against self/selves
             'Yesterday at the assembly, Charles was unnecessarily prompting people against

             himself/themselves.'

        b.   Karel$_i$ včera   na schůzi   zbytečně   poštvával___$_j$ proti
             Charles yesterday at assembly unnecessarily prompted.IMPF against
             sobě$_{i/*j}$.
             self/selves
             'Yesterday at the assembly, Charles was unnecessarily prompting against him-

             self.'

In Section 2.2.4, I utilized small clause constructions of the form *dělat někoho nějakým*
'make sb. ADJ' to confirm the syntacticity of GNO. When applied to INO, this test
gives the opposite result, speaking against their syntactic representation. Even though these
constructions can be used in episodic contexts and they can have an overt indefinite nominal
phrase as their SC subject, as in (176-a) and (176-b), the subject position cannot remain
empty and be interpreted as an INO as in (176-c). (Recalling that GNO allowed only
singular-marked adjective within SC (see (97)), I provide both singular- and plural-marked
adjectives in the example below. Both number values are equally unacceptable with a null
object/SC subject, which confirms that we are dealing with a different category of null
objects than the one represented by GNO.)

(176)   a.   Karel   právě dělá   svým rozhodnutím nějakého člověka velmi
             Charles just   makes.IMPF his   decision.INST some   human very
             nešťastným.
             unhappy.INST.SG.M
             'Charles is just making someone very unhappy by his decision.'

        b.   Karel   právě dělá   svým rozhodnutím nějaké lidi   velmi
             Charles just   makes.IMPF his   decision.INST some   people very

nešťastnými.
unhappy.INST.PL
'Charles is just making some people very unhappy by his decision.'

c. *Karel   právě dělá___   svým rozhodnutím velmi
Charles just   makes.IMPF his   decision.INST very
nešťastným/nešťastnými.
unhappy.INST.SG/PL
'Charles is just making very unhappy by his decision.'

It should be noted that the SC construction employed above is much more common in generic statements than in the episodic ones, and its subject can refer not only to humans but also to inanimate entities, as e.g. in (177). (It should also be noted that instrumental case on the predicative adjective can alternate with accusative in Czech – but I do not use the accusative version here since we know already that GNO are not compatible with it, cf. 3.2.3; neither would it change the grammatical judgments in this section.)

(177)   a.   Tohle hnojivo dělá   některé kytky   náchylnými k plísním.
this   fertilizer makes some   plants.ACC prone.INST to mold
'This fertilizer makes some plants prone to mold.'

b.   Tvůj objektiv   dělá   focený   obraz   menším   než můj.
your object-lens makes photographed image.ACC smaller.INST than mine
'Your object-lens makes the photographed image smaller than mine.'

If INO could appear in the sentences above (providing all other requirements for their derivation were satisfied), we would expect them to have the same broad reference as they have in other sentences, corresponding roughly to 'something' or '(some) plants' or 'whatever is photographed'. However, the only possible interpretation that the sentences above can have when their SC subject is null is that of a generalization about persona-having, human-denoting objects, the interpretation involving GNO. This leads to a funny, pragmatically odd statement in the sentence about a fertilizer in (178-a), and to a plausible statement in (178-b) about how one's object-lens makes the photographed person smaller than another object-lens.

(178)   a. #Tohle hnojivo dělá___ náchylným k plísním.
this   fertilizer makes prone.INST to mold
'This fertilizer makes (one) prone to mold.'

b. Tvůj objektiv dělá__ menším než můj.
   your object-lens makes smaller.INST than mine
   'Your object-lens makes (one) smaller than mine.'

In principle, sentences with habitually interpreted verbs can have indefinitely interpreted null objects, as shown in (147). The above exemplified incompatibility of INO with a habitual predicate taking a small clause argument thus supports the conclusion that INO are not syntactic entities.

Another common test for the syntactic presence of an implicit argument is its ability to become a controller into an infinitival clause (Rizzi 1986, Authier 1989, Landau 2010). To reject the syntacticity of INO on the basis of this test, we need to find a verb which allows an implicit indefinite object when not combined with an infinitive, but which disallows it when it should control the infinitival subject PRO. One such verb is *učit* 'to teach'. Since this verb commonly combines with human direct objects, I pick a non-generic context in the sentences below, to avoid the confusion with GNO. In (179-a), we can see that *učit* allows an INO roughly corresponding to 'someone' (some recipient(s) of teaching) or 'something' (some material that is being taught). (*Učit* can take both of these arguments separately or together if they are overt, with the theme argument alternating between dative and accusative morphological case, e.g. *učit děti*.ACC *matemati-ce*.DAT/*-ku*.ACC 'teach kids Math'; the dative form is considered archaic.) (179-b), however, where the INO is supposed to control the subject of an infinitival clause, is odd at best. Interestingly, if the controlled infinitive gets replaced by an event noun with the same lexical meaning, the grammaticality improves significantly, as shown in (179-c).

(179) a. Marie ne-může vzít telefon, protože zrovna učí__.
          Mary not-can pick phone because just teaches.IMPF
          'Mary cannot pick up the phone because she is teaching right now.'

       b. */??Marie ne-může vzít telefon, protože zrovna učí__$_i$ [PRO$_i$ zpívat].
            Mary not-can pick phone because just teaches.IMPF   sing.INF
          'Mary cannot pick up the phone because she is teaching to sing right now.'

       c. Marie ne-může vzít telefon, protože zrovna učí__
          Mary not-can pick phone because just teaches.IMPF
          zpěv-∅/zpěv-u.
          singing-ACC.SG.M/-DAT.SG.M
          'Mary cannot pick up the phone because she is teaching singing right now.'

An event of singing always has to have a logical subject, a singing agent. In (179-c), this agent has to be referentially identical with the logical object of teaching, just like in (179-b). Since both sentence make the same semantic contribution, it has to be the presence of the control relation what makes (179-b) unacceptable, because this is the only thing that distinguishes (179-b) from (179-c).

Other candidates for the control-based test are transitive verbs with a prepositional argument that alternates with an infinitival clause. The example below shows that even if some such verb allows INO when combined with a PP, the same structure is quite marked when that PP is replaced by an infinitive.

(180) a. Karlík prý   včera   naváděl   své spolužáky$_i$ k
           Charlie reportedly yesterday incited.IMPF his classmates ACC to
           nepřístojnostem / [PRO$_i$ dělat   nepřístojné věci].
           improprieties   do.INF improper   things
           'Yesterday, Charlie was reportedly inciting his classmates to improprieties /
           to do improper things.'

       b. Karlík prý   včera   naváděl___$_i$ k nepřístojnostem / $^{??}$[PRO$_i$
           Charlie reportedly yesterday incited.IMPF   to improprieties
           dělat   nepřístojné věci].
           do.INF improper   things
           'Yesterday, Charlie was reportedly inciting to improprieties / to do improper
           things.'

Recall that if the same verb combines with a generic null object, corresponding roughly to 'any person' or 'people in general', it allows control without problems, as discussed in 2.2.2 in relation to (40-a), repeated here as (181).

(181) Ošemetný vnitřní hlas někdy   navádí___$_i$ [PRO$_i$ ne-přiznat se   k
       tricky   inner   voice sometimes incites   not-admit REFL.ACC to
       vině a   PRO$_i$ tiše   čekat, jak vše   dopadne].
       guilt and   quietly wait   how everything falls
       'A tricky inner voice sometimes incites one not to admit one's guilt but to quietly
       wait how everything turns out.'

Even though the reliability of control as a test for syntactic representation has been debated, on account of control itself being a semantic relation (see Section 2.2.2), it is quite telling

that the outcome of this test for INO is the opposite of the one we got for GNO, and converging with the tests that we've used in this chapter so far, confirming that Czech INO should not be assigned a syntactic position.

4.3.3 Inability to Bind under B&C Conditions and Not-Pronominal-Like Way of Referring

Landau (2010) claims that implicit arguments that do not licence secondary predication and reflexive binding can still be seen to be syntactic by counting as binders for Conditions B/C. He uses the following example from Hebrew to show that null objects in Hebrew have to be represented in syntax in some way, presumably as a cluster of φ-features:

(182)   Hi cilma___$_{i/*j}$ be-zman ha-ne'um   šel Buš$_j$.
          she photographed in-time   the-speech of Bush
          'She photographed during Bush's speech.'   Landau 2010:(59a)

Interestingly, this is not true for the Czech counterpart of (182), which features an INO. The empty object can be paraphrased as 'various entities that could be photographed during the event of Bush speaking', and Bush himself could very well be one of these entities. Moreover, even if all the pictures that she took were pictures of Bush himself, (183) would still correctly describe such a situation. (See also (202) where the same type of example is used by Cote (1996) to show that INO cannot be syntactically represented as pronouns.)

(183)   Fotografovala___   během Bushova projevu.
          photographed.IMPF.3SG.FEM during Bush's   speech
          'She photographed during Bush's speech.'

In fact, Landau (p.c.) reports that the same holds for Hebrew if the null objects is interpreted indefinitely. He adds that the sentence in (182) shows Condition C effects only if the null object has a specific interpretation – which is not allowed in Czech in combination with this particular verb at all.

In the same vein, INO do not serve as binders for Condition B. In order to have a direct object in the position of a binder c-commanding a pronoun within its domain, I picked a sentence with an informationally marked word order, where the direct object precedes the

subject.

(184) a. Tady fotil   Karla_i   on_{*i/j}, (#protože chtěl
          here photographed.IMPF Charles.ACC he.NOM   because wanted.3SG.M
          mít svůj vlastní autoportrét).
          have his own   self-portrait
          'It was him who was photographing Charles here, because he wanted to have

          his own self-portrait.'

       b. Tady fotil___{i(+)/j}   on_i,   (protože chtěl   mít svůj vlastní
          here photographed.IMPF he.NOM because wanted.3SG.M have his own
          autoportrét).
          self-portrait
          'It was him who was photographing here, because he wanted to have his own

          self-portrait.'

The pronoun *on* 'he' in (184-a) cannot take the overt object as its antecedent since this would lead to Condition B violation. On the other hand, the null object in (184-b) can have the subject among the entities that it is co-referential with, especially if the context continues as in the parentheses.

   INO not only don't act as binders for Condition B, but they do not themselves obey this condition either, as the following comparison between a pronoun and an INO shows. While the overt object pronoun has to have a reference disjoint from that of the subject phrase, the INO can have a reference overlapping with that of the subject, especially if the context points in that direction, as in (185-b).

(185) a. Karel_i ho_{*i/j} celý den fotil,   (#protože chtěl   mít
          Charles him   all day photographed.IMPF   because wanted have
          co nejvíc autoportrétů).
          utmost   self-portraits
          Charles was photographing him all day since he wanted to have as many

          self-portraits as possible.

       b. Karel_i celý den fotil___{i(+)/j},   (protože chtěl   mít co nejvíc
          Charles all   day photographed.IMPF because wanted have utmost
          autoportrétů).
          self-portraits
          Charles was photographing all day since he wanted to have as many self-

          portraits as possible.

INO do not behave pronominally when it comes to allowing cataphoric reference either – which is something that distinguishes them from personal pronouns once more. In (186-a), the most probable interpretation of the INO is that it refers to a part-time worker that is mentioned in the subsequent clause (and possibly some other people). The overt pronoun in (186-b) can only pick an entity from the previous discourse or from the speech situation.

(186)   a.   Dnes zaučuju___$_{i+/j}$, protože mi poslali   nového brigádníka$_i$.
                today train.IMPF   because me sent.3PL new   temporary worker
                'I am training today, because they sent me a new temporary worker.'

         b.   Dnes zaučuju   jeho$_i$, protože mi poslali   nového brigádníka$_{*i/j}$.
                today train.IMPF him   because me sent.3PL new   temporary worker
                'I am training him today, because they sent me a new temporary worker.'

It should be remembered that the examples like (183) or (184-b) are not enough to rule out INO's syntactic representation in themselves. If a null argument corresponds to a variable bound by a sentence-level operator, as in the case of GNO discussed in Part I, it does not behave as a binder for Condition C with respect to another noun bound by the same operator, as exemplified in (187). Nonetheless, GNO pass other tests for syntactic representation, coming mainly from binding and small-clause subjecthood; see 2.2.

(187)   Tyhle prášky uklidňují___$_i$, protože dělají člověka$_i$ otupělého vůči
         these pills   calm.IMPF   because make human.ACC apathetic towards
         externím vjemům.
         external inputs
         'These pills calm (one) because they make one apathetic towards the external
         inputs.'

INO, in contrast, did not pass any of the available syntacticity tests. This leads to the main question that is dealt with in Part II: How are these phonetically empty and syntactically undetectable objects represented in the semantic component? More precisely, what is it about some verbs that they are interpreted as having an indefinite direct object even if there is nothing that corresponds to that object on the phonological and syntactic level?

4.4   Previous Approaches to INO

4.4.1   *He ate* and Its Mostly Lexicalist Analyses

INO and their cognates get various labels in the literature, associated with varying approaches to their analysis. Examples like *John ate* were discussed within the transformational generative grammar already in Chomsky 1964 where they were analyzed as 'deleted unspecified object' (see also Chomsky 1962, Katz and Postal 1964). Chomsky postulated the following transformational rule, operating at a deep level of syntactic structure:

(188)   Unspecified object deletion

   John ate something ⇒ John ate.

Bresnan (1978) proposed an alternative, lexical solution to the same issue. She argues that the verb *eat* has a logical object even if it lacks a grammatical object, which is what makes it different from the verbs like *sleep* which have no object at all. In her view, *John ate* is intransitive in syntax, but it is 'transitive' in the lexicon, where the argument structure for the verb *eat* allows the following conversion from a two-place relation to a one-place predicate:

(189)   a.   x EAT y

   b.   ($\exists$y) x EAT y

The following 'functional structure' provides a direct mapping between the 'argument structure' in (189-b) and the syntactic context of an intransitive verb:

(190)   ($\exists$y) NP$_1$ EAT y

Chomsky (1964) and Bresnan (1978) ushered in a long-lasting debate about the syntactic versus lexical nature of INO, which I am reopening here, equipped with new theoretical tools that weren't available some forty years ago. But the basic question remains the same: should the existence of INO be captured in syntax, in the form of some systematically

applying rule, or should it be captured in the lexicon, as a property of individual verbs?[21] While the latter approach might be more apt for the English examples like *John ate*, I argue that the former path should be taken in the case of Czech INO.

Before diving into the intricacies of INO in Czech, let me discuss the approaches to INO in English in a bit more detail. Bresnan's lexical mapping rule was critically examined by Fodor and Fodor (1980) who observe that the implicitly existentially quantified argument always has a nonspecific reading, with an overt quantifier taking scope over the implicit one. This is in sharp contrast to an overt indefinite and does not follow from (189) because a syntactically introduced quantifier (associated with NP_1 in (190)) could in principle take either wide or narrow scope with respect to a lexically specified one.

(191)   Everyone ate.

    $\Rightarrow$ For everyone there was something that he/she ate.

    $\not\Rightarrow$ There was something that everyone ate.

(192)   Everyone ate something.

    $\Rightarrow$ For everyone there was something that he/she ate.

    $\Rightarrow$ There was something that everyone ate.

To overcome this problem, Fodor and Fodor (1980) handle the existential entailment of verbs like *eat* by rules of logical inference, rather than by lexical rules associating quantifiers with a syntactic form. These inference rules are a type of meaning postulates because they have to be specified for individual lexical items, but they apply to semantically interpreted sentences, after the lexicon-syntax mapping. As a consequence, an unrealized object of *eat* is present neither in syntax, nor in the lexical functional structure, and the authors have to postulate two distinct EAT predicates, a dyadic and a monadic one, accompanied by two separate lexical mapping rules:

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[21]Note that Chomsky's transformational rule in (188), although located in syntax, seems to be item-specific (unless it was conceived as an example of a broadly applicable rule in which case it would be vastly over-generating). This makes the distinction between his and Bresnan's approach rather nominal.

(193)   *eat:*   V, [____ NP]   NP$_1$ EAT NP$_2$

                  [____]   NP$_1$ EAT

The task of the meaning postulate is to relate these two cases of *eat*. Fodor and Fodor give it the following form:

(194)   x EAT $\equiv$ ($\exists$y) x EAT y

By requiring that meaning postulates are formulated only for unscoped elements, they achieve that *eat* with a quantified subject has only the weak quantificational reading of the entailed object. Fodor and Fodor (1980) conclude that quantificational structure must be assigned *after* lexicon-syntax mapping because it is intertwined with logical inference, and should therefore be viewed as a property of truth-valuable objects, i.e. sentences, and not as a property of lexical entries.

Mittwoch (1982) argued that the rule in (194) needs to be amended to the following form:

(195)   x EAT $\equiv$ ($\exists$y) x EAT of y

According to Mittwoch, even though *John ate* entails *John ate something*, *John is eating* does not entail *John is eating something* (where *something* is interpreted simply as existential quantification of the object variable). This stems from the assumption that *eat* is an 'activity predicate' while *eat something* is an 'accomplishment predicate', thanks to the presence of an object *something* which has the feature [+delimited quantity]. If someone is in the process of eating that has not finished yet, we should not be able to say that there is some delimited quantity (of "stuff") that he was eating. The purpose of 'of' in (195) is to help to avoid this issue since it reduces the entailment to asserting that there is some delimited quantity of something, but x was only eating an unquantified part of it.

I consider Mittwoch's approach to be misleading for several reasons. First of all, intuitively, *John is eating* does entail *John is eating something* since 'something' can refer even to the smallest part of the eaten food that is currently in John's mouth, as in the following example:

(196)   John is always eating something.

In other words, one can always conceive some (delimited) quantity of "stuff" that John is "working on" when *eat* is used intransitively and as an in-progress event (while the entailment that there is some delimited quantity that he actually ate would of course be incorrect). Notice that Mittwoch does not have a problem with the same entailment in the case of the intransitive *John ate* since that happened in the past, so we can make an inference about "some delimited quantity" being eaten.

I suspect that the modification in (195) is a result of Mittwoch's attempt to preserve the Vendlerian distinction between activities and accomplishments also when a verb gets progressivized. Since she argues in her other works that process verbs like *eat* are accomplishments only when accompanied by a [+delimited quantity] object, she cannot admit the presence of such an object also in the case of activity-denoting, intransitive *eat*. The issue here is that once the verb is in the *-ing* form, describing an ongoing event, the postulated distinction between activities and accomplishments is overridden. This is confirmed by the fact that all progressivized process verbs behave like activities for the purpose of Dowty's (1979) classical tests distinguishing accomplishments from activities.

(197)   John was eating something/peanuts/porridge/an apple/some apples/___ for/*in
          an hour.

Even though I do not agree with Mittwoch's conclusion, I include her contribution here since it touches on some important issues about the relationship between telicity and INO that will be addressed in Part III.

In contrast to Fodor and Fodor (1980) and Mittwoch (1982), Dowty (1978, 1981) maintains that the optional object of *eat* is the result of a lexical rule that simply changes a transitive verb into an intransitive one. This semantically corresponds to mapping a binary relation R (which is the denotation of a transitive verb) into a set S such that:

(198)   For any individual x, x ∈ S iff ∃y s.t. ⟨x, y⟩ ∈ R   Dowty 1978:404

For Dowty, the same effect is caused also by the passivizing *-en*, except that in that case, the ∃-operator quantifies over the other member of the ordered pair that represents an external argument; see also Chierchia 2004:29. (For an early opposition to Dowty's lexicalist approach to agentless passive verbs, see Bach 1980.)

Other researchers who argue for the implicit presence of INO in the lexicon are Quirk *et al.* (1985), Zubizarreta (1985), Hale and Keyser (1986), Fellbaum and Kegl (1989), Jackendoff (1990) and Cote (1996). Zucchi (1989) extends the possibility of implicit existential quantification to argument positions of event nominals. He formulates the rules of implicit satisfaction for the English *of*-phrase and *by*-phrase when combining with the nominals like *destruction*, closely following Dowty in situating these rules in the lexicon.

It is somewhat disturbing that the most indepth discussions of INO in 1970s and 1980s were revolving around a single verb *to eat.* The notable breakthrough in this tradition is Levin (1993:33), who listed over forty verbs in English as examples of the 'unspecified object alternation'. They include the verbs *bake, carve, clean, cook, drink, eat, hunt, paint, play, sing, study, wash, write,* etc.[22] Levin also notes that the intransitive variants of these verbs are 'understood to have as object something that qualifies as a typical object of the verb'.

(199)   Mike ate. (→ Mike ate a meal or something one typically eats.)

The approaches to INO summarized in this section differ in details, but all of them agree in two crucial aspects: (1) the null object in sentences like *John ate* does not correspond to a syntactically represented argument; (2) its existence follows from rules formulated for each lexical semantic predicate that it combines with. I am arguing that the first postulate holds in Czech as well (see 4.3), but the second one does not.

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[22]For Levin, this alternation is just one of several types of 'unexpressed object alternation'. The other types of objects that can be omitted in English are: understood body parts (*John waved*), understood reflexive objects (*John bathed*), understood reciprocal objects (*John and Mary met*), generic objects (*That movie always shocks*), objects involved in describing a characteristic property of an agent (*That dog bites*), objects involved in describing a characteristic property of an instrument (*This knife doesn't cut*), way-objects (*They pushed (their way) through the crowd*), and instructional imperatives (*Bake (the cake) for 30 minutes!*).

4.4.2 A Broader Perspective: Indefinite versus Definite

The list of scholars working on INO that appeared in the previous section is by no means exhaustive – even though it is representative of the most influential approaches to INO's analysis. Many articles on null objects from the time before and during the Principles and Parameters Theory revolve around the distinction between 'indefinite' and 'definite' null objects. The terms were coined by Fillmore (1969, 1986), but the distinction itself goes back even further, to Katz and Postal (1964) who distinguished between the deletion of *it* versus *something* at the level of D-structure. Fillmore (1969) proposed that it has to be specified for each predicate whether it can have a null complement with an indefinite interpretation, or with a definite interpretation. Fraser and Ross (1970) assume that the null object of *Max read / Max is reading* undergoes 'unspecified object deletion', which makes it different from the null object of the verbs like *I approved / I began / I insisted*, which has an anaphoric interpretation. In the reaction to their article, Mittwoch (1971) assumes the existence of a definite object deletion rule as well, for cases like *The FBI found out.*

Shopen (1973) distinguishes between indefinite and definite 'constituent ellipsis', as in *Bill received a letter today (from someone/somewhere)* versus *Bobby refused (to do it)*. Indefinite ellipsis does not have the property of 'unique identifiability' while definite ellipsis does – and it does not have to be achieved only by an anaphoric interpretation but can also be achieved by deixis. Shopen further argues that none of these ellipses can be generated from non-elliptical sources by deletion rules and that they are due to the lexico-semantic properties of individual verbs. In an analogous way, Allerton (1975) differentiates indefinite (object) deletion (as with the verbs *read, clean, cook, drive, examine, hunt, paint, sew, think (about), telephone, type,* etc.) from contextual deletion. The latter can be linguistically defined – anaphoric (as in *I see you've got today's 'Guardian'. May I look?*), or situationally defined (as in A: *Was that a wrong note just then?* – B: *Sorry, I wasn't listening*). In Allerton's view, indefinite deletion involves the presence of an indefinite proform and definite deletion the presence of a definite proform.

Shopen's term 'indefinite ellipsis' as well as Allerton's 'indefinite deletion' were criticized by Thomas (1979) for redundancy. He points out that null indefinite objects do not contribute any information that would not be already expressed overtly, so there are no

grounds for positing the existence of an element (e.g. *something*) that would get deleted. (I get back to this point when discussing the presuppositional character of INO in 6.2.3.) Shopen prefers to use the term 'non-realization', having in mind the absence of potential elements. This is enabled by the existence of 'optionally transitive verbs', which stand in opposition to 'obligatorily transitive verbs', which allow true ellipsis.

Fillmore (1986) reinforces the lexicon-based view of 'indefinite null complements' by saying that they are "limited to particular lexically defined environments", such as the object slot of verbs like *eat, read, sing, cook, sew, bake* (Fillmore 1986:95). He suggests that these verbs, when used intransitively, have an understood object that could be paraphrased as *stuff*. The referential identity of such an object is unknown, or a matter of indifference, as shown by the follow-up clause in (200-a). On the other hand, 'definite null complements' correspond to something that is already known from the context, so they do not allow the same continuation (see (200-b)).

(200)   a.   He was eating; I wonder what he was eating.

         b. #They found out; I wonder what they found out.   Fillmore 1986:96

He is also aware that in some highly restricted mini-genres, the possibility of object omission is much higher: *Store in a cool place, Shake before using, Keep out of reach of children.* For a recent take on these special registers, see Ruda 2014.

4.4.3   Lexicon Is Not Omnipotent

Even though the overwhelming bulk of the literature on English INO suggests that the possibility of leaving a theme is listed for individual lexical predicates, there are a handful of authors who do not adhere to such a viewpoint. For Rice (1988), INO represent variation which is "not strictly a function of the verb's inherent meaning", therefore, it "does not warrant additional lexical entries". In her view, this forces researchers like Bresnan (1982) or Hale and Keyser (1986) to make unwarranted assumptions about the lexicon's power. Rice sees object omission as a result of a collection of paradigmatic rather than idiosyncratic semantic factors, such as the verb type (verbs that conflate action and manner tend to resist object omission: **Celia nibbled/chewed/bit* versus *Celia ate*), or the object type (objects

denoting wholes are more likely to be left out than objects denoting parts: *Travis let Billy drive (the car)* versus *Travis let Billy gun *(the motor))*. In general, Rice claims, the semantically 'neutral' verbs with objects that are neither too specific nor too general are the most prone to object omission. The omitted object then represents the verb's 'prototypical complement', giving rise to the default interpretation, cf. *When he goes to Boston, John drives (a car / *a Toyota / *a motorcycle / *a vehicle)*.

An unorthodox approach to INO is presented by Martí (2011), who is primarily motivated by defeating the view that English INO are purely pragmatic in nature (Groefsema 1995, a.o.). Martí argues that the INO of verbs like *eat, bake, smoke, drink, read, write, hunt, cook, sing, carve, knit, weed, file, write,* etc. are grammatically represented, number-neutral nouns, not too different from nouns incorporating into verbs in noun-incorporating languages. Her argumentation is based on the fact that English verbs with implicit indefinite objects are generally atelic (except for *John ate for/in and hour*), and they describe conventional, name-worthy, institutionalized, habitual activities – just like verbs that have undergone noun-incorporation (cf. Mithun 1984, Dayal 2011b:164). I get back to the ties between INO derivation and noun-incorporation in 5.2.3.

Several other scholars, though adhering to the lexicon-based analysis of INO, are aware that the interpretation of INO cannot be determined just from the verb's lexical specification since the context of utterance plays a role in interpreting and/or licensing INO as well (Rizzi 1986:fn.6, Cote 1996, Condoravdi and Gawron 1996, Mittwoch 2005). In her dissertation on different types of null arguments in English, Cote argues that the reference of an INO is constrained by discourse and by shared (default) assumptions about the world. She criticizes the notion of the 'stereotypic' or 'prototypical' entity as the meaning of unexpressed indefinite objects (Fillmore 1986, Rice 1988, Levin 1993). Even though the classical *John already ate* example entails that John ate a meal, examples like (201-a) shows that this is not always the case: neither (201-b) or (201-c) are acceptable paraphrases of the sentence in (201-a).

(201)   a.   Ken's been eating all night.

   b.   Ken's been eating a meal / his dinner all night.

   c.   Ken's been eating meals all night.   Cote 1996:(91),(92)

Rather than a stereotypic entity, INO correspond, in Cote's view, to an entire class of things, such as edible things in the case of *eat* (or 'edible stuff', to use Fillmore's term).

At the same time, Cote argues that INO have to be 'represented lexically' because they cannot be represented either syntactically or pragmatically. Her reasoning is as follows: INO are not present in syntax because they do not lead to Principle C violation, in contrast to overt pronouns, as shown in (202). And they cannot just be pragmatically inferred because near synonyms do not behave the same way with respect to INO, as shown in (203).

(202)   a.   Joyce ate this afternoon because the turkey was ready.

(A felicitous interpretation is that she ate the turkey.)

b.   *Joyce ate it$_i$ this afternoon because the turkey$_i$ was ready.   Cote 1996:(45)

(203)   a.   *John consumed.

b.   John ate.   Cote 1996:(46)

Building on Hale and Keyser 1986 and Jackendoff 1990, Cote 1996:147 proposes an enriched lexical conceptual structure (LCS) for the verb *eat*, where INO corresponds to zero, as captured in (204-a). The zero argument is unsubscripted, which indicates that it must not have an antecedent. This distinguishes INO from the lexically specified definite null objects, whose null affected argument has an index, cf. (204-b).

(204)   a.   LCS for *eat* with lexically affected object

$[\text{CAUSE}([_{\text{Thing}}\ ]_i^\alpha, [_{\text{Event}}\text{GO}([_{\text{Thing}}\mathbf{0}], [_{\text{Path}}\text{TO}([_{\text{Place}}\text{IN}([_{\text{Thing}}\text{MOUTH-OF}([\alpha])])])])])]$

b.   LCS for *enter* with lexically affected object

$[_{\text{Event}}\text{GO}([_{\text{Thing}}\ ]_i, [_{\text{Path}}\text{TO}([_{\text{Place}}\text{IN}([_{\text{Thing}}0_1])])])]$

In my analysis, I show that even though the generalization about INO's non-pronominality captured in (202) holds in Czech as well (see (186)), it is perfectly compatible with the derivation of INO in syntax – whereas the lexicalist analysis of INO misses several important generalizations.

4.4.4 Studies on Null Objects in Czech

The first attempt to analyze INO in Czech is Kopečný (1958:209), who observes that some transitive verbs do not have to express their object and that this happens when "the content of the verb itself has enough signs that express the object's content". In contrast, the verbs which express just the relation to the object, such as *poslat* 'send', *brát* 'take', *říct* 'say' have to have their object expressed overtly.

Null objects in Czech were often subsumed under the label of 'systemic ellipsis', the term due to Daneš (1971), who wanted to distinguish them from the proper, contextual ellipsis (discussed here in relation to (303)). Daneš introduced the distinction between a potential (*potenciální*) null object which is understood from the context and can be filled in, as in (205-a), and a general (*všeobecný*) null object which cannot be expressed overtly, and is therefore present only semantically, as in (205-b).

(205)   a.   Píše   rodičům   (dopis).
              writes.3SG.PRES parents.DAT letter.ACC
              'He is writing (a letter) to his parents.'

         b.   Vítek už   píše___.
              Vítek already writes.3SG.PRES
              'Vítek is writing already (Vítek learned to write).'

However, this generalization is not quite right because in (205-b), one could insert some general indefinite nouns in the object position, such as *písmenka* 'letters' or *slova* 'words'. Daneš himself admits that the distinction between potential and general objects is sometimes hard to make and they represent a scale rather than two distinct categories. The distinction between general and potential objects was further elaborated by Panevová (1974; 1975) and Panevová and Řezníčková (2001), who label Daneš's potential objects as facultative members of verbal valency frames, while the general ones are usually represented as 'generalized' (*zevšeobecněné*) members of a valency frame, depending on what type of participant they express. A rich collection of examples of null objects from the Czech literature is provided in Štícha 1987, along with an attempt at their classification based on their function in communication.

Kopečný (1958:210) noted that objectless verbs have a tendency to have habitual, 'non-actual' (*neaktuální*) meaning, and that perfective verbs cannot be objectless. Daneš (1971) came up with several counterexamples to both of these claims: he shows that imperfectives with an ongoing, 'actual' (*aktuální*) interpretation can be objectless as well, as in (206), and he observes that even if perfective verbs have a much higher tendency to have an obligatory object, they can sometimes have a null object as well, especially in imperatives, such as (207).

(206)   a.   Právě učí___.
               right teaches.IMPF
               'He is teaching right now.'

           b.   Ne-ruš   mne, vidíš, že   studuji___.
               not-disturb me,   see   that study.IMPF
               'Don't disturb me, don't you see that I am studying.'

           c.   Ty už   zase kouříš___?
               you already again smoke.IMPF
               'Are you smoking / Do you smoke again?'

(207)   a.   Dostuduj___,   a   pak si   dělej,   co   chceš!
               DO-study.2SG.PF and then refl.DAT do.2SG.IMPF what want.2SG.IMPF
               'Finish and then do whatever you want!'

           b.   Zazpívej___   nám   ještě!
               ZA-sing.2SG.PF we.DAT yet
               'Sing for us once more!'

           c.   Prosím tě, ještě zameť___!   *but* Umyj   *(nádobí)!
               please you yet sweep.2SG.PF   wash.2SG.PF dishes
               'Be so kind and sweep!' / 'Wash the dishes!'

The core of Part II of this thesis is devoted to the analysis of the examples of the sorts found in (206), alongside with developing two important observations made already by Kopečný (1958): about INO's propensity for being used with non-perfective verbs, and about their relation to the contentual richness of a verb. For a possible analysis of the examples with perfective verbs in (207-a) and (207-b), see 8.3.1; the chores examples in (207-c) are discussed in 9.2.1.

4.5 Summary

In the opening of this chapter, I give a number of examples of indefinite null objects combining with various lexico-semantic verb types. I follow by showing that they introduce a new discourse referent (as opposed to picking an existing referent from the discourse or getting bound like GNO) and that they have to be distinguished from the superficially similar cases of verb-stranding VP ellipsis. I reject the possibility of INO being syntactic arguments given their inability to bind reflexives and become small clause subjects, their antipathy for control into infinitives, and their inability to figure as binders for pronouns and referential expressions. INO's own ignorance of Principle B speaks specifically against their syntactic representation as pronouns.

References-filled Section 4.4 overviews a substantial number of previous approaches to INO, especially Dowty's (1978) analysis of intransitivization as a lexical rule that changes the syntactic subcategory of a given verb by existentially quantifying its object, the analysis that was reflected in one way or other in basically all other works on INO that came after. I assess Mittwoch's (1982) failing but telling attempt to capture "non-quantizedness" of INO when compared to an overt *something*, because it starts the important discussion about INO's relation to quantizedness of events, which is the topic of the third part of this thesis. The summary of scholarly works that analyze INO in contrast to anaphoric/definite null objects exposes the source of a misleading presumption, repeated in the literature, that INO are context-independent. It also captures the shift in INO perception from 'null indefinite pronouns' or 'constituent ellipses' to 'unrealization of potential elements', the view which was also promoted in some of the earliest works on INO in Czech (especially Daneš 1971). Finally, I get to mention several works that combine the lexical derivation of INO with the awareness of their contextual dependence, most notably Cote's (1996) dissertation, a great comparative layout of different types of null objects in English. I end the chapter with the prophetic words of Kopečný (1958) about the propensity of intransitivization for imperfective verbs and about the "content richness" of verbs as an important factor in INO-licensing. Both of these intuitions led the author into writing this thesis.

Chapter 5

Deriving INO

5.1 Low-scope Indefiniteness

So far, I have been labeling the non-overt objects that are the topic of the second part of this thesis simply as indefinite. A closer look reveals that they do not correspond to regular indefinite quantifier phrases, typically analyzed as generalized quantifiers with existential force that raise to a scope-bearing position (Barwise and Cooper 1981) but to what is called "low-scope indefinites" or "narrow-scope indefinites". An overt indefinite noun phrase such as *nějaký člověk* 'some person' or *nějací lidé* 'some people' can scope either over or below another quantified phrase in the clause, as shown in (208). INO scope always below all other quantified expressions (209). (Recall that GNO allowed both wide and narrow scope, as demonstrated in (63).)

(208)   Každý doktor vyšetřuje   nějakého člověka / nějaké lidi   v téhle
         every   doctor examines.IMPF some   person / some   people in this
         místnosti.
         room
         A: ∀y [doctor(y) → ∃x [person(x) ∧ y examines x in this room]]

         B: ∃x [person(x) ∧ ∀y [doctor(y) → y examines x in this room]]

(209)   Každý doktor vyšetřuje___   v téhle místnosti.
         every   doctor examines.IMPF in this   room
         A: ∀y [doctor(y) → ∃x [person(x) ∧ y examines x in this room]]

         B: #∃x [person(x) ∧ ∀y [doctor(y) → y examines x in this room]]

INO do not interact with other, non-nominal quantificational expressions either.

(210)   Karel   něco   překládá   všude.
            Charles something translates.IMPF everywhere.

            A: $\forall y$ [place(y) $\rightarrow$ $\exists x$ [thing(x) $\wedge$ K. translates x at y]]

            B: $\exists x$ [thing(x) $\wedge$ $\forall y$ [place(y) $\rightarrow$ K. translates x at y]]

(211)   Karel   překládá___   všude.
            Charles translates.IMPF everywhere.

            A: $\forall y$ [place(y) $\rightarrow$ $\exists x$ [thing(x) $\wedge$ K. translates x at y]]

            B: #$\exists x$ [thing(x) $\wedge$ $\forall y$ [place(y) $\rightarrow$ K. translates x at y]]

Analogously, when there is a negation operator together with an existentially quantified phrase in one clause, two readings are expected. However, for INO, only one reading is allowed, the one with low-scoping $\exists$.

(212)   Karel   teď ne-čte___.
            Charles now not-reads.IMPF

            A: $\neg \exists x$ [K. is reading x]

            B: #$\exists x \neg$[K. is reading x]

In their inertness with respect to other quantifiers, INO behave exactly like bare plural and mass nouns (BP&MN) in English. Carlson (1977) observed that there is a contrast between indefinite singular and plural nouns combining with opacity-inducing predicates in English. While an indefinite singular phrase such as *a policeman* in (213) is ambiguous between a high scope reading and a low scope reading,[23] an indefinite plural noun such as *policemen* in (214) allows only the low-scope interpretation which does not entail the existence of any policemen. Carlson calls the reading in A "transparent" and the one in B "opaque", following Quine (1960); an alternative term used in the literature for the same distinction is 'specific' versus 'non-specific' reading of an indefinite (it also partially overlaps with 'de re' versus 'de dicto' reading which refers to the parallel ambiguity attested with definite noun

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[23]See Fodor and Sag 1982 for further distinguishing between referential (existence presupposing) and quantifier (wide or narrow scope) interpretation of singular nouns with *a*-determiner, and see Heim 1982 for elaborating on this distinction. I do not pursue this distinction here and simply treat referential indefinites and wide-scope indefinites as one group.

phrases).

(213)   Miles wants to meet a policeman.

   A: ∃x [policeman(x) ∧ Miles want [Miles meet x]]

   B: Miles want ∃x [policeman(x) ∧ Miles meet x]

(214)   Miles wants to meet policemen.

   A: #∃x [policeman(x) ∧ Miles want [Miles meet x]]

   B: Miles want ∃x [policeman(x) ∧ Miles meet x]

Carlson notes that the unstressed variant of the determiner *some* (*sm*) in (215) is a closer parallel to a singular determiner *a* than the hypothesized non-overt article of morphologically bare plurals.

(215)   Miles wants to meet sm policemen.

   A: ∃x [policeman(x) ∧ Miles want [Miles meet x]]

   B: Miles want ∃x [policeman(x) ∧ Miles meet x]

Carlson (1977:10-17) goes on to conclude that bare plurals always have narrow scope with respect to negation and other quantified NPs, in contrast to scopally ambiguous singular indefinites, as in (216) – (217).

(216)   Everyone read a book on giraffes.

   A: ∀x [person(x) → ∃y [book(y) ∧ x read y]]

   B: ∃y [book(y) ∧ ∀x [person(x) → x read y]]

(217)   Everyone read books on giraffes.

   A: ∀x [person(x) → ∃y [book(y) ∧ x read y]]

   B: #∃x [book(x) ∧ ∀x [person(x) → x read y]]

Carlson's observations cannot be straightforwardly reproduced for Czech overt singular and plural indefinite nouns because Czech does not have indefinite articles and morphologically bare nouns in Czech are ambiguous between a definite and an indefinite interpretation,

regardless of their number. I return to this issue in Chapter 7 where I show that there are still important parallels between bare plurals in English and in Czech. Importantly, we can conclude that Czech non-overt indefinite objects behave like English bare plural indefinites, rather than like English singular indefinites: null-object sentences with multiple quantifiers, such as those in (209), (211), and (212) show the same narrowness of existential quantification as is attested with bare plurals in (214) and (217).

Carlson further observes that bare plurals sometimes exhibit a scope which is not attested at all with a corresponding singular indefinite. (218-a) can have only an odd interpretation in which a particular dog is omnipresent, or it gets split into pieces and one can find those pieces everywhere (cf. the contrasting *There was a dog everywhere* with a wide-scope universal). (218-b), on the other hand, is interpreted only with the universal quantifier scoping over the existential, which means that its reading is mutually exclusive with the only possible reading of (218-a).

(218)   a. $^{?\#}$A dog was everywhere.

         b.   Dogs were everywhere.

A similar effect can be found with indefinites in object position in sentences where achievement verbs combine with durative adverbials. The sentence with a singular noun in (219) gets only a funny reading where the same rabbit was killed at each point during three hours. The plural in (220) gives a much more probable reading where for each point during the three hours, there was some rabbit which was killed and it need not be the same one.

(219) $^{??\#}$Max killed a rabbit for three hours.

         $\exists x$ [rabbit(x) $\land$ $\forall t{:}\in$3hrs [AT (Max killed x, t)]]

(220)   Max killed rabbits for three hours.

         $\forall t{:}\in$3hrs [$\exists x$ [rabbit(x) $\land$ AT (Max killed x, t)]]

The same contrast can be reproduced in Czech. While an indefinite singular object in (221-a) gives the pragmatically odd reading of the same woman being killed for several days, either continuously or repeatedly, an indefinite plural object has a reading parallel to the one in

(220).

(221)   a. $^{??}$#Vrah   zabíjel   několik dní v kuse starou ženu.
             murderer killed.IMPF several days in piece old   woman
             'A murderer killed/was killing an old lady for several days in a row.'

        b.   Vrah   zabíjel   několik dní v kuse staré ženy.
             murderer killed.IMPF several days in piece old   women
             'A murderer killed/was killing old ladies for several days in a row.'

If INO behave like English bare plurals, we expect the corresponding sentence with the empty object position not to be pragmatically odd because its existentially interpreted object is interpreted within the scope of the *for*-adverbial. This prediction is borne out.

(222)   Vrah   zabíjel___ několik dní v kuse.
        murderer killed.IMPF several days in piece
        'A murderer killed/was killing for several days in a row.'

All the data presented in this section lead towards the conclusion that INO are always non-specific (a.k.a. opaque) and their indefinite interpretation is a result of an existential closure with the narrowest possible scope, a reading which is not available for singular indefinites.

5.2   Generalized Existential Closure as a Way of Intransitivization

There is a similarity between bare plurals in English and null objects in Czech when it comes to their low-scoped existential semantics, as just discussed, but there is also an important difference between the two. Bare plurals are phonologically overt expressions and as such, they have to be represented in the syntactic derivation in some way. Indefinite null objects are not syntactically represented at all; see Section 4.3. In what follows, I derive the semantic similarity between BPs (&MNs) in English and INO in Czech while taking into account their dissimilarities as well.

5.2.1   Thematic Properties

From the viewpoint of lexical semantics, INO bear the semantic role (a.k.a. 'thematic relation', Jackendoff 1987, 1990) of patient or theme to the event described by the verb. While both patients and themes are understood as participants that undergo the event described

by the verb, patients are usually distinguished from themes in that they undergo a change of state as well, as a result of being affected by the event. We saw in (149) and (150) that INO combine with verbs of creation (e.g. *stavět* 'build', *psát* 'write') or verbs of consumption/destruction (e.g. *jíst* 'eat', *bourat* 'pull down, demolish'), typical patient-taking verbs but also with the verbs like *číst* 'read', *počítat* 'count', *fotografovat* 'photograph' or *učit* 'teach', which would be characterized as theme-taking verbs by lexical semanticists. In the traditional GB framework, the semantic roles of theme and patient correspond to the thematic role ('θ-role', Chomsky 1981, 1986) of a 'deep' or 'logical' object, labeled somewhat confusingly also as 'patient' or 'theme'. In contrast to semantic roles, each thematic role is associated with a particular syntactic position, the so-called A-position. For the theme/patient θ-role, the A-position where it is assigned was originally defined as the complement of V. Later, after Larson's (1988b:383) theory of VP-shells was introduced, theme role was assigned to the V-complement only for the predicates that do not determine a θ-role other than those of agent and theme. For the predicates that project an additional A-position, theme was assigned to the specifier of the lowermost VP, to satisfy the Thematic Hierarchy (Carrier-Duncan 1985). In this work, I adhere to the minimalist view that the build up of syntactic structure is driven by compositional semantics, so that no separate theta module is needed. Specifically, at the lowermost syntactic level of verbal predicate decomposition, verbs are translated as predicates of events, and thematic roles like agent or theme are second-order properties of relations between events and individuals, enabling the modification of events by arguments, as in the following neo-Davidsonian representation (Parsons 1990).

(223) $\lambda x \lambda y \lambda e[\text{VERB}(e) \wedge \text{Agent}(e, y) \wedge \text{Theme}(e, x)]$

I assume that the translation above is assigned to a verbalized root – the merger of an acategorized root and a categorizing head v, but it is not derived from the meaning of these two nodes compositionally Panagiotidis (2011), Panagiotidis *et al.* (2013). Theme would then be the label assigned (post-syntactically) to the first argument that merges with this

verbalized root (see Marantz 2013).[24] In accordance with this perspective, I use 'theme' as a cover term for the thematic role of a direct internal argument (or for this argument itself). I refrain from using the term 'patient' altogether since the purported semantic-role difference between theme arguments and patient arguments does not bear on their ability to be left implicit.

While INO do not have any common lexico-semantic feature (such as being animate or having a unique semantic role), they all share a syntactico-semantic feature of being "potential" internal arguments of the predicates that allow them. I say "potential" since we also know that INO are not syntactically represented, and syntactically non-existent items cannot become syntactic arguments. A more precise formulation of this generalization should be: "all predicates that allow INO have the capability to assign the θ-role of a theme to their (direct internal) arguments". Since θ-assignment is a syntactic process, requiring a syntactically represented referential expression on the side of the θ-role receiver, syntactically invisible INO cannot have the status of full-fledged arguments bearing θ-roles. Fortunately, the assignment of θ-roles to syntactically projected positions is not the only way to satisfy θ-requirements of a predicate. An alternative way, exercised in many languages and for different argument positions, is to existentially close off the unbound argument variable. At the most general level, it was argued that this can happen for a particular predicate, either in the mental lexicon (Bresnan 1978, Dowty 1978, 1981, Rizzi 1986, a.o.), or in syntax, in the form of a general rule triggered by a particular syntactic node or a feature (Bach 1980, Keenan 1980, Keenan and Dryer 2007, Babko-Malaya 1999, a.o.). I propose that the latter strategy is employed for INO. I argue that this existential closure has to apply at the lowermost syntactic level where roots or other constituents get verbalized by means of a categorizing head/morpheme v, which also contributes eventiveness. (For arguments in favor of v as a verbalizer see Marantz 1997, 2001, 2007, Harley 2005a,b, 2009, 2013, Panagiotidis *et al.* 2013.)

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[24]Some theories distinguish between internal arguments that merge with a root before and after it gets verbalized, effectively creating two structural positions where "theme" can be introduced; see Hale and Keyser 2005, Harley 2005b, Marantz 2007, Wood 2012, or Marantz 2013 for varying implementations of this alternative. Since the majority of research in this area has been carried on the data from English, it would be unwarranted to apply its conclusions directly in Czech, without carefully examining the specificities of its verbal morphosyntax and semantics first. I look into this matter in more detail in 5.4.1, where I argue that Czech differs from English significantly in this respect.

5.2.2 Resolving the Type Mismatch

Verbal predicates which require a theme argument are typically formalized in the neo-Davidsonian representation (Parsons 1990) as follows:

(224) $\lambda x \lambda e[\text{VERB}(e) \wedge \text{Theme}(x)(e)]$

where VERB(e) stands for the semantics contributed by a given verbal stem

To be precise, Parsons himself modeled transitive verbs as three-place predicates which require an agent in addition to a theme and an event argument, as captured above in (223). I adopt a more recent view of external arguments, proposed in Kratzer 1996, which holds that they are introduced via a separate functional head called Voice. This category merges with the verbal projection, creates a secondary event predication which introduces the agent argument, and the two compose semantically via Event Identification. As a consequence, the agent is not an argument of a lexical verb anymore.

Even though Kratzer situates Voice right above VP, she admits that other inflectional heads might intervene between V and Voice (Kratzer 1996:126). I take Asp to be one such intervening head. This decision is motivated by adhering to Baker's (1985) Mirror Principle because the morphological evidence from languages with overtly marked aspect like Czech shows that aspectual affixes merge before voice-marking affixes. In the following template, both the active past participle -*l*-morpheme as well as the passive participle -*n*-morpheme linearly follow the imperfectivizing morpheme -*va*-, which in turn follows the stem suffix -*ova*-. Placing Asp above v but bellow Voice is also supported by proposals that analyze stem suffixes as spell-outs of the v-head, like Jabłońska 2007 for Polish.

(225) Affix-ordering in past participle and passive participle forms

      a.   *z-prac-ová-**va**-l*
            z-work-OVA-IMPF-PAST
            'was working up'

      b.   *z-prac-ová-**vá**-n*
            z-work-OVA-IMPF-PASS
            'to be being worked up'

In the type-theoretic representation in (224), the transitive verbal predicate corresponds semantically to a binary relation between individuals and events. Under normal circumstances, the individual variable x is provided by a nominal or a pronominal phrase that directly merges with a verb, such that the resulting vP denotes a predicate of events. However, if a verb has no phrase to merge with, the function in (224) has no argument (no individual) to apply to, which should ultimately lead to type mismatch and interpretation failure (see Heim and Kratzer 1998:49-53).

In principle, it is of course possible for the projection of v to merge directly with another head in the extended verbal projection, without merging with the internal argument, as marked by an arrow in (226). However, it is assumed that the head right above v in the extended verbal projection is semantically interpreted as a function whose argument is a predicate over events, not a binary relation between individuals and events – which is what a transitive predicate with an unfilled argument slot denotes.

(226)
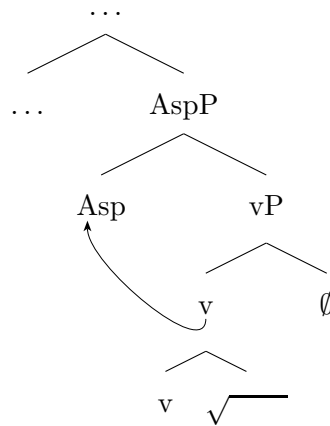
For expository purpose, I put the empty-set symbol in the direct object position to mark the fact that we are considering a theme-taking predicate, but the theme doesn't project. In the minimalist approach to phrase structure as being "bare", there is no structural difference between what is labeled here as the higher v (standing for $\{v\{v, \sqrt{\ \ }\}\}$) and what is labeled as vP because if a node "merges" with nothing, we get that same node again.

For concreteness, let's assume that the first verbal functional category above v is the category of aspect (Schoorlemmer 1995, a.o.) and the two heads are connected by head movement. The aspectual head is standardly analyzed semantically as a function from a set
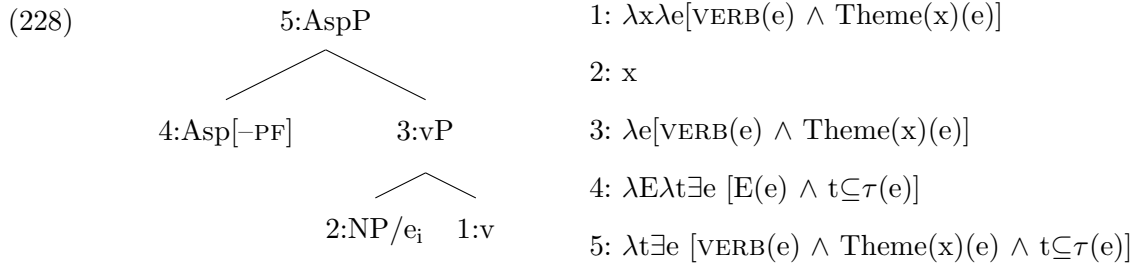
of events denoted by a vP to a set of reference times denoted by an AspP (Paslawska and von Stechow 2003). Perfectives locate the whole event within a time interval, imperfectives locate a reference time interval within (some contextually salient stage of) an event (see 8.1.1 for more details on the semantics of aspect and the evolution of its theory). Relating times and events is possible thanks to the temporal trace function τ (Link 1987) that maps an event onto the timeline that it occupies.

(227)   Perfective and imperfective aspect

    a. $[+\text{PF}] \rightsquigarrow \lambda E \lambda t \exists e \ [E(e) \wedge \tau(e) \subseteq t]$

    b. $[-\text{PF}] \rightsquigarrow \lambda E \lambda t \exists e \ [E(e) \wedge t \subseteq \tau(e)]$

        where E is a set of events, t is a variable over times and e is an event variable.

Subsequent literature on aspect has added other components of meaning to the entries in (227), but the basic insight – that aspect takes properties of events and gives back properties of times – is still generally accepted. The compositional semantics accompanying the tree for a simple aspect-marked transitive verb would then look as follows (the aspect value is set as imperfective, the internal argument position can be occupied by an NP or its trace):

(228)

```
          5:AspP
         /      \
  4:Asp[–PF]    3:vP
               /    \
          2:NP/eᵢ   1:v
```

1: $\lambda x \lambda e[\text{VERB}(e) \wedge \text{Theme}(x)(e)]$

2: x

3: $\lambda e[\text{VERB}(e) \wedge \text{Theme}(x)(e)]$

4: $\lambda E \lambda t \exists e \ [E(e) \wedge t \subseteq \tau(e)]$

5: $\lambda t \exists e \ [\text{VERB}(e) \wedge \text{Theme}(x)(e) \wedge t \subseteq \tau(e)]$

If, however, there is no nominal phrase for v to merge with, as in (229), we get the type mismatch between the denotation of vP and that of Asp: the former denotes a function from objects to function from events to truth values (i.e. to predicates of events), but the latter denotes a function from events to a function from times to event predicates.

(229)

          4:AspP
          /   \
   3:Asp[−PF]   2:vP
                  |
               1:v + ∅

1: $\lambda x \lambda e[\text{VERB}(e) \wedge \text{Theme}(x)(e)]$

2: $\lambda x \lambda e[\text{VERB}(e) \wedge \text{Theme}(x)(e)]$

3: $\lambda E \lambda t \exists e\ [E(e) \wedge t \subseteq \tau(e)]$

4: ???
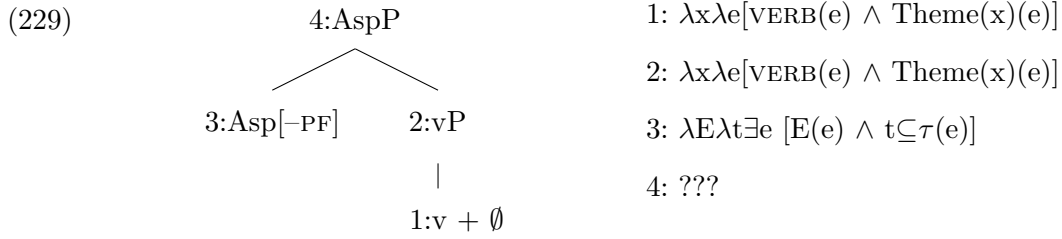
This is the point where the existential quantification of the theme variable can be applied as a result of a local type-adjustment operation, which allows objectless transitive verbs to participate in the semantic derivation.

(230)   **Intransitivization** (as a type-shifter)

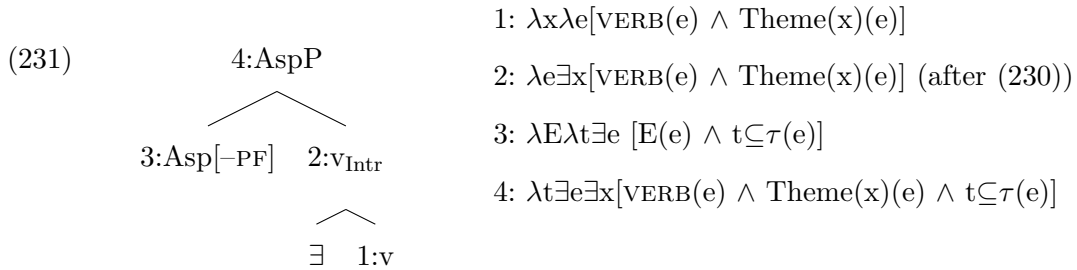$\exists \rightsquigarrow \lambda T_{\langle e, vt \rangle} \lambda e_{\langle v \rangle} \exists x\ [T(x)(e)]$[25]

As a consequence, there are two systematic ways for a transitive predicate to "saturate its θ-requirements in syntax", borrowing terminology from Rizzi (1986).[26] Either the verbal predicate merges with an individual-denoting argument or an individual variable as in (228), or there is nothing to merge with and an unsaturated individual variable on the predicate gets existentially bound as in (231).

(231)

          4:AspP
          /   \
   3:Asp[−PF]   2:v_{Intr}
                  /   \
                 ∃   1:v

1: $\lambda x \lambda e[\text{VERB}(e) \wedge \text{Theme}(x)(e)]$

2: $\lambda e \exists x[\text{VERB}(e) \wedge \text{Theme}(x)(e)]$ (after (230))

3: $\lambda E \lambda t \exists e\ [E(e) \wedge t \subseteq \tau(e)]$

4: $\lambda t \exists e \exists x[\text{VERB}(e) \wedge \text{Theme}(x)(e) \wedge t \subseteq \tau(e)]$

In both these derivations, the predicate and its argument are semantically combined by function application (Klein and Sag 1985). The operation of $\exists$-closure in (231) corresponds to a type shifting operation, which changes an expression of type $\langle e, vt \rangle$ into an expression of

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[25]Subscript e is the type of individuals; subscript v is the type of events; subscript t is the type of propositions; subscript i is the type of time intervals.

[26]Rizzi (1986) assumes that in addition to a systematic syntactic saturation, a θ-role can be saturated in the lexicon as well, prior to the Projection Principle, in which case it remains syntactically "inert". He reserves this sort of θ-saturation for English objectless verbs.

type $\langle vt \rangle$. From the viewpoint of the syntactic node that it operates on, the intransitivization rule could be defined as follows:

(232)   **Intransitivization** (as a syntax-sensitive rule)

    If $[\![v]\!] \in D_{\langle e,vt \rangle}$, then $[\![v_{Intr}]\!] = \lambda e_{\langle v \rangle} \exists x[[\![v]\!](x)(e)]$

In other words, if v translates as $\lambda x \lambda e[\text{VERB}(e) \wedge \text{Theme}(e, x)]$, then intransitivized v translates as $\lambda e \exists x[\text{VERB}(e) \wedge \text{Theme}(e, x)]$. The formulation of the intransitivization rule ensures that it can apply only to an argument-taking v. It also follows, by the principles of function application, that a type-shifted v derived by (232) cannot further merge with an individual-denoting argument in the same projection. Labeling this v as v_{Intr} is meant only as a convenient notation for the output of the proposed type-shifting operation; I do not suggest that there are different syntactic types of v that could merge in the canonical v-position. One could also read the notation in (232) as "if $[\![v]\!] \in D_{\langle e,vt \rangle}$, then either v merges with an argument of type $\langle e \rangle$, or the individual variable gets existentially closed off, which amounts to intransitivization".

An alternative solution would be to embed the existential closure in the semantics of the aspectual phrase itself, rather than positing an independent intransitivizing operator.

(233)   **Intransitivization** (Asp-limited rule)

    If $[\![v]\!] \in D_{\langle e,vt \rangle}$ and $[\![Asp]\!] \in D_{\langle vt,it \rangle}$,

    then $[\![\{Asp\{Asp, v\}\}]\!] = \lambda t_{\langle i \rangle} \exists e_{\langle v \rangle} \exists x[[\![Asp]\!][[\![v]\!](x)](t)]$

While this solution would work for the particular verbal functional sequence that I assume in (226), where Asp selects for v, it would run into problems if another head (such as some low-scope vP-level adverb or another category which denotes a function from events) intervenes between Asp and v and selects v instead of Asp. Either the intransitivization would not be possible, or another rule would have to be formulated for such a head. Moreover, it is plausible that the intransitivization operation is active also in the languages where there is no clear evidence for an aspectual head and where vP is selected by another head, such as Voice (cf. Alexiadou *et al.* 2014). For these reasons, I adopt (232) rather than (233).

Speaking of restricting the span of (232), what we want to preclude is its application to transitive stative verbs, to account for their resistance to intransitivization, regardless of perfectivity.

(234)   a.   *Karel   vlastní___.
            Charles owns.IMPF
            'Charles owns.'

          b.   *Karel   nosí___.
            Charles wears.IMPF
            'Charles wears.'

          c.   *Karel   nesnáší___.
            Charles hates.IMPF
            'Charles hates.'

This can be achieved if we assume that e is the variable of events in a narrow sense, excluding states, for which a separate variable/type should be used, cf. Kratzer 1996. Maienborn (2008, 2011) specifically argues that some stative verbs do not have the Davidsonian event argument. Recent literature corroborates this by showing that the vPs of stative predicates differ from those of dynamic ones in a number of aspects, even though there is a great deal of variation among individual languages and among various types of statives, so it is hard, if not impossible to pinpoint a single structural difference that would amount to all of them; see Harley 1995 or Harves and Kayne 2012 for relevant proposals.

5.2.3   INO and Bare Plurals

I suggested in the previous section that what we call INO is a result of ∃-closure applying to a transitive verb with no syntactic arguments which enables the interpretation of a sentence according to the regular principles of compositional semantics. Such employment of a low-scope ∃-closure as a type-mismatch resolver has an important precedent in the linguistic literature. In his 1989 article, Chierchia suggested that the existential reading of bare plurals comes about as a result of a similar type-adjusting operation; see also Dayal 2011b:145.

Chierchia develops the influential 'neo-Carlsonian' view that bare nominals uniformly

refer to kinds (Carlson 1989).[27] He argued that bare plural nouns in English denote properties and if they are used in argument positions, they shift to kinds by applying the nominalizing 'down'-operator ($^{\cap}$):

(235) $^{\cap}$DOG = d

      where DOG is a property of being a dog and d is the dog kind

Chierchia models kinds as functions from worlds/situations into the sum of all instances of the kind in those worlds/situations. In other words, they are functions that in every world pick the manifestation of a given individual, resulting in their spatiotemporally discontinuous manifestations. Usually, kinds are instantiated by a plurality of individuals, though they don't have to be. But if something is necessarily instantiated by a single individual in every world, it would not qualify as a kind. The nominalizing function that maps properties onto kinds is then defined as taking the largest member of the property's extension (ιP) at any given world (Chierchia 1998:351):

(236)   For any property P and world/situation s,

        $^{\cap}P = \lambda s\ \iota P_s$, if $\lambda s\ \iota P_s$ is in K;

            undefined otherwise

        where P_s is the extension of P in s and K is the set of kinds

Chierchia (1998:350) also formulated a corresponding predicativizing function which turns kinds into properties:

(237)   Let d be a kind. Then for any world/situation s,

        $^{\cup}d = \lambda x\ [x \leq d_s]$, if d_s is defined;

            $\lambda x\ [\text{FALSE}]$, otherwise

        where d_s is the plural individual that comprises all of the atomic members of

        the kind

---

[27]See Dayal 2011a:1091 for a summary of the difference between the neo-Carlsonian and the so-called ambiguity approach. The latter maintains that bare nominals are kind-denoting when combining with kind-level predication, but they denote properties in all other cases (Wilkinson 1991, Diesing 1992, Kratzer 1995).

In Chierchia's perspective, plural count nouns are turned into kind names via $^\cap$, but mass nouns denote kinds directly (they start as type $\langle se \rangle$), so no shift is needed when they combine with kind-denoting predicates (1998:363).

(238)   a.   Dogs are widespread $\rightsquigarrow$ widespread($^\cap$dogs)

            b.   Gold is rare $\rightsquigarrow$ rare(gold)

The semantic-type distinction between bare plurals and mass terms is somewhat controversial. Many other researchers assume that both of them start as type $\langle et \rangle$, see for example Dayal 2011b.[28] Note that Chierchia did not operate with a more nuanced nominal functional hierarchy, as in (5-a), but only with an NP-level and a DP-level. Under the now common assumption that there is an intermediate number projection between an nP and a DP (Ritter 1991, Carstens 1991, followed by many others), it makes more sense to associate the property-to-kind shift with the category of Num, because the type-shifting operation of nominalization is sensitive to its value: it is defined for plural count nouns but not for singular count nouns.

The treatment of BP&MN as properties shifted to kinds raises an issue about what happens when a kind-denoting bare noun combines with a non-kind-selecting predicate, characteristic of episodic contexts. Chierchia (1998:364) draws a parallel with sentences like (239), which are about instances of a kind rather than about a kind itself, and where "the type of the predicate is automatically adjusted by introducing a (local) existential quantification over instances of the kind".

(239)   That kind of animal is ruining my garden.

            $\exists x[^\cup \text{that kind of animal}(x) \wedge \text{ruin my garden}(x)]$

Chierchia suggests a simple type-shifting mechanism which he calls Derived Kind Predication in order to achieve this:

(240)   **Derived Kind Predication (DKP)**

            If P applies to objects and k denotes a kind, then $P(k) = \exists x[^\cup k(x) \wedge P(x)]$

---

[28]For a contrasting view, see Baker 2003, who treats nPs as type $\langle e \rangle$.

When applied to a kind-referring bare plural noun, DKP gives the following:

(241)   Lions are ruining my garden.

ruining my garden($^\cap$lions) $\Leftrightarrow$ (via DKP) $\exists x[^{\cup\cap}$lions(x) $\wedge$ ruin my garden(x)]

The bare plural noun in (241) has the syntactic function of a subject. If a kind-denoting noun appeared in the object position of an episodic predicate, we would get something like (242-a) as the vP meaning. The likeness to the output of the intransitivization operation as specified in (232) is obvious. In both configurations, the internal argument variable gets existentially quantified as a result of a local type-mismatch adjustment that has no reflex in syntax.

(242)   a.   [$_{vP}$read books] $\rightsquigarrow \lambda x \lambda e[$read(e)$\wedge$Theme(e, x)]($^\cap$books)

$\Leftrightarrow \lambda e \exists x[$read(e)$\wedge$Theme(e, x)$\wedge^{\cup\cap}$books(x)] (via DKP)

b.   [$_v$read] $\rightsquigarrow \lambda x \lambda e[$read(e)$\wedge$Theme(e, x)]

$\Leftrightarrow \lambda e \exists x[$read(e)$\wedge$Theme(e, x)] (via Intr.)

From this viewpoint, the correlation between the existential semantics of INO and bare plurals that I described in 5.1 is not surprising at all. The only difference is that under DKP, the property constituting the existentially quantified argument is specified overtly, in the form of a predicative noun phrase,[29] while it does not seem to be present at all in the case of intransitivization. (I shall argue in 6.2.3 that it is present as a part of the presupposition for intransitivization.)

Chierchia properly notes that his analysis has a similar effect as the analysis of noun incorporation, which also introduces existential quantification over instances of the property; see especially Van Geenhoven 1996. The distinction between incorporating verbs, found e.g. in West Greenlandic, and verbs with bare plural objects, found in English, is that the former are lexically specified as property-taking while English verbs are not. However, they can still merge with kind-/property-denoting objects in syntax, in which case the structure is

---

[29]Such existentially closed property-denoting bare plurals are assumed to stay within vP. If a predicative expression moves out of Spec,v, presumably to the restrictor of some operator, it is standardly treated as leaving behind the trace, corresponding semantically to an individual variable (Heim 1982). This also means that DKP is no longer available for such an expression.

interpretable thanks to DKP. This is of course not the only difference between incorporating and non-incorporating languages. There is a set of morphological and syntactic properties that identify incorporated nouns, such as no case marking or its optionality, limited modification, number neutrality, and the proto-typicality of an incorporated object's meaning with respect to the verb's denotation; see Dayal 2011b for an informative summary of incorporation and pseudo-incorporation characteristics. None of these features can be found in Czech, even though Czech has existentially interpreted bare plurals of the type found in English (see 7.2.1 for more details).

The semantic distinction between the output of noun incorporation (as Van Geenhoven sees it) and existential interpretation of bare plurals under DKP is not so much the outcome as the timing: what is argued to be the lexical property of individual predicates in West-Greenlandic looks like the result of a general operation in English. I argue that the same distinction is present in the case of INO derivation but this time with English playing the opposite role: what is argued to be the lexical property of individual predicates in English, at least in the works of Bresnan (1978) Dowty (1979), Fodor and Fodor (1980), and their followers, is the result of a systematically available operation in Czech.

Even though I draw a parallel between INO and BP&MN in terms of their low-scope existential interpretation, I acknowledge the contrast between the two in terms of their syntactic representation. It was shown in 4.3 that INO do not behave like syntactically represented arguments. Let me briefly show here that indefinite bare plurals do behave like ones. One of the tests that I used in 4.3.2 involved INO's inability to bind reflexives. In contrast, the following sentence with the reflexive pronoun *sebe* referring to an indefinite bare plural noun is well-formed. (Note that in Czech, the reflexive can precede the direct object that it is co-indexed with in the surface word order.)

(243) Karel$_i$ včera   na schůzi zbytečně   poštvával   mezi sebou$_{*i/j}$
       Charles yesterday at assembly unnecessarily prompted.IMPF among selves
       studenty$_j$.
       students.ACC
       'Yesterday at the assembly, Charles was unnecessarily prompting students among
       themselves.'

In 4.3.2, I used sentences where the reflexive pronoun could in principle refer either to the subject or to the direct object. When the direct object was INO, only the subject-oriented reference was allowed (see (244-a) versus (244-b) below). In the sentence (244-c) with a bare plural object, the ambiguous reading arises, on a par with the one attested in (244-a) for the overtly quantified direct object *nějaké objekty* 'some objects'.

(244)   a.   Karel$_i$ maloval   vedle sebe$_{i/j}$ nějaké objekty$_j$.
             Charles drew.IMPF next self/selves some   objects
             'Charles was drawing some objects next to himself/themselves.'

        b.   Karel$_i$ maloval___$_j$ vedle sebe$_{i/*j}$.
             Charles drew.IMPF   next self/selves
             'Charles was drawing next to himself.'

        c.   Karel$_i$ maloval   vedle sebe$_{i/j}$ rodinné domky$_j$.
             Charles drew.IMPF next self/selves family   houses
             'Charles was drawing family houses next to himself/themselves.'

Another type of constructions in which INO were not able to participate were control structures (see (179-b)). Indefinite bare plural nouns, on the other hand, can control the subject of an infinitival clause, as in the following examples.

(245)   Marie ne-může vzít telefon, protože zrovna učí [PRO$_i$ plavat]   batolata$_i$.
        Mary not-can pick phone   because just   teaches.IMPF swim.INF toddlers.ACC
        'Mary can't pick up the phone because she's teaching toddlers to swim right now.'

(246)   Karlík včera   naváděl   malé děti$_i$ [PRO$_i$ zapálit   školu].
        Charlie yesterday incited.IMPF little kids.ACC   burn.INF school
        'Yesterday, Charlie was inciting little kids to put the school on fire.'

These examples provide enough evidence that the parallelism between INO and indefinite BP has its limits and does not extend to their syntactic status.

5.3   Intransitivization as a Syntactico-Semantic Process

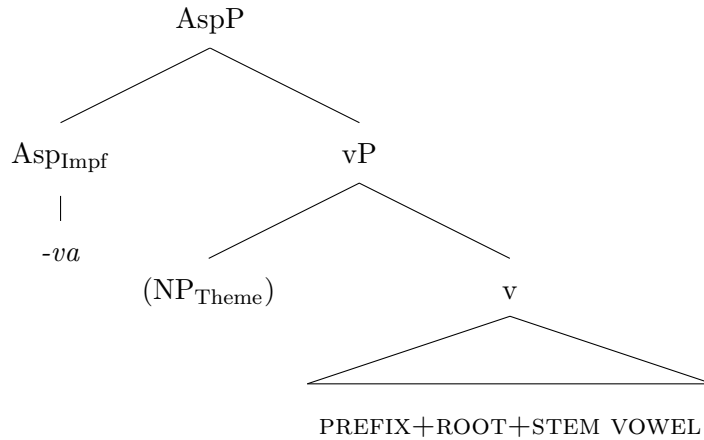### 5.3.1   Argument from Secondary Imperfectives

As is clear by now, the novelty of my approach is not in the form of the intransitivization operation itself. It closely mirrors the operation proposed in Dowty 1978 for null unspecified

objects in English and adopted by many others after him. The novelty is in the relocation of this operation from the lexicon to the syntax and in its "upgrade" to a general rule of interpretation, albeit one operating at the lowermost level of the verbal functional structure. This level of syntax is somewhat confusingly dubbed as "lexical" and is often identified with the 'first phase syntax', a term due to Ramchand (2008).

One of the crucial arguments for locating the INO-deriving operator in syntax in Czech, apart from the high productivity of this construction, is the observation that many imperfective verbs that can have INO in lieu of their complements are so-called secondary imperfective verbs. More examples of such verbs are provided in (247-a), followed by their derivationally simpler INO-disallowing perfective counterparts in (247-b).

(247)   a.   Karel   pořád vy-kresluje___ / za-pisuje___ / vy-střihuje___ /
                Charles always VY-draws.IMPF   ZA-writes.IMPF   VY-cuts.IMPF
                vy-řezává___ / pře-stavuje___ / pře-rovnává___ / po-suzuje___ /
                VY-carves.IMPF PŘE-builds.IMPF PŘE-orders.IMPF PO-judges.IMPF
                po-mlouvá___ / z-modernizovává___ / za-tepluje___ /
                PO-slanders.IMPF Z-modernizes.IMPF ZA-heats.IMPF
                za-vařuje___ / roz-dává___ / o-slavuje___.
                ZA-preserves.IMPF ROZ-gives.IMPF O-celebrates.IMPF
                'Charles is always painting / making notes / cutting out / carving / rebuilding / reorganizing / judging / slandering / modernizing / heat cladding / giving away / celebrating.'

        b.   Karel   brzy *vy-kreslí___ / *za-píše___ / *vy-stříhne___ / *vy-řeže___ /
                Charles soon VY-draws.PF ZA-writes.PF VY-cuts.PF VY-carves.PF
                *pře-staví___ / *pře-rovná___ / *po-soudí___ / *po-mluví___ /
                PŘE-builds.PF PŘE-orders.PF PO-judges.PF PO-slanders.PF
                *z-modernizuje___ / *za-teplí___ / *za-vaří___ / *roz-dá___ /
                Z-modernizes.PF ZA-heats.PF ZA-preserves.PF ROZ-gives.PF
                *o-slaví___.
                O-celebrates.PF
                'Charles will soon paint in / note down / cut out / carve out / rebuild / reorganize / judge / slander / modernize / heat clad / food preserve / give away / celebrate.'

It has been extensively argued that secondary imperfectives are derived morphosyntactically, presumably by means of Asp, from the common, often prefixed verbal stem that they share with perfective verbs (Ramchand 2004, Romanova 2004, Jabłońska 2007, a.o.).

(248)   Syntactic structure of secondary imperfectives with *-va*-suffixation

```
                          AspP
                    ╱           ╲
              Asp_Impf            vP
                │              ╱      ╲
               -va      (NP_Theme)       v
                                      ╱     ╲
                                    ╱_____╲
                              PREFIX+ROOT+STEM VOWEL
```

Note that under this analysis, the term 'secondary' is a misnomer of sorts. Secondary imperfectives are not derived from some morphologically simplex "primary" imperfectives via prefixation and subsequent suffixation. And they are not derived from an already perfectivized verb forms either. They simply do not have a unique bare-stem form like some other imperfectives (exemplified in (250-a) below) but rather a morphologically complex form that shares vP content with perfectives. I believe that part of the puzzlement that persists in some of the literature on this topic is caused by the fact that the perfective aspectual head is usually unpronounced in Czech, not corresponding to any overt affix (see Giorgi and Pianessi 1997 for a related observation about English perfective). Consequently, the spell-out of the perfectivized vP is identical to the spell-out of the vP that has not yet been selected by an aspectual head (though see Ramchand 2004 for arguments that the so-called purely perfectivizing prefixes and a few other quantificational prefixes are generated directly in Asp_Pf; see 8.3.1 for more on the topic of aspectual prefixes).

Any account that puts the burden of identifying INO-taking verbs on the lexicon would have a hard time explaining how the "syntactically imperfectivized" predicates in (248) allow intransitivization if they do not exist in the lexicon in the first place. Even if the lexicon listed something like the "candidates for intransitivization", explaining the INO phenomenon fully without resorting to the syntactic category of aspect is virtually impossible. Instead, I propose that INO are derived by an existential closure within vP, which is then selected by the aspect-determining head Asp, and it is because of the feature content

of the perfectivity-inducing aspectual head that the vP structures with ∃-closure are ruled out as its complements. This aspect-related part of the proposal is discussed in depth in Chapter 7.

Hard-core lexicalists could of course reject the derivational analysis of secondary imperfectives altogether, and argue that they, too, are derived in the lexicon. This, however, would mean losing even more generalizations, not only the syntactico-semantic ones but also the morphological ones, especially the generalization that a major part of imperfective verb forms is derived by regular morphological processes from what look like the corresponding perfective forms with which they share the lexical semantics. In a way, it would be a lot like claiming that the progressive -*ing* forms in English are derived lexically. These forms, too, are derived by a productive morphological process (and I shall argue in 8.1.1 that their meaning is a result of the same operator that derives the meaning of imperfectives). The following examples give an overview of different morphological types of perfective and imperfective verb forms in Czech. Most perfective verbs are combinations of a verbal stem and a prefix, like the one in (i) below, but there are some perfectives that corresponds morphologically to a bare stem, namely to (ii) a root with the null stem suffix (i.e. a surface bare root), (iii) a root and a stem vowel -*i*-, or (iv) a root and an optional suffix -*nu*-, attaching to semelfactive roots.

(249)   Morphological decomposition of perfective verbs

i.	prefix+stem:	*na-ps-a-l*	NA-write-A-PAST	'wrote'
ii.	stem only (bare root):	*da-∅-l*	give-PAST	'gave'
iii.	stem only (root+I):	*koup-i-l*	buy-I-PAST	'bought'
iv.	stem only (root+NU):	*bouch-(nu)-l*	hit-NU-PAST	'hit'

The morphological formation of imperfective verbs in Czech is quite different from that of perfective verbs. Some imperfectives (those that might be called "primary") correspond to bare, unprefixed stems (i.e. roots plus different stem suffixes), cf. (250-a). However, many more imperfective verbs are derived by the infix -*va*- attaching to the (prefixed or unprefixed) stem, which is sometimes accompanied by stem alternation, as exemplified in (250-b). There is also a substantial group of imperfectives, exemplified in (250-c), which are derived from

prefixed stems by stem vowel alternation, accompanied by morphonological change of the root. In (250-b) and (250-c), I always list the imperfective past participle form next to the perfective past participle form, to make their derivational relation clear; the *-l* ending is the past tense suffix.

(250)   Morphological decomposition of imperfective verbs

    a.   Bare stem imperfectives

i.	root only (root+∅) :	*nes-∅-l*	carry-∅-PAST	'was carrying'
ii.	root+I:	*pros-i-l*	beg-I-PAST	'was begging'
iii.	root+NU:	*tisk-(nu)-l*	tisk-NU-PAST	'was printing'
iv.	root+A:	*děl-a-l*	make-A-PAST	'was making'
v.	root+E:	*trp-ě-l*	suffer-E-PAST	'was suffering'
vi.	root+OVA:	*prac-ova-l*	work-OVA-PAST	'was working'

    b.   Imperfectives derived from the stem shared with perfectives by -VA- suffixation

	PERFECTIVE		IMPERFECTIVE	
i.	*u-maz-a-l*	'erased'	*u-maz-á-**va**-l*	'was erasing'
ii.	*za-kry-∅-l*	'covered'	*za-krý-∅-**va**-l*	'was covering'
iii.	*z-prac-ova-l*	'worked up'	*z-prac-ová-**va**-l*	'was working up'
iv.	*vy-děl-a-l*	'earned'	*vyděl-á-**va**-l*	'was earning'
v.	*pře-tisk-(nu)-l*	'reprinted'	*pře-tisk-o-**va**-l*	'was reprinting'
vi.	*vy-pros-i-l*	'impetrated'	*vy-proš-o-**va**-l*	'was impetrating'
vii.	*pře-trp-ě-l*	'endured'	*pře-trp-o-**va**-l*	'was enduring'

    c.   Imperfectives derived from the stem shared with perfectives by stem alternation

	PERFECTIVE		IMPERFECTIVE	
i.	*od-nes-∅-l*	'carried away'	*od-náš-e-l*	'was carrying away'
ii.	*se-br-a-l*	'collected'	*s-bír-a-l*	'was collecting'
iii.	*do-pek-∅-l*	'finished baking'	*do-pék-a-l*	'was finishing baking'
iv.	*u-raz-i-l*	'hurt sb.'	*u-ráž-e-l*	'was hurting sb.'

5.3.2 Argumental ∃-Closure Involved in Passivization

The approach to INO defended here is very similar to the path taken by Bach (1980) for null agents of passives. Even though Bach adopted Dowty's analysis of agentless passives as involving existential quantification of the external argument, he argued against Dowty's treatment of passivization as a lexical word formation rule and gave several arguments for why it has to be a syntactic rule defined on a phrasal category. Bach's analysis is cast in the framework of Montague's categorial grammar (just like Dowty's), so it is not directly comparable to the phrase-structure-based approach taken here. Therefore I do not go into the details of Bach's own analysis of passives. In the framework of generative grammar, syntactic existential closure of the external argument is employed to derive passives by, for example, Pylkkänen (2002), who relies on Kratzer's 1996 account of the external argument as being introduced by an inflectional head Voice, outside of the lexical vP (VP in the terminology of those days). Pylkkänen assumes that there is a subtype of Voice, with a subscript Pass, which both introduces an agentive argument and binds it by ∃-closure.[30] This is why the external argument is not syntactically represented in passive structures, which is confirmed for example by the inability of depictives to modify it, cf. (251-a). If this line of research proved feasible, v_{Intr} could be captured as v with an interpretable feature Intr, in the same vein as the semantics of passivization is brought about by the Pass feature on Voice.

(251)   Implicit external arguments (Pylkkänen 2002:(35))

   a.   *The meat$_j$ was eaten hungry$_i$.

   b.

$$\lambda e\exists x[\text{agent}(e, x) \wedge \text{eating}(e) \wedge \text{theme}(e, \text{the meat})]$$

Voice$_{\text{Pass}}$ $\lambda e[\text{eating}(e) \wedge \text{theme}(e, \text{the meat})]$

$\lambda e\exists x[\text{agent}(e, x)]$

eat   the meat

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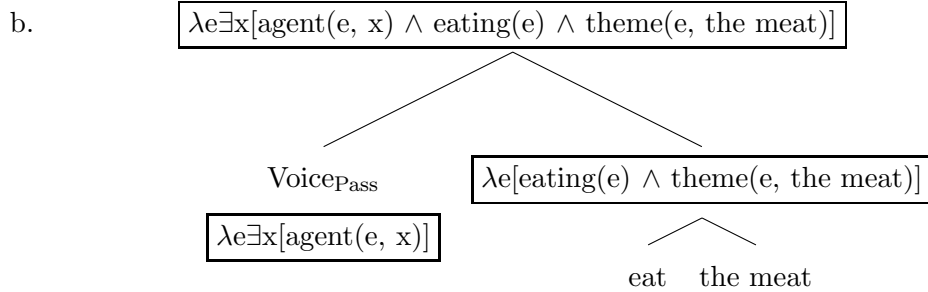
[30]When agent projects, the syntactic merge of Voice and a vP is mirrored in semantics by applying the compositional principle of Event Identification (Kratzer 1996:122), which puts together entities of type $\langle e\langle vt\rangle\rangle$ with entities of type $\langle vt\rangle$ to give entities of type $\langle e\langle vt\rangle\rangle$. In the case of passivization, both Voice$_{\text{Pass}}$ and vP denote entities of type $\langle vt\rangle$ so they are composable by simple predicate modification.

The most recent take on the existential quantification of agents of passives is Bruening 2016 who argues that it happens in two phases. First, Voice introduces into the structure the external argument variable, as in Kratzer 1996. Then the head labeled Pass selects a projection of Voice and existentially closes that argument off.[31]

(252)   Implicit external arguments (Bruening 2016:21–23)

    a.   The senator was bribed.

    b.
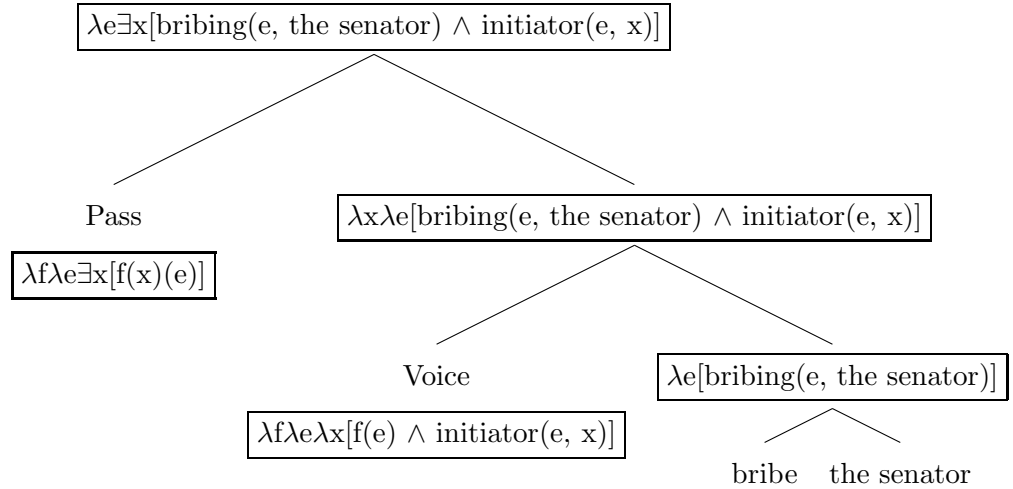
Note that on Bruening's account, the semantics of Pass is the same as the one I assigned to the intransitivizing existential operator in (230). It takes an unsaturated function as an argument and it gives back a set of events. In the case of passivization, this function corresponds to a syntactically unsaturated projection of Voice; in the case of intransitivization, it corresponds to a syntactically unsaturated projection of v.

Given the similarity between syntactically unavailable, existentially quantified agents of passives and INO, the next natural question to ask would be whether the intransitivization operation is just a subtype of a more general operation of argument ∃-closure that could be applied to any argument-introducing head. I leave answering this question to a future research, but see Chung and Ladusaw 2003 for a related proposal, in which existential closure is seen as one of the ways to satisfy the following principle: "Predicates must have their participant arguments (semantically) saturated at the event level" (Chung and Ladusaw 2003:(27)). The event level is syntactically understood as the complement to the inflectional

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[31]I gloss over Bruening's account of the semantics of *by*-phrases here; for the modification of the semantics of Pass that allows to incorporate them see Bruening 2016:24.

head, and it is the level where all other argument variables except the event variable have to be saturated.

Analyzing INO as nothing more than a semantic by-product of a type-shifting mechanism associated with v-head also resonates with Williams (1985:314) who sees implicit arguments as "nothing more than the argument slots in the argument structure of predicates" which did not get linked with a syntactic position – even though it should be noted that Williams' conclusion was made for implicit agents of nouns and passives and not for direct objects; see also Williams 1987.

In contrast to the external argument, the possibility of a systematic ∃-closure of the internal argument, which I argue to be utilized in Czech, has not been adequately acknowledged in the linguistic literature so far. One of the reasons might be that this form of internal argument saturation cannot be employed without issues in English where, it is claimed, only a limited set of verbs allow narrow-scope indefinite null objects; see 5.4 below. To my knowledge, there are only two notable exceptions to the overall tendency to leave ∃-closure of internal arguments in the hands of the lexicon: Babko-Malaya 1999 and Alexiadou *et al.* 2014. I discuss these works one by one, in 5.3.3 and in 5.4.1, summarizing their gist and pinpointing their shortcomings.[32]

5.3.3   INO Are Not Null Properties in the Place of Syntactic Arguments

In her dissertation, Babko-Malaya points out that "intransitivization does not have to be defined as a lexical rule", but it "can be accounted for by a general existential type-lifting rule of compositional semantics" (1999:65). She develops her analysis within the framework of the Cross-Linguistic Semantics of Bittner (1994a,b), where type-lifting is a transformation rule. Transformations are allowed by the system only if function application cannot apply directly. For example, there is an existential type-lifting operator that brings about the

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[32]I expect that there are numerous works that utilize an argumental ∃-closure that applies more regularly than the lexically specified one, yet not to the same broad extent as proposed in this dissertation. To give one example from Czech, Šimík 2011 assumes that the predicate *mít* 'have' in modal existential constructions of the type *mít co číst* 'have something to read, lit. have what to read', takes two arguments: an overt possibility clause and a non-overt existentially quantified 'participant argument', whereby the latter is a result of *mít* merging with an arity-reducing, phonologically empty antipassivization morpheme. Whereas positing a non-overt antipassivization morpheme for Czech might be debatable, the semantic effect of this operation is the same as that of the intransitivization rule in (230).

existential force of indefinite NPs, which are analyzed as properties. It takes entities of type $\langle \tau, \text{it} \rangle$ and gives back entities of type $\langle \tau t, \text{it} \rangle$ for any type τ (i is the type of time intervals, t is the type of propositions):

(253) $\exists$: $\lambda T \lambda S \lambda t \exists u_\tau [T(u,t) \wedge S(u)]$ Babko-Malaya 1999:(40a)

This operator allows the type shift at the node V captured in the following tree:

(254)

$\qquad$ 3:VP

$\qquad$ 1:V $\quad$ 2:NP

$\qquad$ | $\qquad$ |

$\qquad$ come $\quad$ man

1: $\lambda x \lambda t [\text{come}(t,x)]$

$\Rightarrow \lambda P \lambda t \exists x [\text{come}(t,x) \wedge P(x)]$

2: $\lambda x [\text{man}(x)]$

3: $\lambda t \exists x [\text{come}(t,x) \wedge \text{man}(x)]$

In order to be able to apply the operator in (253) to derive the intransitivized reading of a verb, Babko-Malaya assumes that such a verb merges with a null argument ARB which is an expression of type $\langle \tau, t \rangle$, denoting the trivial property of being self-identical. This allows the derivation to proceed in the same way as in the case of *A man came* in (254):

(255)

$\qquad$ 3:VP

$\qquad$ 1:V $\quad$ 2:NP

$\qquad$ | $\qquad$ |

$\qquad$ read $\quad$ ARB

1: $\lambda x \lambda t [\text{read}(t,x)]$

$\Rightarrow \lambda P \lambda t \exists x [\text{read}(t,x) \wedge P(x)]$

2: $\lambda x [x=x]$

3: $\lambda t \exists x [\text{read}(t,x)]$

Even though the insight behind the derivation above and the one I propose in (231) is the same and both of them account for the narrow indefinite scope characteristic for INO, the derivation in (255) cannot be right for Czech INO for several related reasons. First of all, it is not at all clear that an unselective $\exists$-closure, proposed by Heim (1982) for English, and formalized by Babko-Malaya in the form of a general type-shifter in (253), is active in Czech. In 7.3, I argue for an alternative way of deriving the existential meaning of indefinite nouns in Czech, based on Chierchia 1998 and Dayal 2004, who demonstrate that indefinite

bare plural and mass nouns have to be derived in a different way than indefinite singular nouns. Second, if INO were phonologically null properties which get existentially bound, these property-denoting arguments would be expected to allow binding by other sentential operators as well, once they get out of the scope of the ∃-closure. Recall that Heim modeled her existential operator after Lewis's (1975) adverbs of quantification, such as *always*, *often*, *sometimes*, *rarely*, and the null generic operator, which scope above ∃. So Babko-Malaya's ARB arguments should be theoretically bindable by all of these quantifiers as well. However, this expectation is not met. None of the following generic sentences with a null object allow a reading other than the narrow existential one. (256) is a statement about pensioners in general but not about books or readable materials in general; similarly, (257) is a general statement about Czech politicians but not a general statements about political actions or whatever politicians can plan.

(256)   Důchodci   (ještě) čtou___.
        pensioners.NOM (still) read.IMPF
        'Pensioners (still) read.'

(257)   Čeští politici   pořád   plánují___ a   ne-jednají.
        Czech politicians.NOM all the time plan.IMPF and not-act
        'Czech politicians always plan but don't act.'

Note that the parallel sentences with an overt bare plural noun as a direct object do allow the generic reading of the object without problems (whereby the noun moves out of the scope of ∃-closure within vP, cf. 2.3.2 and (359)). Such nouns are also analyzed as base-generated predicates, which makes them semantically identical to Babko-Malaya's INO.

(258)   Context: *"It is not true that historical fiction is in decline."*

        Důchodci   historické romány   čtou.
        pensioners.NOM historical novels.ACC read.IMPF
        'Pensioners do read historical novels.'

(259)   Změny   zákonů   plánují   politici.
        changes.ACC laws.GEN plan.IMPF politicians.NOM
        'Law changes are planned by politicians.'

One might ask whether ARB's phonological nullness could be the reason for its inability to move to the restrictor of another quantifier, since such movement is not detectable on the surface. Our previous examination on null generic objects in Part I comes handy here since we already know that in Czech, phonologically null, syntactically represented arguments denoting the property of being personas can be bound by the generic operator while they originate in the deep object position. Therefore, all ARB arguments should principally allow generic reading under Babko-Malayas approach, since they too are syntactically represented properties.[33]

Another issue with Babko-Malaya's proposal is that she assigns the same syntax and semantics to INO as she does to arbitrary PROs. However, this conclusion is problematic in the light of the findings presented in Part I, namely that arbitrary PRO can agree in number and gender and might be case-marked. INO, on the other hand, do not allow any of that; what is more, none of the tests for their syntactic presence come out as positive, as shown in 4.3. Even if both PRO_{arb} and INO exhibited existential semantics, one would expect the syntactic differences between them to be reflected in some way, presumably in relation to their syntactic structure. Babko-Malaya's conclusion that both PROs and INO are base-generated as property-denoting NPs goes against these expectations.

5.4   How English Differs from Czech

5.4.1   Differences in Verbal Argument Structure

Up to this point, I simply assumed that in the functional structure of Czech verbs, a root gets verbalized first, by means of a v-head which is spelled-out as a stem suffix. Subsequently, it merges with its argumental phrases, according to its selectional requirements. If the predicate of events denoted by v+ROOT merge has an unsaturated individual argument, intransitivization can apply to existentially close that argument off. In the wake of

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[33]This brings us to the question of whether the personas-denoting arguments discussed in Part I that give rise to GNO could be bound by the low-scope existential quantifier as well. The answer would be No – because neither of the two $\exists$-closure mechanisms present in Czech, the DKP in (240) and the intransitivization in (232), can apply to them. They cannot be derived by DKP since they correspond syntactically to a numberless little n with the property meaning, while DKP is defined only for kind-denoting nouns, syntactically represented as NumPs; see the discussion under (238). And they cannot be derived by intransitivization in (232) since it applies to verbs with a syntactically unfilled internal argument position. Therefore it does not apply if it is occupied by the syntactically represented, albeit phonologically null little n.

recent findings in the area of event decomposition, another syntactic position emerged as a candidate for the initial merge of internal arguments, the complement of the root itself. In this section, I examine the most relevant body of research in this area and I show that the proposed formulation of intransitivization in (232), which limits its scope to the little v node, makes the correct prediction that transitive verbs with direct objects starting as root complements are not expected to allow INO.

Let me start by reviewing the 2014 presentation by Alexiadou, Schäfer and Spathas, who argue for the presence of an intransitivizing existential closure in syntax, at the point where vP with an unsaturated argument slot merges with Voice. They model it after the anti-passive rule in languages like Inuktitut, noting that in Germanic languages, this rule is not morphologically marked.

(260) $[\![\text{existential closure (EC)}]\!] = \lambda f_{\langle e,vt \rangle} \lambda e_v \exists x[f(x)(e)]$

Their analysis still has a strong lexicalist component, since they allow intransitivization only for the so-called non-core transitive verbs (NCT), the term due to Levin (1999), which includes INO-taking verbs, such as *eat, read, sing, sweep, scrub, rub, wipe*, but also *jiggle, kick, shoot, hit, pound, shake, stab, answer, congratulate, greet, rule, manage, govern* etc. 'Core transitive verbs' (CT), exemplified by *destroy, break, kill, cut, shatter, melt, cool, warm, dry* or *open* do not allow intransitivization. The difference between the two classes is that the internal argument of non-core transitive verbs is an argument of the (verbalized) root, while core transitive verbs have a bi-eventive, resultative structure with a become-subevent. Their internal argument is an argument of a secondary predicate Become ⟨x⟩:

(261)   a.   Leslie swept the floor. [x ACT ⟨sweep⟩ y]

         b.   John broke the vase.   [[x ACT] CAUSE [y BECOME ⟨broken⟩]]

Alexiadou *et al.* (2014) explain the incompatibility of existential closure with the verbs like *break* as following from the Argument-per-subevent Condition of Rappaport Hovav and Levin 2001:(36) (a.k.a. Argument Realization Condition in Rappaport Hovav and Levin 1998:(25) or The Structure Participant Condition in Levin 1999:(19)), rephrased in Alexiadou *et al.* 2014:(20) as follows:

(262)   **Argument Realization Principle (ARP)**

There must be one argument XP in the syntax to identify each sub-event in the event structure template.

However, this analysis runs into several problems. First of all, it is not clear *why* something like ARP should hold in syntax, instead of being just a stipulative generalization designed to get the data right. Semantically, nothing prevents the application of existential closure the way it is specified in (260) at the point where CAUSE would merge with a become-event. Unless some principled reason for an XP as a necessary argument of the predicate Become ⟨x⟩ is revealed, (262) corresponds to a mere descriptive generalization. Unfortunately, Alexiadou *et al.* (2014) do not accompany the event structure templates in (261) with any linking rules or with an explicit syntactic derivation, so it is hard to discern whether there are any such reasons at a syntactic level.

Secondly, it is not accepted unequivocally that it is the presence of a become-subevent that distinguishes NCTs from CTs. Many researchers argue that all accomplishment predicates, including those from the group of Levin's 'non-core transitive verbs', contain a become-subevent in their semantics, even though it might not always be related to an activity-subevent by the causal relation; see especially Dowty 1979, Rothstein 2004, and the references therein. For example, the vP of a sentence in (261-a) would have the following meaning according to Rothstein's accomplishment template (parts not directly relevant for the current discussion are omitted):

(263)   sweep the floor ⇝ $\lambda e_v.\exists e_1 \exists e_2 [e=^S(e_1 \sqcup e_2) \wedge \text{SWEEP}(e_1) \wedge \text{Th}(e_1)=\text{the floor}$

$\wedge \text{BECOME-SWEPT}(e_2) \wedge \text{Arg}(e_2)=\text{Th}(e_1)]$

where ^{S} is the operation forming a singular entity out of a sum

Thirdly, and importantly given the focus of this thesis, none of the tests used in Alexiadou *et al.* (2014) to support the structural presence of a resultative subevent in core transitives and its absence in non-core transitives can be satisfactorily reproduced in Czech. In general, the testing constructions replace the semantically selected argument with a non-selected complement, which is something that only NCT are expected to allow. CT should

always keep their original internal argument, to identify their complex semantics as required by ARP. For example, in English, the direct object can be replaced with a non-selected resultative phrase only for the representatives of NCT.

(264)   English

      a.   The child rubbed [the tiredness out of his eyes]. NCT

      b.   Cinderella scrubbed [her hands raw]. NCT

      c.   *The clumsy child broke [the beauty out of the vase]. CT

      d.   *The clumsy child broke [his knuckles raw]. CT   Alexiadou *et al.* 2014:(14)

In Czech, however, the parallel resultative constructions seems to clump together verbs from both classes established by Levin, suggesting they are all NCT.

(265)   Czech

      a.   ^{?#}Dítě si   vy-třelo   únavu   z   očí.
           child REFL.DAT out-rubbed tirednees from eyes

      b.   Popelka si   odřela   ruce do-krvava.
           Cinderella REFL.DAT scrubbed hands to-raw

      c.   Dítě vy-bilo/vy-mlátilo z   vázy všechny ozdobné   kamínky.
           child out-beat/out-stroke from vase all   decorative pebbles

      d.   Dítě si   rozbilo/rozmlátilo kotníky do-krvava.
           child REFL.DAT broke   knuckles to-raw

Moreover, most of the testing constructions are not really productive in Czech. They are the 'fake reflexives' of the type *John sang himself sore*, the 'X-way constructions', e.g. *John cooked his way to a Michelin star*, and the out-prefixation as in *John out-ate Mary*. All of them are again assumed to replace the subcategorized complement with a non-subcategorized one. Even though it is possible to find a few Czech verbs that can paraphrase these constructions, none of them can be used systematically. One of a more productive constructions, following the pattern of fake reflexives in employing the reflexive particle and adding a result-expressing element, is *u+*VERB *se* 'to do something to complete exhaustion'. Even though some verbs are more prone to appear in this construction than others, for pragmatic

reasons, representatives of both the CT and NCT classes can form it. Note that the examples in (266-c) are somewhat pragmatically weird, but once the proper context is set up, they are acceptable.

(266)   a.   Karel   se   u-zpíval / u-pil   k smrti.
                   Charles REFL U-sang.PF   U-drank.PF to death
                   'Charles sang/drank himself to death.'

            b.   Chycená laň se   u-bila   / u-mlátila   k smrti.
                   caught   deer REFL U-beat.PF   U-stroke.PF
                   'The caught deer beat/stroke itself to death.'

            c.   Panáček v tom animovaném filmu musel ve vězení pořád jenom řezat
                   figure   in that animated   movie must in prison always just   cut
                   dřevo / balit zboží, až se   u-řezal   / u-balil   k smrti.
                   wood   pack goods so REFL U-cut.PF   U-packed.PF to death.
                   'In that animated movie, a little figure always just had to cut wood / pack

                   goods such that he cut/packed himself to death.'

A potential issue with this test is that the prefix *u-* only attaches to morphologically simplex verbal stems, which automatically excludes all prefixed verbs from undergoing it. And it is debatable to what extent the chosen verbs correspond to the English ones if we only go by the lexical meaning of the root.

    Another productive resultative construction is composed of the cumulative prefix *na-* and the reflexive particle, *na*+VERB *se* 'to do something to a certain extent', optionally accompanied by quantity expressions such as *hodně* 'a lot' or *něco* 'something'. (The selected internal argument that would normally bear accusative case can be still expressed in genitive.) Again, there does not seem to be any effect of whether or not the verb would be classified as causative by Levin (this time, prefixed roots can form the construction too).

(267)   a.   Karel   se   hodně na-smál   / na-vařil.
                   Charles REFL much NA-laughed.PF   NA-cooked.PF
                   'Charles did a lot of laughing/cooking.'

            b.   Karel   se   něco   na-zavíral   / na-zabíjel   / na-ničil   /
                   Charles REFL something NA-closed.PF   NA-killed.PF   NA-destroyed.PF
                   na-lámal.
                   NA-broke.PF
                   'Charles did a lot of closing/killing/destroying/breaking.'

It is not the objective of this work to verify whether the lexical semantic distinction in (261) between complex causative events and simple non-causative ones is real in Czech. When it comes to whether it is reflected syntactically, the data presented so far point to a negative answer. But it is clear that even if this distinction was real in Czech, it could not account fully for the split between INO-allowing and INO-disallowing verbs. The majority of predicates that would be classified as 'non-core transitive' by Levin on the basis of their LCS, and should therefore accept INO, cannot accept INO if they are expressed as perfective verbs; they can only do so if they are expressed as imperfectives.

(268)   Karel   *přečetl___/četl___   a   *snědl___/jedl___.
         Charles read.PF/read.IMPF and ate.PF/ate.IMPF
         'Charles read and ate.'

In an analogous manner, CT predicates, which should always have an XP as their internal argument, do allow INO if they are imperfective.[34]

(269)   Isis jenom *zničí___/✓ničí___   a   *rozbije___/✓rozbíjí___.
         Isis just   destroys.PF/destroys.IMPF and breaks.PF/breaks.IMPF
         'Isis just destroys and breaks.'

(270)   Vrah   *zavraždil___/✓vraždil___   ve 3 hodiny ráno.
         murderer murdered.PF/murdered.IMPF at 3 hours   morning
         'The murdered murdered at 3 am.'

What is more, the same aspectual factor, recast in terms of telicity, plays a crucial role in English as well. None of the NCTs allow INO if combined with a telicity-inducing adverbial, which means that all verbs intransitivized by (260) are atelic (Martí 2011). ARP does not have anything to say about these striking aspect-related dichotomies.

(271)   a.   Leslie swept___ for hours / *in an hour.

         b.   Leslie read___ for an hour / *in an hour.
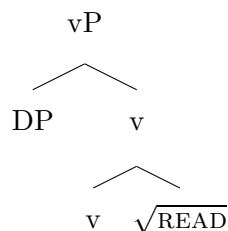
Notwithstanding the issues connected with Alexiadou *et al.*'s proposal, I suppose it has

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[34]Note that the English translation in (269) is not reported as ungrammatical either, although both verbs are claimed to belong to CT. For showing that even English data on causative verbs and implicit patients are not as straightforward as Rappaport Hovav and Levin suggest, see Goldberg 2001.

a valid insight in relating the indisposition of certain predicates for intransitivization to their more complex event structure. I also suppose that if the split between NCT and CT captured in (261) in terms of different lexico-conceptual structures was captured as a difference in the internal syntax of verbal phrases instead, it could explain why English is more parsimonious than Czech when it comes to INO. Marantz (2006, 2007, 2013) proposes that there are two ways to derive transitive change-of-state verbs. The better known scenario is the one in (272-a) where the root modifies the eventuality introduced by little v and the output merges with an argument interpreted as undergoing a change of state. Alternatively, the root itself can name a state, in which case it merges with an argument first, creating a stative eventuality. Only then does it merge with the little v which introduces the causing event.

(272)   a.   Class 1 transitives   b.   Class 2 transitives
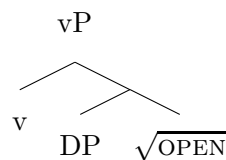
This constructionalist formalization of the event structure and its influence on the argument projection represents an influential but still an ongoing research project. As a result, the criteria for splitting the verbs into (272-a) versus (272-b) are not completely clear, and they sometimes vary among individual scholars. For Marantz, all verbs with the so-called incremental themes, such as *eat an apple*, *build a house*, *clean a table*, belong to Class 1. For Harley (2005b), on the other hand, any de-adjectival change-of-state verb should be derived with a small clause structure in (272-b), so *clean a table* (but not *build a house* or *eat an apple*) would be of type (272-b). Regardless of these inconsistencies, the general criterion for analyzing a verb as Class 2 is that its root can name a state, meaning that the root patterns with simple adjectives. Consequently, it can merge with an internal argument directly, without any intermediating head. Tellingly, Class 2 is usually illustrated by de-adjectival verbs such as *open, tame, clear, cool, warm, dry, chill, flatten, roughen, lengthen*, etc., some of which undergo the causative-inchoative alternation of the type *John opened*

the door – The door opened (Harley 2005b:53). Harley (2005b), following Hale and Keyser 1997, also argues that denominal location/locatum verbs like *bag* or *dress* involve a similar small clause structure, where the verb starts as a root noun inside a PP denoting a (caused) resultant state, and it is incorporated into P and subsequently into v, as captured in the following tree.

(273)   Denominal locatum verb (subtype of Class 2 transitives)
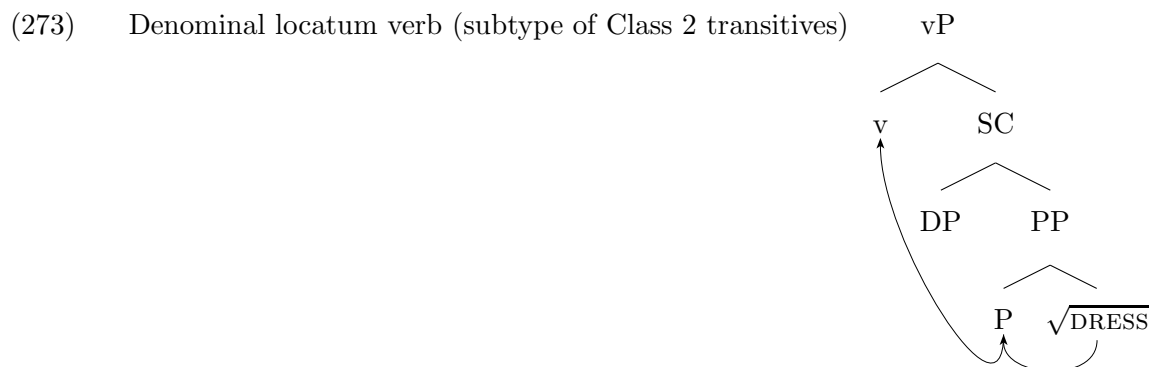
The English sentence like *John dressed Mary* thus has the underlying structure of the type *John put Mary in a dress.* As expected, these denominal verbs do not allow intransitivization either. If they appear "objectless" on the surface, the only possible interpretation is the inchoative/anticausative one, where the internal argument, originating as a small clause subject, raises to the nominative subject position. Compare the following parallelism between a deadjectival Class 2 transitive *dry* and a denominal verb *dress*.

(274)   a.   John dried / was drying.

          b.   Mary dressed / was dressing.

Importantly, the conclusion about the existence of two structurally different classes of transitive verbs cannot be applied straightforwardly outside of English. (In the following discussion, I focus my attention on Class 2 transitives in (272-b), leaving the less understood denominal transitives aside for now.) In fact, Harley herself notes that the availability of Class 1 as opposed to Class 2 might be subject to parametrization. Turning back to Czech, the conclusion about the existence of state-naming roots, behaving on a par with adjectives would be unwarranted. Roots in Czech cannot denote resultant states on their own. In

order to behave like state-denoting adjectives, they have to be embedded in an adjectival functional structure, marked by an adjectival suffix (and inflected for φ-features). If the same root gets embedded in a transitive (causative) verbal structure, it merges with a verbalizing stem suffix (corresponding syntactically to little v), which is mutually exclusive with the presence of the adjectival suffix.

(275)   a. $\sqrt{\text{CIST}}$ – čist-ý   – čist-i-t
             $\sqrt{\text{CLEAN}}$ – clean-ADJ.M.SG.NOM – clean-I-INF
                              'clean – to clean'

        b. $\sqrt{\text{TUH}}$ – tuh-ý   – tuž-i-t
             $\sqrt{\text{TOUGH}}$ – tough-ADJ.M.SG.NOM – tough-I-VERB-INF
                              'tough – to toughen'

At the same time, it is possible to derive the stative adjectival passives in Czech from the corresponding *verbalized roots* by merging them with the passivizing -*n/t*- morpheme, which is further followed by an adjectival ending; see Veselovská and Karlík 2004 for the generative analysis of these adjectives when embedded within the so-called analytic passive form. The presence of the verbalizing suffix *inside* these deverbal adjectives is confirmed by the following morphological contrast between the passive participles for the verbs *dělat* 'make' in (276-a) and *otevřít* 'open' in (276-b). The former verb has the verbalizer spelled out as a stem suffix -*a* while the latter employs the verbalizer -*e*. Both of these morphemes are preserved within the adjectival-passive structure as well. (For more examples of stem vowel preservation inside adjectival passives see Caha and Scheer 2007.)

(276)   a.   děl-a-l   – děl-a-n-ý
             make-A-PAST – make-A-PASS-ADJ.M.SG.NOM
             'he made – made'

        b.   otevř-e-l   – otevř-e-n-ý
             open-E-PAST – make-E-PASS-ADJ.M.SG.NOM
             'he opened – open(ed)'

What is more, the adjectival passive formation is sensitive to the aspect of the underlying verbal form since the aspectual value is preserved at the passive participle level as well.

(277)   a.   zab-i-l   – zab-i-t-ý
             kill-I-PAST.PERF – kill-I-PASS-ADJ.M.SG.NOM

'he killed - killed (at once)'

b. zab-í-je-l   – zab-í-je-n-ý
    kill-ɪ-ɪᴍᴘꜰ-ᴘᴀsᴛ – kill-ɪ-ɪᴍᴘꜰ-ᴘᴀss-ᴀᴅᴊ.ᴍ.sɢ.ɴᴏᴍ
    'he was killing – killed (continuously or repeatedly)'

All of these data point towards the conclusion that Czech roots do not pattern with adjectives, they cannot denote states on their own but always have to merge with a (lexical) category-determining node in order to be able to participate in further derivation. One likely consequence of this is that Czech roots cannot merge with direct objects directly, following the pattern in (272-b), but they always have to merge with the verbalizing suffix (i.e. stem suffix) on little v first. If the output of such v+ʀᴏᴏᴛ merge denotes an unsaturated relation of individuals and events, it is also open to intransitivization as defined in (232).

On the other hand, if the derivation in (272-b) is employed in English for a subset of transitive verbs, effectively reanalyzing their roots as de facto lexicalized adjectives, it is predicted that the verbs based on these roots cannot take INO as defined here. Recall that I formulated intransitivization as an argument-reducing operation on the little v node. If the root itself is subcategorized for an internal argument, intransitivization cannot apply to it because its argument slot has to be filled before the derivation reaches the v-level and before it is enriched with the eventuality semantics. While the split in (272) might not account for all cases of resistance to INO in English, its validity is supported by the fact that all verbs that Alexiadou *et al.* (2014) rank among INO-disallowing 'core transitives' would be derived as Class 2 transitives by proponents of syntactic event decomposition.

5.4.2   Role of Arguments in Determining Telicity

Another reason why English is more restricted when it comes to INO than Czech could be the role that direct internal arguments play in English in determining the telicity of events denoted by vPs, as exemplified in (278), a topic that I discuss in more detail in 7.1. In Czech, on the other hand, telicity is grammaticalized in the sense that telic events are primarily expressed by perfective verb forms, and internal arguments never change the event type (even though there are constraints on what type of arguments can merge with each type, see Chapter 7).

(278)   John sliced a carrot / the carrot / the carrots. (*telic*) × John sliced carrots. (*atelic*)

(279)   a.   Karel   nakrájel   mrkev/mrkve. (*telic*)
             Charles sliced.PF carrot/carrots
             'Charles sliced a carrot / the carrot / the carrots.'

        b.   Karel   krájel   mrkev/mrkve. (*atelic*)
             Charles sliced.IMPF carrot/carrots
             'Charles was slicing a carrot / the carrot / carrots / the carrots.'

We know that in English, null objects can be either definite or indefinite (see 4.4.2), so the null object position in itself does not give enough clues about the (a)telicity of a bare, intransitivized predicate. Compare the following examples, where the verb *win* allows either a telic or atelic (iterative) interpretation with a null object:

(280)   a.   John tried to run for the president and he won.

        b.   John won and won, for many years, until they finally uncovered his scheme.

Let me add in the same breath that the details of the transfer of quantificational properties between internal arguments and predicates in English are the subject of ongoing research, such that it is not even completely clear what the division of tasks between the syntactic and the semantic component should be (see especially Krifka 1989, 1998 or Rothstein 2004 versus Borer 2005b). But one can speculate that a phonologically unexpressed, syntactically non-represented direct object does not make the predicate atelic in the same sense that a bare plural or a mass noun does. A consequence of this is that more contextual hints are needed to determine the predicate's (a)telicity. For this reason, even English NCT verbs are not always easily acceptable in their intransitivized form if standing on their own. But as soon as atelicity is forced by other means, such as by adding durative adverbials or by repeating the predicate to make it iterative, INO are licensed. (Compare also the context of "split tasks" in (323-b).)

(281)   a.   *John sliced___.

        b.   John sliced___ for hours.

        c.   John sliced___ and sliced___.

At the same time, INO still have to follow whatever quantificational requirements predicates impose on their internal arguments, just like bare plural and mass nouns do. For this reason, one never encounters either of the following:

(282)   a. *John sliced___ in an hour.

   b. *John sliced carrots in an hour.

Finally, in English, context/world knowledge plays an important (not always properly acknowledged) role in INO licensing, which is why the sentences in (283-a) are much more acceptable than those in (283-b).

(283)   a. John read___ / painted___ / cooked___ / swept___ last week.

   b. John $^{??/*}$chopped___ / $^{??/*}$sliced___ / $^{??/*}$peeled___ / $^{??/*}$diced___ / $^{??/*}$washed___ / $^{??/*}$dried___ last week.

However, I do not suppose Czech is very different from English in this respect, as will be shown in the following chapter, which inquires into this issue in detail.

5.5   Summary

In the first part of this chapter, I focus on scrutinizing the semantic properties of INO, especially their well-known low-scopedness, using as a tool Carlson's (1977) tests revealing the "lowermost" scope of bare plurals and mass nouns in English. Employing the classical neo-Davidsonian representation of verbal predicates, I define the INO-deriving existential closure of the theme argument as a generalized type shifter that changes the entity of type $\langle e, vt \rangle$ to the entity of type $\langle vt \rangle$, i.e. an unsaturated transitive predicate of events into a saturated one. I strengthen the already established parallelism between indefinite BP&MN and INO by pointing to Chierchia's (1998) Derived Kind Predication, which enables kind-denoting BP&MN merge with individual-seeking predicates, and which also serves as an ∃-closing type-adjusting mechanism.

   In 5.3, I present one morphosyntactic and one syntactico-semantic argument for the treatment of intransitivization as a general rule of interpretation defined on a syntactic

category v. The morphosyntactic argument is based on the compatibility of INO with syntactically derived imperfectives that cannot be derived in the lexicon unless we lose the generalization about their productivity and their shared lexical meaning with the corresponding perfectives (which disallow INO). The syntactico-semantic argument stems from finding INO's predecessor in the implicit external argument of passives, in the way it is analyzed by Bach (1980), Pylkkänen (2002) and many others as a result of an argumental existential closure applying in syntax.

I then critically assess two other proposals about INO, partially overlapping with the one given here: while I agree with Babko-Malaya 1999 in conceiving intransitivization as a general rule of compositional semantics, I disagree with her treatment of INO as property-denoting syntactic arguments. And while I agree with Alexiadou *et al.* (2014) in likening intransitivization to morphologically unmarked antipassivization, I don't agree we need to refer to the lexico-conceptual structure of predicates and invoke special rules for its syntactic realization in order to determine which predicates allow INO and which don't. Instead, I propose, these limitations follow naturally from the syntactic event decomposition advocated by Marantz, Hale & Keyser or Harley, which allows direct objects to be base-generated in (at least) two distinct syntactic positions: at a merge with v (that already merged with a root) and at a merge with root (before it merges with v). Only the former structure allows intransitivization the way it is defined in (232). I argue that this split could also be a source of the differences among languages when it comes to INO productivity. Many English change-of-state verbs, especially those based on adjectival and nominal roots, do not allow intransitivization precisely because their internal argument enters the derivation as a subject of a stative small clause. In Czech, on the other hand, the corresponding change-of-state verbs seem to always involve the verbalizer before the internal argument is introduced in the structure. As expected, such verbs allow intransitivization, providing all pother conditions are met, in contrast to their English counterparts. I conclude by speculating that this might not be the only source of differences among the two languages, and the bigger role that internal arguments play in determining event's telicity in English could be blamed for some of the differences as well.

Chapter 6

The Role of Context in INO Licensing

The way the INO construction is analyzed in 5.2.2, as a result of type-shifting, intransitivizing $\exists$-closure within vP, gives the impression that it is freely available to all theme-taking verbal predicates. In Part III, I discuss why only imperfective structures allow INO-taking verbs to surface, relating the ungrammaticality of intransitivized perfective verbs to their inability to satisfy the quantity feature on an Asp_Q head that selects for a vP. Putting the issue of perfective verbs aside for now, I want to briefly examine whether there are any other constraints on the successful application of (232). Although many imperfective verbs generally allow INO, one should not overlook that there is a significant group of imperfectives that allow them only in certain contexts (where by 'context' I mean both linguistic discourse as well as the situational context of an utterance), and there are also a few that never allow them. This raises the question how to constrain the general intransitivization rule in (232) such that it does not overgenerate. Even though I do not pretend to have a full-blown answer to this question, in what follows, I sketch a possible way to approach this issue. The reason for not going into full detail is that the primary task of this dissertation is to examine the syntactic and syntactico-semantic properties of INO, especially the timing of an INO's derivation with respect to the gradual build-up of a syntactic structure and the INO's interaction with the verbal category of perfectivity. I believe that the issue of INO's contextual dependency is so complex that it deserves a separate study, more pragmatic and less syntax-focused than this one.

6.1 INO's Context-(In)Dependency in the Literature

Even though the issue if INO's contextual dependency has not received as much attention as their syntax and semantics, many authors seem to be aware that the discourse and the

speech situation plays a role in INO's interpretation and even licensing, as already touched upon in 4.4.3. Fillmore (1986) distinguishes between "definite null complements", whose referent's identity has to be retrieved from something given in the context, and "indefinite null complements", for which this is not the case. But he also observes that many cases of INO involve various degrees of "semantic specialization". For example, the intransitively used verb *drink* has a "general indefinite" meaning in (284-a) but a "specialized indefinite" meaning 'alcoholic beverages' in (284-b).

(284)   a.   When my tongue was paralyzed, I couldn't eat or drink.

         b.   I've tried to stop drinking.   Fillmore 1986:96

Allerton (1975) brings up the same point even earlier, noticing that many verbs in English undergo semantic specialization when their object is deleted; for example *John is drinking* usually implies that he's drinking alcohol. However, these semantic specializations are rather a semantic tendency than a rule, and "it might even be possible to regard them as essentially a pragmatic rather than a strictly semantic matter" (Allerton 1975:217). If *John is drinking* is said about a hospital patient who has been refusing liquids, the null object does not get its most typical meaning. Allerton also makes it clear that even though INO "may imply a particular kind of object", they never refer to one established contextually as definite. Allerton (1982:71) actually warns that the semantic restrictions on the interpretation of INO, which are largely context-governed and pragmatic in nature, "should not be allowed to unduly influence the lexical entry for a verb".

Rice (1988:206) acknowledges the importance of context in licensing INO, noticing that "[c]ollectively, the individual objectless clauses are fine, especially when strung together, because the identity of each of the omitted objects is easily induced from the context of the larger script or from associations engendered by other lexical items in the string." She supports this by the following examples.

(285)   a.   *[A description of the freedom-fighting contra rebels:]*

They kidnap, rape, torture, and murder.

b.   *[The plight of the average housewife:]*

She cooks, she cleans, she dusts, she vacuums, she irons, etc.

Rice 1988:(40b,c)

However, it does not seem implausible for any of these predicates to be pronounced on its own, in the given context, and still remain objectless.

Cote (1996) argues against the 'prototypicality' of INO as its general interpretive strategy, as already discussed in 4.4.3, pointing out that INO's non-prototypical reference can be influenced by the "underlying context and intentional structure of the discourse", as in the following examples:

(286)   a.   The cookies were finally ready and Mary ate to her heart's content.

b.   I can't eat, I'm too upset.   Cote 1996:(94),(95)

Neither (286-a), nor (286-b) have INO that could be interpreted as 'a meal', which is usually understood as the prototypical object of *eat*, surfacing in *John ate already.* The particular interpretation of INO follows, according to Cote, from the Gricean maxim of relevance. The empty object position has to be interpreted in such a way that there is a reason to inform the hearer that the corresponding event happened. For example, in (286-b), the proposed stereotype for *eat* would not work because there is no reason to inform the hearer that the speaker cannot eat a meal. The reference of the INO changes depending on what the hearer might suppose the speaker could eat.

Additionally, Cote (1996) resorts to the maxim of quantity to explain why sometimes, an INO does not correspond to the broadest possible class of objects that an activity described by a verb can affect but a more limited class of objects. For example, in a neutral context, *John baked* is not interpreted as 'John baked bake-able things or bake-able stuff', including e.g. fish or potatoes but rather as 'John baked baked goods'. In this case, the INO does not refer to things that might be baked but rather to things that must be baked to get cooked, things that are necessarily baked. If a null object's referent does not automatically belong

to the class of objects that are normally baked, and the maxim of quantity shall not be violated, the speaker has to use a more general verb, such as *cook* or *heat.*

Babko-Malaya (1999:29) analyzes the restrictions on the interpretation of INO as presuppositions: for example, the theme of *read* is presupposed to be a written object. However, this presupposition seems to be too strong, as the following example by Grimshaw (p.c, o.c.) shows.

(287)   John tried to read the scratches on the wall, but they were just meaningless marks.

Babko-Malaya subsequently rectified her original formulation of the presupposition triggered by *read* by limiting it to the worlds in which the predicate is true (which can be distinct from the worlds of evaluation, as in the modal sentence in (287)):

(288) $\forall w \forall y \; [\![\text{read}(y)]\!] \Rightarrow y$ is a readable object in w

However, the rule in (288) seems trivial as the parallel rules are true for all predicates, regardless of whether they allow INO or not. It is generally assumed that selectional restrictions associated with the lexical semantics of verbal roots constrain the sorts of entities that the arguments of the corresponding predicate might denote (Chomsky 1965). At the most basic level, the objects of *to remove* have to be remove-able, the objects of *to devour* have to be devour-able, etc. While (288) is presumably correct, it doesn't give any insight as to why *read* – but not *remove* or *devour*, for example, should allow a null indefinite object.

Following the tradition of analyzing INO in contrast to definite null objects (see 4.4.2), Condoravdi and Gawron (1996) distinguish implicit arguments that are interpreted existentially as in (289-a) as opposed to anaphorically as in (289-b).

(289)   a.   There was a piece of bread on the table, but John didn't eat.
                → He didn't eat anything.
         b.   There was a good job available here, but Fred didn't apply.
                → He didn't apply for the job.   Condoravdi and Gawron 1996:(1)

They argue that only the former ones can be used without any prior context:

(290)   a.   I painted last week.

           b.   #I applied last week.   Condoravdi and Gawron 1996:(2)

At the same time, Condoravdi and Gawron admit that the interpretation of both types of arguments can be affected by context – but, according to the authors, only the anaphoric implicit arguments have context-dependency built into their meaning. This should be confirmed by the fact that (A) whenever the context cannot provide what is needed for their interpretation, infelicity arises, as in (290-b), and (B) the sort of discourse elements which can supply a value for an anaphoric argument is restricted, due to the way semantic interpretation works. The contextual information therefore has to be supplied prior to the interpretation of the argument that is restricted by it, as shown by the following contrast in the interpretation of a discourse-determined implicit argument of *nearby*:

(291)   a.   An explosives warehouse on the other side of town exploded yesterday. A nearby bar was seriously damaged.

           b.   A nearby bar was seriously damaged. An explosives warehouse on the other side of town exploded yesterday.   Condoravdi and Gawron 1996:(7)

Nevertheless, none of these observations imply that existential implicit arguments cannot be affected by the context/discourse as well. As Condoravdi and Gawron (1996:4) put it, "we may draw certain inferences on the basis of relevance considerations, discourse relations between sentences, etc., so as to derive additional information about the implicit argument." However, they claim, contextual information is not necessary for the interpretation of these arguments, as shown in (290-a), and if the discourse contributes to their interpretation, the order in which the sentences are presented does not matter.

(292)   a.   We needed a lot of pastries for the party. I have been baking all week.

           b.   I have been baking all week. We needed a lot of pastries for the party.

                               Condoravdi and Gawron 1996:(6)

As this summary indicates, it is common to most approaches to context-dependency of INO to assume something like a default, context-independent INO meaning, which can

sometimes be further narrowed down or even over-riden by the context. A notable exception to this way of thinking is Haegeman 1987. She adheres to the lexicalist analysis of INO in assuming that object θ-roles of intransitivized verbs like *eat* or *drink* are saturated in the lexicon – but in her view, lexical entries do not provide any information about the lexical interpretation of these roles and it is entirely in the realms of pragmatics. For example, the INO in (293-a) is standardly interpreted as 'a meal', but (293-b) could be easily used in a context where a researcher refers to a group of animals that are being fed with chalk as a part of an experiment.

(293)   a.   John is eating.

        b.   They are finally all eating.

On these grounds, Haegeman rejects the notion of "a lexically designated constant identifying the canonical object of a given verb" (Rizzi 1986:510; see also Zubizarreta 1985:250) and argues that an INO's meaning is determined entirely at the pragmatic, post-LF level. What drives the interpretation of an INO, or a metavariable that corresponds to it in the lexical entry, is that it has to be interpreted in accordance with the Relevance Principle (Sperber and Wilson 1986:158).

(294)   **The Principle of Relevance**

        Every act of ostensive communication communicates the presumption of its own optimal relevance

Relevance is defined in terms of contextual effect, such as contextual implications: A proposition P is relevant in context C if there is at least one proposition Q that P implies in C. For example, (295-a) could imply (295-b) but also (295-c).

(295)   a.   The baby is eating.

        b.   The baby is eating food/a meal.

        c.   The baby is eating marbles.

The relevance theory of Sperber and Wilson also predicts why the implied meaning in (295-b) is chosen over (295-c): to save the processing cost, the first relevant interpretation derived by the inferencing mechanism is the one that is chosen. Since the concept of 'food' is the first to be accessed in connection with the concept of 'eating', the concept of 'marbles' does not even get to be evaluated in connection with intransitive *eating*. While accessing the concepts such as 'food' or 'meal' via the concept of 'eating' uses memory links that are already well established, 'eat' is connected to 'marbles' only in highly exceptional circumstances.

Haegeman relies on the same reasoning when explaining why INO in the habitually interpreted (296-a) is interpreted as 'alcohol' and not simply as 'liquid', as in the continuatively interpreted (296-b).

(296)   a.   John drinks.

          b.   John is drinking.

Haegeman argues that the reading that someone drinks habitually some liquid is "blatantly irrelevant" in normal circumstances since all humans have to habitually take liquid. Hence the other reading comes into play. Importantly, it would be uneconomical to have two lexical items *drink*, both intransitive, one with the theme role specified as [+alcoholic] and the other specified as [–alcoholic].

6.2   Context, Kinds, and Prototypicality

6.2.1   Not All Verbs Are Equal

Czech data provide strong evidence against any approach that identifies the semantic specification of INO with the notion of a 'prototypical theme' or a 'constant semantic argument'. There are many predicates that do not allow INO in a simple subject-verb sentence with no additional context, but as soon as some (linguistic or extra-linguistic) information is provided about the sort, type or kind of the unexpressed object, it becomes acceptable. For example, the imperfective verb *sbírat* 'to collect, gather, pick' cannot have a null object in a simple sentence like (297-a). But if embedded in a larger discourse – or if pronounced in

a situation where the kind of the collected stuff is clearly determined, it allows intransitivization.

(297) a. */??Karel   sbírá___.
           Charles collects.IMPF
           'Charles is collecting/collects.'

       b. Do   večera musíme nasbírat   deset košů   švestek. Proto je
           Before evening must   NA-collect.PF ten   buckets plums   so   is
           Karel od   rána   v sadě   a   sbírá___.
           Charles from morning at garden and collects.IMPF
           'We have to gather ten buckets of plums before the evening. That's why

           Charles is in the orchard from the morning and is picking.'

       c. [The whole class is collecting trash in a park, but Charles isn't. Mary asks:]

           Proč Karel   ne-sbírá___?
           why Charles not-collects.IMPF
           'Why doesn't Charles collect?'

Another verb behaving the same way is *rozvěšovat*, an imperfective counterpart of the perfective *rozvěsit* 'to put something up', literally 'to hang something around'. Only if some contextual information is provided as to the kind of the stuff being put up is intransitivization allowed.

(298) a. ??Karel   rozvěšoval___.
           Charles ROZ-hanged.IMPF
           'Charles was hanging up / hanged up stuff.'

       b. Když jsem vešel   do místnosti, Marie vyndávala   z   krabic vánoční
           when entered.1SG into room   Mary out-took.IMPF from boxes Christmas
           ozdoby   a   Karel obíhal   stromek a   rozvěšoval___.
           ornaments and Charles o-ran.IMPF tree   and ROZ-hanged.IMPF
           'When I entered the room, Mary was taking Christmas ornaments out from

           the boxes and Charles was running around Christmas tree and was hanging

           up (ornaments).'

       c. [On May 1st, Labor Day, it was customary in the communist Czechoslovakia

           to hang up little Czech and Russian flags in the windows. Those who didn't

           do it were subject to scrutiny. In such a scenario, a member of the people's

           militia might turn up at the door and say:]

Proč ne-rozvěšujete___?!
why not-hang.IMPF
'Why aren't you hanging up (flags)?!'

As expected, if we replace the imperfective *sbírat* with the perfective *sebrat* or *posbírat* (the first form has a momentary meaning, the latter involves the distributive *po-* prefix), the examples above all become ungrammatical.

(299) a. *Karel   sebere___/posbírá___.
           Charles collects.PF
           'Charles will collect.'

       b. Do   večera musíme nasbírat deset košů   švestek. *Proto bude
          Before evening must   collect ten   buckets plums   so   will-be
          Karel od   rána   v sadě   a   posbírá___.
          Charles from morning at garden and collects.PF
          'We have to collect ten buckets of plums before the evening. That's why

          Charles is in the orchard from the morning and will pick up.'

       c. [*Each member of the class is supposed to collect all the garbage from a desig-

          nated area, but Charles did not clean his area. Mary asks:*]

          *Proč Karel   ne-sebral___/neposbíral___?
          why Charles not-collected.PF
          'Why did Charles not collect?'

The same holds for the aspectual pair *rozvěšovat – rozvěsit*.

(300) a. *Karel   rozvěsil___.
           Charles ROZ-hanged.PF
           'Charles hanged up.'

       b. *Marie vyndala   z   krabic vánoční ozdoby   a   Karel oběhl
          Mary out-took.PF from boxes Christmas decorations and Charles O-ran.PF
          stromek a   rozvěsil___.
          tree   and ROZ-hung.PF
          'Mary took Christmas ornaments out from the boxes and Charles ran around

          the Christmas tree and hanged up.'

       c. [*The same Labor Day scenario as above*]

          *Proč ne-rozvěsíte___?
          why not-hang.PF
          'Why don't you hang up?'

The INO-determining contextual information does not always have to be so complex. In (301), a simple change in the subject noun can bring about the change in the interpretation of an INO associated with the intransitivized verb *skládat* 'to assemble, compose, fold, put together'. In (301-a), where Mozart is the agent, the understood object is interpreted as 'music'. In the context of a music band in (301-b), the most expected assembling is that of musical instruments and other musical apparatus. If little kids rather than adults are the agents of assembling events, the themes of these events are understood as various toy objects arranged from smaller pieces, such as jigsaw puzzles. Only in (301-e), where a pragmatically neutral subject *Charles* is chosen, can the subject be understood as composing music or assembling some composite objects or folding clothes or putting together puzzles, etc., and more context would be needed to make this sentence non-ambiguous. (The most likely meaning that would be chosen by a listener, if any, would be the one where INO refers to music because we assume that Charles is an adult and it is more common for adults to like composing music than assembling things or folding clothes.)

(301)   a.   Mozart začal   skládat___   ve čtyřech letech.
             Mozart started compose.IMPF at four   years
             'Mozart started to compose at the age of four.'

        b.   Kapela začala skládat___   (a   že   půjdou domů).
             band   started compose.IMPF and that will-go home
             'The band started to pack (and was about to go home).'

        c.   Malé děti (si)   rády skládají___.
             little kids REFL.DAT glad compose.IMPF
             'Little kids like to assemble.'

        d.   Maminka žehlila___   a   tatínek skládal___.
             Mommy   ironed.IMPF and daddy   folded.IMPF
             'Mommy was ironing and daddy was folding.'

        e.   Karel   rád skládá___.
             Charles glad compose.IMPF
             'Charles likes to compose/assemble/fold.'

There is nothing like a prototypical theme for the verbs *sbírat* or *rozvěšovat* or *skládat* in Czech. One can "collect" fruit, trash, herbs, stamps, pieces of clothing lying on the floor, and so on. One can "hang around" flags, ornaments, paintings, nets, and many other things. And one can "compose/fold" music, puzzles, instruments, clothes, et cetera. When the

direct object of these verbs is not expressed and is interpreted as indefinite, its classificatory property has to be determined from the context (I get back to what I mean by 'classificatory property' shortly). At the same time, there are verbs like *jíst* 'eat' or *číst* 'read' in Czech that do not require any extra context to become acceptable when intransitivized. Just as in English, these verbs seem to give rise to a constant, prototype-like interpretation of their theme. However, a careful examination of the data reveals that this interpretation is a pragmatic tendency rather than a grammatical rule. As already emphasized by Allerton (1975) and Haegeman (1987), the semantic specification of the non-expressed objects of these verbs turns out to be context-dependent as well.

In (302-a), the INO gets interpreted as something from the class of food. (It certainly does not have to be a meal: (302-a) can be used if Charles is just munching on nuts.) On the other hand, in the very specific context in (302-b), INO gets interpreted as sand.[35]

(302)   a.   Karel   zrovna jedl___, (tak jsem   ho   ne-rušil).
            Charles just   ate.IMPF so   AUX.1SG him not-disturbed
            'Charles was just eating, (so I didn't disturb him).'

        b.   Karlík   seděl na pískovišti a   jedl   písek. A   protože ho   naše
            Charlie sat   at sandbox   and ate.IMPF sand   and since   him our
            Anuška ve všem   napodobuje, tak seděla vedle něj a   jedla___   taky.
            Annie   in everything copies   so   sat   next   him and ate.IMPF too
            'Charlie was sitting in the sandbox and was eating sand. And since our Annie copies him at everything, she was sitting next to him and she was eating as well.'

In the examples like the one above, it should be shown that they are not cases of true object ellipsis which also exists in Czech (Daneš 1971). Structural object ellipsis in Czech has been shown to very restricted, in contrast to Russian and Polish which are generally much more generous in allowing it (McShane 1999, 2005). In Czech, it is limited to coordinated clausal structures with topicalized antecedents. If the direct object in the preceding clause does not raise out of its base-generated position above the verb, or if there is a subordinated relation

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[35]It should be remembered that what belongs to the class of 'food' changes with different worlds of evaluation. In our world, it would be more than unusual for someone to say (302-a) if he saw Charles eating rats, and even more so if he was eating sand. But in some fairy-tale world, where it is a part of shared knowledge that wizards commonly eat rats or sand (and that a wizard can be named Charles), (302-a) would be acceptable even if Charles was munching on rats or sand.

between the two clauses, object ellipsis is not licensed.

(303)   a.   Karel   auto$_i$ umyl t$_i$ a   Marie navoskovala t$_i$.
                Charles car   washed.PF and Mary waxed.PF
                'As for the car, Charles washed (it) and Mary waxed (it).'

        b.   *Karel   umyl   auto$_i$ a   Marie navoskovala___$_i$.
                Charles washed.PF car   and Mary waxed.PF
                'Charles washed the car and Mary waxed.'

        c.   *Karel   auto$_i$ umyl t$_i$,   protože / a tak / když Marie ne-umyla t$_i$.
                Charles car   washed.PF because / and so / when Mary not-washed.PF
                'As for the car, Charles washed it because / and so / when Mary didn't wash.'

As (303-a) shows, object ellipsis is licensed with perfective verbs. If (302-b) were a case of object ellipsis, we would incorrectly predict the following case of a null object to be grammatical.

(304)   Karlík seděl na pískovišti a   snědl hrst   písku. A   naše Anuška ho ve
           Charlie sat   at sandbox and ate.PF handful sand and our Annie   him in
           všem   napodobuje, tak seděla vedle něj a   *snědla___ taky.
           everything copies   so sat   next him and ate.PF   too
           'Charlie was sitting in the sandbox and ate a handful of sand. And since our Annie copies him at everything, she was sitting next to him and ate as well.'

Another argument against treating (302-b) as object ellipsis is the fact that the intransitivized verb is embedded in a sentence introduced by the consequential conjunction *tak* 'so' which is not compatible with object ellipsis, as shown in (303-c). This is confirmed by the following rewording of (303-a), closely copying the one in (302-b).

(305)   *Karel   auto$_i$ umyl t$_i$.   A   protože mu Marie se   vším   pomáhá, tak
           Charles car   washed.PF and since   him Mary with everything helps   so
           navoskovala___.
           waxed.PF
           'As for the car, Charles washed (it). And since Mary helps him with everything, she waxed.'

For other verbs which seem to have stereotypically interpreted INO, we don't even have to provide as much extra contextual information as in (302-b) to see how the discourse influences the INO's interpretation. The difference between (306-a) and (306-b) is just a

matter of progressive versus habitual interpretation of the same verb. In (306-a), which denotes an ongoing event, the INO is interpreted as any kind of drink. The formally identical but habitually interpreted sentence in (306-b) is similar to English 'Charles drinks', but it has a lexicalized aspect as well: it does not mean simply that Charles habitually drinks alcohol, but that Charles is an alcoholic, that he has a problem with alcohol (cf. 9.2.1). Intensified (306-c) is then ambiguous between Charles drinking habitually a lot of liquids and Charles being a serious alcoholic. (306-d) is again ambiguous between Charles not drinking at all today, let's say as a part of some special diet or as a result of being sick, and Charles not drinking alcohol. In real communication, further context would presumably disambiguate these meanings.

(306)   a.   Karel   (zrovna) pije___.
               Charles just   drinks.IMPF
               'Charles is drinking (right now).'

         b.   Karel   pije___.
               Charles drinks.IMPF
               'Charles is an alcoholic.'

         c.   Karel   hodně pije___.
               Charles much drinks.IMPF
               'Charles drinks a lot.'

         d.   Karel   dnes ne-pije___.
               Charles today not-drinks.IMPF
               'Charles isn't drinking today.'

6.2.2   Default INO as Natural Kinds

The examples presented in the previous section show that INO are anything but semantically constant. When interpreting them, one has to always take into account the context in which they appear. At the same time, we cannot overlook the fact that many, though not all verbs allow what could be called the 'default INO' or 'prototypically interpreted INO'. This interpretation arises especially in minimized contexts which do not provide any additional clue about the INO's semantics, except for the context of the verb itself. I want to put forward that precisely those event predicates whose themes generally denote entities belonging to one well-established, natural kind or class are the predicates that allow this default INO interpretation. For example, *pít* 'to drink' usually merges with an internal

argument denoting entities which instantiate the kind *pití* 'drinks'; *jíst* 'to eat' takes objects which are representatives of the kind *jídlo, potrava* 'food' or its sub-kinds. In contrast, the verbs like *sbírat* 'collect' or *rozvěšovat* 'hang around' do not have any such unique natural kind that the entities denoted by its objects would realize, so no default INO can be derived.

A related idea, although worded differently, is expressed by Hale and Keyser (2005:17) when discussing the contrast between the clauses like *He danced* versus *He danced a jig*. They suggest that verbs like *dance* "[are] 'rich enough' in semantic features to licence the empty category functioning as [their] complement". They identify this empty category as "a hyponym of 'dance', i.e. a member of the *class of entities which qualify as dances*" (emphasis mine). What Hale and Keyser refer to as a hypernym or a class of entities identified by semantic features inherent in the verb is what I call a natural kind/class associated with the predicate's theme.

I use the terms 'well-established kind' or 'natural kind' in the sense used in Chierchia 1998 where they do not involve just biological kinds but any class of artifacts or complex things to which we impute a sufficiently regular behavior (cf. Carlson 1977, Krifka *et al.* 1995). So not only are *dogs* or *plants* kinds but also *books* or complex things, defined by a combination of properties, and therefore denoted by complex nouns, such as *intelligent students* or *spots of ink*. Whether something counts as a natural kind or not is determined by shared knowledge of the worls, not by grammar, and therefore it is necessarily somewhat vague since the world knowledge can differ to some extent for different speakers and among different speaker communities. Chierchia (1998:348) also notes that "[l]exical nouns identify kinds; [c]omplex nouns may or may not". Thus it is usually a safe bet that if the internal argument of a certain predicate generally belongs to a category that can be named by a one-word noun, plural or mass, this category corresponds to a 'natural kind'. If we apply this reasoning to the data introduced above, they clearly confirm the pattern. Verbs like *pít* 'to drink' or *jíst* 'to eat', and also *číst* 'to read', *počítat* 'to count', *kreslit* 'to draw', *stavět* 'to build', *zpívat* 'to sing', etc., all combine with objects that belong to a single category that could be named (respectively) as *pití/nápoje* 'drinks', *jídlo, potrava* 'food', *texty* 'texts', *čísla* 'numbers', *obrázky, kresby* 'pictures, drawings', *budovy, stavby* 'buildings', *písně* 'songs'. – And all of these verbs also readily permit the default INO.

Some of the kind names above are morphologically related to the verb whose prototypical class of objects they represent, but some are not. It should be kept in mind that "one-word name for the class of typical themes" is not an exhaustive test, determining all verbs whose INO can have a default, prototype-like interpretation. We expect there to be others, for which a complex noun would have to be used to name a prototypical internal argument.

Chierchia (1998:349) argues that each natural kind has a corresponding (natural) property, and vice versa, see 5.2.3. He defined the predicativizing 'up'-operator that relates kinds to properties (307-a), and the nominalizing 'down'-operator that provides the individual counterparts of the properties associated with common nouns, the kinds (307-b).

(307)   a. $^{\cup}$food-kind = FOOD

                (where FOOD, more precisely λs FOOD$_s$, is the property of being food)

          b. $^{\cap}$FOOD = food-kind

This means that the generalization about default INO can be formulated in terms of properties of internal arguments as well: if internal arguments of a certain predicate have some natural, unifying property (establishing a certain natural kind), this property is associated with the default INO interpretation, the one arising in minimal contexts. If the context is richer and it supplies a more specific kind/property that the theme of a intransitivized predicate realizes, this other interpretation is chosen instead. If it supplies a completely different property/kind, as in the case of kids eating sand in (302-b), it can be chosen too.

In 5.2.3, I drew a parallel, captured below in (308), between the intransitivization rule in (232), that introduces $\exists$-closure over the internal argument variable, and Chierchia's DKP-rule in (240), that introduces $\exists$-closure over kinds-shifted-to-properties to allow the interpretation of bare plural and mass nouns in the contexts where they denote instances of a given kind rather than the kind as a whole.

(308)   a.   **Derived Kind Predication (DKP)**

                If P applies to objects and k denotes a kind, then $P(k) = \exists x[^{\cup}k(x) \wedge P(x)]$

          b.   **Intransitivization**

                If $[\![v]\!] \in D_{\langle e,vt \rangle}$, then $[\![v_{Intr}]\!] = \lambda e_{\langle v \rangle} \exists x[[\![v]\!](x)(e)]$

The conclusion that INO also instantiates a kind, albeit the one supplied by the context rather than the one expressed overtly as a noun, makes the parallelism between INO and existentially interpreted BP&MN even stronger.

My approach to the semantic specification of INO is partially similar to Haegeman's theory presented in 6.1, even though she describes it in terms of concepts triggered by event predicates and activated memory links rather than in terms of natural kinds or properties. She assumes that the default INO interpretation corresponds to the concept that is accessed first when hearing a given verb. It seems intuitively correct that this concept would correspond to the class of things that most commonly figure as themes of a given predicate, if there is such a class. However, if default INO are defined in Haegeman's way, it is not clear why only some verbs have default INO while others do not in Czech, as seen in the difference between (297-a) and (298-a) on the one hand, and (302-a) or (306-a) on the other. Presumably, *some* concept gets triggered for all transitive verbs when they are syntactically objectless, so it is not clear why it doesn't show up as a "default INO" in minimized contexts in the case of all intransitivization-allowing verbs. One would also expect a much higher degree of variation among speakers if retrieving the most accessible concept from a memory and checking its relevance were solely responsible for the default INO meaning. However, the so-called prototypical or default interpretation of INO is surprisingly steady among speakers. That is why I perceive the correlation between default-INO licensing and being the type of predicate whose objects conventionally belong to one natural class as more adequate.

The proposed correlation gets independent support from the existence of a group of imperfective transitive verbs that do not allow INO under any circumstance, no matter how much we tinker with the context. Štícha (1987:192) cites the following examples of verbs which need to have an overt object even if the "event applies to a single kind of object", as Štícha puts it.[36]

(309) a. Pes hrozivě   vrčel   a   cenil   *(zuby).
           dog threateningly growled.IMPF and bared.IMPF (teeth)
           'The dog was threateningly growling and baring his teeth.'

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[36]A parallel example from English would be e.g. *Mary was craning *(her neck).*

b.   Dítě udiveně   poulilo   *(oči).
     child astonishingly popped.IMPF eyes
     'Child's eyes were popping in astonishment.'

     Lit. 'The child was astonishingly popping his eyes.'

c.   Dívka plakala   a   ronila   *(slzy).
     girl   wept.IMPF and shed.IMPF tears
     'The girl was weeping and shedding tears.'

d.   Zavřela oči a   našpulila/špulila   *(ústa) (k polibku).
     closed eyes and puckered.PF/puckered.IMPF lips   for kiss
     'She closed her eyes and puckered/was puckering her lips (for a kiss).'

However, that these verbs do not take just "a single kind of objects" in the semantic sense of the term 'kind', as it is used in Carlson 1977 and Chierchia 1998. Their objects are much more specific than that because they always denote either body parts of the external argument or other entities inalienably possessed by the external argument, such as tears. The lexical semantics of the verbal predicates in (309) makes them incompatible with having just some instantiations of a contextually supplied kind in the role of (internal) arguments. If something *cení zuby* 'bares teeth', it bares just its own teeth; if someone *poulí oči* 'pops eyes', he must pop his own eyes, and not just some instantiations of the eyes-kind, and so on. Moreover, the verb *ronit* never allows another overt object than *slzy*, so the whole verb + object combination is presumably stored in the lexicon as idiomatized. It is then not surprising that such verbs never allow intransitivization, regardless of their aspect.

6.2.3   Presuppositional Character of INO's Semantic Content

Even though I agree with Haegeman's general insight that features associated with encyclopedic knowledge are not to be encoded in the lexicon, I depart from her in other crucial points of the INO analysis. On a par with other researchers from the lexicalist camp, Haegeman assumes that the possibility of intransitivization is encoded in the lexicon for each individual predicate.[37] What I want to bring up here is that any listing of INO-taking

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[37]Rather uniquely, Haegeman assumes that INO have the form of a feature cluster [+generic, (±plural)], modeled after Rizzi's featural account of pro_arb, discussed in 2.1.1. However, such an account runs into problems in the light of the fact that INO, in contrast to generic null objects, are not syntactically represented, as I demonstrated earlier – while both genericity and underspecification for number are features of the syntactico-semantic representation, as I elaborated in detail in the first part of the dissertation.

predicates in the lexicon is unnecessary if we take seriously the observation that the context always has to provide some relevant semantic specification of an INO, in terms of the property/kind that it realizes. Acknowledging the role of context in INO derivation allows us to formulate intransitivization as a general rule in syntax, without generating uninterpretable sentences, if instead of taking contextual determination of INO as an additional interpretive property, we view it as the licensing condition. I suggest to encode it formally as a presupposition for the application of the intransitivization rule in (230), which relies on the existential closure over a theme-taking verbal predicate. Below, I provide an informal statement of such a presupposition.

(310) $\exists_{\text{Intr}} \rightsquigarrow \lambda T_{\langle e,vt\rangle} \begin{cases} \lambda e \exists x[T(x)(e)] & \text{if C supplies the kind that x instantiates;} \\ \text{undefined} & \text{otherwise} \end{cases}$

In (310), C stands for the context in a broad sense, referring not only to the linguistic discourse, prior and immediately subsequent, including the content of the predicate itself, but also to the situational context of the speech. It would be desirable to know more about the various contextual conditions that enable the existence of INO by specifying their natural kind/property, but it is not the goal of this thesis to carry such a research task. I simply reiterate that the contextually supplied kind does not always have to be expressed overtly anywhere in the discourse but it can be inferred on the basis of shared world knowledge. Intransitivized predicates with what I call default INO are one example of applying this inference strategy, as in (302-a) and (306-a) above. Another example is provided by the utterances which set up the context in such a way that it uniquely determines the kind of the omitted objects, even if the predicate itself can take a broader class of themes or multiple classes of themes). In (311), the INO is interpreted as 'clothing' or 'dresses' because the whole statement is set in the context of a fashion show. But nowhere in the discourse does the noun 'dresses' or 'clothing' or 'fashion' have to appear overtly.

(311)   Marie šla   na přehlídku,   ale její oblíbená modelka předváděla__
          Mary went to fashion show but her favorite   model   demonstrated.IMPF
          jenom v první části.
          only   in first   part
          'Mary went to a fashion show, but her favorite model was modeling only in the

first part.'

In the similar vein, the first clause in (312) also introduces the context of clothes and dresses without explicitly mentioning them. This allows the imperfective verbs *prodlužovat* 'lengthen' and *zakládat* 'found/fold/take in' to get intransitivized even though these verbs themselves do not have one natural class of objects that they combines with.

(312)   Moje teta je švadlena. Ale stejně   hlavně prodlužuje___   nebo zakládá___.
        my   aunt is seamstress but anyway mainly lengthens.IMPF or   takes in.IMPF
        'My aunt is a seamstress. But she mainly lengthens or takes in anyway.'

The second verb, *zakládat*, can refer to a multitude of processes in Czech, which would be normally disambiguated by an overt object: *zakládat organizace* 'to found organizations' versus *zakládat dokumenty (někam)* 'to file the documents (somewhere)' vs. *zakládat kalhoty* 'to take in trousers'. In such cases, the context supplies the classificatory property of INO hand in hand with narrowing down the particular meaning of a given verb. (See (301) for a similar verb-meaning disambiguation in the case of the verb *skládat* 'to compose/assemble/fold'.)

The presuppositional account of INO's contextual dependency is supported by the conversational maxim that one should not assert what is already presupposed (Heim 1982:30). If the kind that the theme of a predicate instantiates is presupposed, given the context and the shared world knowledge, then it should not be asserted. For example, it should not be asserted that the theme of a certain predicate instantiates a certain kind by giving it an overt form of a BP or an MN if the theme's membership in that kind is already presupposed. Taking this conversational maxim seriously means that INO in fact should be null and their semantic content should *not* be expressed overtly.

Such view of INO is supported by the uneasiness with which overt counterparts to INO are found. It is known that overt indefinite pronouns are not a proper INO counterpart, due to their different scope behavior (see (147) versus (148)). On the other hand, syntactically closer words like 'stuff' or 'things' are unable to capture different semantic flavors associated with INO occurring with different intransitivized predicates and in different contexts. The most accurate way to paraphrase INO would be to replace them with the semantically closest BP or MN in a given utterance. However, such sentences are pragmatically odd, as

expected if they are violating a conversational maxim. For example, if we replace default INO in (313) with the semantically closest overt object, it will be perceived as redundant (although not ungrammatical).

(313)   Karel hodně pije___   / ?#hodně pije   pití.
         Karel much drinks.IMPF /   much drinks drinks
         'Karel drinks a lot / drinks drinks a lot.'

The same can be evinced for the predicates allowing contextually specified INO:

(314)   Do   večera musíme nasbírat   deset košů   švestek. ?#Proto je Karel
         Before evening must   NA-collect ten   buckets plums   so   is Charles
         od   rána   v sadě   a sbírá   švestky.
         from morning at garden and collects.IMPF plums.ACC
         'We have to gather ten buckets of plums before the evening. That's why Charles

         is in the orchard from the morning and is picking plums.'

In communication, listeners usually interpret these semantically close but overt BP&MN objects as being more semantically specialized than INO, or as having some additional interpretive feature, such as prosodically marked contrastiveness, which could not be associated with an INO. Also, if the overt object gets fronted, which is a marker of givenness in Czech (Kučerová 2012, Šimík and Wierzba To appear), the markedness disappears since in that case, the overt object has a feature that (non-frontable) INO cannot have.

(315)   Do   večera musíme nasbírat   deset košů   švestek. ?#Proto je Karel
         Before evening must   NA-collect ten   buckets plums   so   is Charles
         od   rána   v sadě   a švestky sbírá   .
         from morning at garden and plums.ACC collects.IMPF
         'We have to gather ten buckets of plums before the evening. That's why Charles

         is in the orchard from the morning and is picking those plums.'

6.2.4 Professions, Abilities, and Split Tasks Expressed with INO

I showed that imperfective verbs allow intransitivization in contexts where they are interpreted habitually as well as in contexts where they are interpreted as ongoing at the reference time. In general, habitual contexts are somewhat more generous in supplying the information about the kind of the entity that is being affected by a given event, when

compared to contexts with a single ongoing event based on the same lexical predicate. In addition, there are several semantically specific uses of imperfective verb forms in Czech, which, as expected, allow intransitivization as well. I discuss two of them here in more detail since they are sometimes misleadingly analyzed as examples of a special type of null object, even though what is really special about these cases is the "idiomatized" use of the imperfective verb form as a whole, regardless of its object's nullness (see especially Daneš 1971 and Panevová 1980 for the notion of the so-called *všeobecný předmět* 'generic object' and Němec 1989 for classifying the null objects in these constructions as lexicalized).

In Czech, as well as in many other languages, imperfective verbs can be used to describe various jobs and professions. For example, (316-a) can be interpreted as 'Charles is selling shoes somewhere right now' or as 'Charles habitually sells shoes'. But it is also a part of the general world knowledge that if someone habitually sells shoes, (s)he is probably a shoe-seller. In fact, if no more contextual information is provided, the profession interpretation of (316-a) is the most salient. It is then not surprising that if the context provides the information about the kind of things that are being sold, the verb can undergo intransiti-vization as well, as shown in (316-b). The INO in (316-b) could be roughly paraphrased as *zboží* 'goods', and it could be further specified, for example by providing the location where Charles sells, as in (316-c) (the example modified after Panevová and Řezníčková 2001).

(316)   a.   Karel   prodává boty.
                   Charles sells.IMPF shoes
                   'Charles is selling shoes / sells shoes / is a shoe seller.'

          b.   Karel   prodává___
                   Charles sells.IMPF
                   'Charles is selling / sells / is a salesman.'

          c.   Karel   prodává___ u Bati.
                   Charles sells.IMPF   at Baťa
                   'Charles is selling / sells / is a salesman at Baťa.'

Another example of a verb which can be used to describe a profession when interpreted habitually is *šít* 'to sew'. Again, it does not matter whether it has an overt direct object (317-a) or whether it takes INO (317-b).

(317) a. Marie šije   divadelní kostýmy.
           Mary sews.IMPF theater   costumes
           'Mary is sewing theater costumes / sews theater costumes / is a theater-

           costumes seamstress.'

       b. Marie šije__.
           Mary sews.IMPF
           'Mary is sewing / sews / is a seamstress.'

Other verbs from this class would be *učit* 'to teach/to be a teacher', *uklízet* 'to clean/to be a cleaning lady', *programovat* 'to programme/to be a programmer', etc. Importantly, the fact that these particular verb forms can be used to describe professions has nothing to do with INO. There are many other imperfective verbs that can be used to describe professions – but they do not allow intransitivization under that interpretation. This happens when the particular type of activity is simply not associated with a single well-determined kind of things that it would affect in the context of job-descriptions, as in the following examples.

(318) Context: *Co dělá Karel?* 'What does Charles do, what's his job?'

       a. Karel   opravuje   #(auta/počítače/myčky na nádobí etc.).
           Charles repairs.IMPF   cars/computers/dishwashers
           'Charles is a car-/computer-/dishwasher-mechanic.'

       b. Karel   navrhuje   #(nábytek/domy/auta etc.).
           Charles designs.IMPF   furniture/houses/cars
           'Charles is a furniture-/home-/car-designer.'

Another idiomatized meaning which simple imperfective verb forms can have is the modal meaning of ability. In this case, simple perfective verbs can express this type of modality as well, as the following example shows.

(319) Hynek už   píše   velká písmena   / napíše   všechna velká písmena.
       Hynek already writes.IMPF uppercase letters   writes.PF all uppercase letters
       'Hynek can already write uppercase letters / all the uppercase letters.'

As expected, if there is some well-established kind of entity presupposed in connection with a given predicate in the context of abilities, the imperfective ability-denoting verb can undergo intransitivization. The perfective verb, on the other hand, can not. In (320), the kind could be paraphrased as 'letters' or 'words'.

(320)   Hynek už   píše__   / *napíše__.
             Hynek already writes.IMPF   writes.PF
             'Hynek can write already.'

Another example of a intransitivized imperfective verb with a contextually-induced ability reading follows in (321). As predicted, INO is again licensed only with the imperfective form.

(321)   Moje sestra háčkuje__   / *uháčkuje__, ale já to ne-umím.
           My   sister crochets.IMPF   crochets.PF but I it not-can
           'My sister can crochet, but I cannot.'

INO can be found with imperfective verbs also in the ability-describing constructions of the type *This knife cuts well*. These constructions take overt objects rather marginally, but if they do, both perfective and imperfective verbs allow them, whereas INO is allowed in the same construction by imperfectives only.

(322)   a.   Tenhle nůž dobře krájí   tuhé steaky / ukrojí i   tuhý steak.
               this   knife well cuts.IMPF tough steaks   cuts.PF even tough steak
               'This knife cuts tough steaks well / will cut even a tough steak well.'

        b.   Tenhle nůž   dobře krájí__   / *ukrojí__.
               this   knife well cuts.IMPF   cuts.PF
               'This knife cuts well.'

Presumably, there are more INO-friendly contexts than just the descriptions of jobs and capabilities mentioned here. For example, it has been suggested (Rice 1988, Jane Grimshaw, p.c.) that in English, coordinative structures make INO much more felicitous than if the relevant verbs appear separately.

(323)   a. *John sliced__.

        b.   David peeled__, John sliced__, and Mary fried__.

Notice that the affected entity in (323-b) could be different in each subcase, i.e. David could be peeling something other than what John was slicing and also something different from what Mary was frying. What is important is that the context of "split tasks" created by consecutive verbs provides enough information about the unifying kind of entities affected

by these tasks – for example 'food ingredients' in this particular case.

Even though the Czech (imperfective) verbs corresponding to those in (323-b) are not ungrammatical with INO when appearing on their own, the context with multiple coordinated verbs makes them much more acceptable. This is obvious especially for the verb *loupat* 'peel', which does not readily combine with the instantiations of a single natural kind out of the blue.

(324) a. ??David loupal___ / ?Jan krájel___ / Marie smažila___.
          David peeled.IMPF   John sliced.IMPF   Mary fried.IMPF
          'David was peeling / John was slicing / Mary was frying.'

      b. David loupal___, Jan krájel___ a Marie smažila___.
          David peeled.IMPF, John sliced.IMPF and Mary fried.IMPF
          'David was peeling, John cutting and Mary frying.'

As expected, perfective counterparts of the verbs in (324) would not be helped by the split tasks context at all:

(325) *David oloupal___, Jan nakrájel___ a Marie usmažila___.
        David peeled.PF, John sliced.PF   and Mary fried.PF

While I acknowledge that the relation between intransitivization and pragmatics is a complex issue that would deserve more attention, I do not discuss this interesting topic any further here, in favor of exploring the relation between intransitivization and the grammar of aspect in the next and last part of this thesis.

6.3   Summary

Chapter 6 is devoted to the topic that I did not even plan to include in this thesis in its early stages. But the more I dug into the properties of INO, the clearer it was to me that one cannot talk about them without mentioning their relation to the context, shared world knowledge, and other pragmatic factors. A number of researchers presented in 6.1 seem to share this intuition; unfortunately, there haven't been many serious attempts to formalize it. Their assessments typically evolve around the notions like 'prototypicality' or 'canonicity' of INO, and its possible over-riding by context. However, I show that there are numerous verbs in Czech that do not have anything like a default implicit argument, and that still

allow intransitivization in the way it is defined here. Inspired by the interpretive parallelism between indefinite BP&MN and INO uncovered in the previous chapter, I propose that the contextual contribution to intransitivization can be best captured in terms of a natural kind that INO realize in a given sentence – and that has to be inferable either from the content of the verb itself, or from the preceding/following text, or from the situation. I informally capture this intuition in the form of a presupposition carried by the internal argument's $\exists$-closure:

$$\exists_{\text{Intr}} \rightsquigarrow \lambda T_{\langle e,vt \rangle} \begin{cases} \lambda e \exists x[T(x)(e)] & \text{if C supplies the kind that x instantiates;} \\ \text{undefined otherwise} \end{cases}$$

As expected, some types of contexts are better than other in satisfying this presupposition. I give job descriptions, ability description, and split tasks as examples of some of the most generous ones.

Part III

Null Objects and Perfectivity

Having examined the syntax, semantics, and aspects of the pragmatics of INO, we can turn to the analysis of their aspect-conditioned behavior. The main objective of the last part of this thesis is to explain why ∃-closure of the direct internal argument can generally be attested with imperfective verbs, but not attested with perfective verbs (see Babko-Malaya 1999:17 and Franks 2005:408 for the same observation in Russian and Procházková 2006:47 for Czech).

(326)   Táta   často vyřezává___ / *vyřeže___ / právě teď vyřezává___.
          Daddy often carves.IMPF / carves.PF / right now carves.IMPF
          'Daddy often carves / will carve out / is carving right now.'

To give some general background, I start by summarizing some of the historically influential proposals related to the contrast above in 7.1. In 7.2, I survey different semantic types of direct objects attested with perfective and imperfective verbs in Czech, in order to put the aspectual behavior of INO in a broader context and to find possible parallels to INO that could help us understand INO's limitations. It appears that perfective verbs can merge with a semantically heterogenous class of arguments, including morphologically bare phrases interpreted as either definite, specific or kind-denoting, overtly quantified phrases, as well as covertly generically quantified phrases. There is one exception: indefinitely interpreted bare plural and bare mass nouns. I tackle the syntax and semantics of different permissible nominal complements of perfectives in 7.3, zeroing in on the fact that they all correspond semantically to an individual or an individual variable at the vP-level, and syntactically to an argument that can/has to move out of its θ-marking position in Spec,vP. This insight allows me to revise the existing theory of aspect in Chapter 8, such that it accounts more fully for the Czech data.

I first reject the view of perfectivity versus imperfectivity as a binary feature in 8.1.1, relying on the existing theories of progressives and habituals for the analysis of imperfectives. In 8.1.2, I conclude that grammatical perfectivity corresponds to the presence of an unvalued verbal-quantity feature in Asp-head that can be valued only under merge with a verbal-quantity determining expression (a syntactic argument or a quantificational prefix). In 8.2.1, I summarize how the contrast observed in (326) in the case of INO follows from the properties of the perfectivity-inducing feature, and where it extends to indefinite BP&MN,

even though the former are not syntactically represented while the latter are. I then show in 8.2.2 that the proposed theory makes the correct prediction for the aspectual behavior of generic null objects as well, assuming they are analyzed as proposed in Part I. Section 8.3 gives a more complex picture of the quantificational requirements of perfective verbs and the ways in which they can be satisfied, discussing several quantificational prefixes in 8.3.1 and argumental path phrases in 8.3.2. Rather than analyzing this extremely complex topic in its entirety, I focus on the cases where a null non-syntactic object (or an indefinite BP or MN object) *is* licensed in a perfective structure, precisely because one of the alternative ways to satisfy the perfectivity feature is employed. In the last step, I critically review four other theories bearing on the same issues, Krifka 1992 and Filip 1995, Babko-Malaya 1999, Giorgi and Pianesi 2001, and Borer 2005b, pinpointing their deficiencies with respect to the current proposal as well as mutual overlaps.

The last chapter of Part III pursues the consequences of the present proposal for unaccusative predicates, which also denote binary relations of individuals and events at the vP-level, if not saturated by the merge of an internal argument. I demonstrate in 9.1.1 that "intransitivization" is impossible for unaccusatives regardless of aspect, but we can still see the effect of verbal-quantity feature in the ungrammaticality of indefinite BP&MN as subjects of unaccusative perfective clauses (9.1.2). Section 9.2 is reserved for other types of null objects found in Czech that do not fulfill the criteria for being either GNO or INO (but can be sometimes misleadingly confused with either), namely lexicalized and definite null objects.

Chapter 7

Aspect-Driven Conditions on Direct Objects

I start this section by quoting Steven Franks (2005:399) from his introduction to the review chapter on aspect in Slavic languages: "Aspect is a classic and pervasive problem in Slavic morphosyntax. Research on Slavic aspect is vast; the data are extremely complex, and the systems in the various languages diverse." Although aspect in English has its own challenges, I could not agree more. It is tricky to apply the findings on aspect in one Slavic language to another one, even though the data might seem superficially similar. Moreover, the majority of the literature focuses on easy-to-define sub-issues within the theory of aspect, often revolving around particular prefixes or lexico-semantic classes of verbs. A comprehensive analysis of the category of aspect in Czech that would systematically account for its semantic as well as syntactic properties is yet to come.[38] Since the task of this thesis is not to fill in this gap in the linguistic analysis but only to explain how aspect relates to INO-licensing, I limit the following discussion to the data that directly pertain to this issue, while trying to avoid possibly controversial theoretical concepts that could lead us astray.

7.1 Intransitivization from the Viewpoint of Telicity: a Historical Perspective

Data parallel to those in (326) have been observed in many different languages. Hopper and Thompson (1980) list aspect as one of several components involved in determining the degree of transitivity in a clause. By 'aspect' they mean both perfectivity/imperfectivity and telicity/atelicity, not being too strict about the distinction.

> [I]f the Aspect is perfective, the interpretation – other things being equal –

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[38]By saying this, I do not want to diminish the research on Czech aspect that has been carried so far. Within the theoretical framework of generative grammar, the work of Hana Filip especially stands out.

has properties allowing the clause to be classified as more transitive; but if the Aspect is imperfective, the clause can be shown on independent grounds to be less transitive.   Hopper and Thompson 1980:271

To support this, they give examples from Finnish where perfectively interpreted verbs are associated with accusative-marked objects while imperfectively interpreted verbs have objects in partitive case. Numerous languages are cited, ranging from Hindi and Georgian to Samoan and several Queensland languages, where the ergative construction is associated with perfective aspect, while imperfective aspect correlates with antipassive or other non-ergative constructions. The authors list several other aspectual facts from various lesser-known languages which bear more or less directly on the issue of transitivity, such as the correlation of perfectivity and object-agreement or object-definiteness. It is not in the scope of this dissertation to critically evaluate each of the purported dependencies Hopper and Thompson present, so I limit it to this brief review and the acknowledgment of their early contribution to this particular research area.

As for English, one of the early takes on the interaction between null objects and aspect is found in Mittwoch 1982. Mittwoch analyzes the difference between *John ate* and *John ate something* as the difference between an activity predicate and an accomplishment predicate, using Vendler's (1957, 1967) concept of lexical aspectual classes (called 'time schemata' at that time). She argues that *eat* is a process verb which becomes an accomplishment if it has a quantified object, such as *something*, but it becomes an activity if it does not have any object or if its objects lacks the feature [+delimited quantity], as in the case of bare plural and mass nouns. This view was further elaborated by Tenny (1987), who analyzes direct internal arguments as "measuring out" the event – giving it the semantic property of delimitedness, which she defines as the temporal boundedness of an event. Tenny (1987:155) gives the following examples of what she calls "object deletion verbs":

(327)   a.   John smoked.

         b.   John smoked a Cuban cigar.

(328)   a.   Mary drank.

         b.   Mary drank a jug of apple wine.

Verbs without a direct object in the (a) example describe non-delimited events, verbs in the (b) example describe delimited events because they have a spatially delimited direct object. On par with Mittwoch, Tenny notes that deleted objects behave like bare plural or mass direct objects in leading to non-delimited events. That predicates can differ in their telicity depending on the properties of their direct internal arguments was pointed out already by Verkuyl (1972). Verkuyl was probably the first to mention the difference between bare plural and mass nouns on one hand and all other nominals on the other when it comes to aspect, using the feature [±specified quantity] to distinguish them.

Even though the observations made by Mittwoch and Tenny seem intuitively correct for an important subclass of cases, subsequent research showed that the formalization of the insight about event delimitedness as directly dependent on direct object delimitedness is far from easy. One of the most pertinent issues is how to capture the difference between objects that induce telicity and those that don't. It cannot be seen simply as the difference between quantified and unquantified nominal phrases: INO, bare plurals, and mass nouns are all semantically analyzed as existentially quantified expressions, as already discussed above in 5.2.2 and 5.2.3.

The most comprehensive attempt at the formalization of what [+delimited quantity] means was made by Krifka (1989, 1992, 1998), who analyzes atelic predicates as cumulative and telic predicates as quantized, where cumulativity and quantization are defined as follows:

(329)   a. $\forall P[\text{CUM}(P) \leftrightarrow \forall x \forall y[P(x) \land P(y) \rightarrow P(x \sqcup y)]]$ (cumulative reference)

         b. $\forall P[\text{QUA}(P) \leftrightarrow \forall x \forall y[P(x) \land P(y) \rightarrow \neg y \sqsubset x]]$ (quantized reference)

Krifka assumes that for the so-called incremental themes, there is a homomorphism from the extent of the theme to the extent of the (accomplishment) event: incremental themes with cumulative reference give rise to atelic verbal predicates, incremental themes with quantized reference give rise to telic predicates.

Krifka's view, although extremely influential, was criticized by several authors as unable to cover the full range of data, see esp Verkuyl 1993, Schein 2002, Rothstein 2004, and Borer 2005b. To give a concrete example, discussed extensively in Zucchi and White 2001

and pertaining to Czech as well, an overt indefinite phrase such as *some apples* or a numerical phrase like *at least three apples* are both non-quantized and cumulative. Because of the proposed homomorphism, predicates such as the following should have a cumulative reference, and so be atelic. But this prediction is not borne out (see also Mittwoch 1982).

(330)   a.   John ate some apples (in the last hour / ?for an hour).

       b.   John ate at least three apples (in the last hour / *for an hour).

In addition to the well-documented issues with Krifka's proposal, there is another profound reason why proposals based on internal argument's role in determining the (a)telicity of a predicate cannot be applied in Czech straightforwardly. It has proven notoriously difficult to translate the generalizations about Vendler's four lexical aspectual classes into Slavic languages, where the delimitedness or boundedness of events is grammaticalized as the difference between perfective and imperfective verbal forms. For example, if the verb *jíst*.IMPF/*sníst*.PF 'eat' takes an object with a clearly delimited quantity such as *jedno jablko* 'one apple', it can have an activity-like reading as well as an accomplishment-like reading, as the adjoined durative and terminative adverbials show. This is not possible for simple verb forms in English where the progressive *-ing* form would have to be used instead.[39]

(331)   a.   Karel   jedl   jedno jablko hodinu.
            Charles ate.IMPF one   apple hour
            'Charles ate / was eating an apple for an hour.'

       b.   Karel   snědl   jedno jablko za pět minut.
            Charles ate.PF one   apple in five minutes
            'Charles ate an apple in five minutes.'

(332)   Charles ate an apple *for an hour / in five minutes.

Looking the same phenomenon from the opposite angle, one cannot turn a telic predicate into an atelic one by deleting a quantity object or replacing it with an existential bare

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[39]In English, different verbs have reportedly different sensitivity to their object's delimitedness, compare the unacceptable *John built a house for a year; *John wrote a sentence for a minute* with the acceptable *John read a book for an hour.*

plural in Czech; the resulting clause simply becomes ungrammatical.[40] On the contrary, this is something that English allows, as the English glosses show.

(333) a. *Karel během víkendu přečetl___.
           Charles during weekend read.PF
           'Charles read during the weekend.'

       b. *Karel během víkendu přečetl knihy.
           Charles during weekend read.PF books
           'Charles read books during the weekend.'

Moreover, Krifka's theory was developed only for the predicates with incremental themes (or paths). If there is no homomorphism from the theme denotation to the event denotation, the telicity/perfectivity is not expected to be affected by the form of the complement. Yet, many verbs which show the aspect-bound distinction when it comes to allowing INO would not classify as verbs with incremental themes; see for example (150), (269), (270). This includes notably verbs from the class of the so-called progressive achievements, the term due to Rothstein (2004). Some examples are given below, including the contrast between a perfective and an imperfective form of the same verb.

(334) a. Karel je už   v akci a zachraňuje___
           Charles is already in action and rescues.IMPF
           'Charles is already in action and rescuing.'

       b. *Karel byl v akci a zachránil___.
           Charles was in action and rescued.PF
           'Charles was in action and rescued.'

(335) a. Malé děti pořád objevují___.
           little kids always discover.IMPF
           'Little kids are always discovering.'

       b. *Malé děti objeví___.
           little kids discover.PF
           'Little kids will discover.'

(336) a. Naše teta ráda rozdává___,   ale ne-rada   přijímá___.
           our aunt gladly gives out.IMPF but un-gladly receives.IMPF
           'Our aunt likes to give out but doesn't like to receive.'

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[40]In Czech, morphologically bare plural nouns like *knihy* can have a definite interpretation as well, but I do not consider this possibility in (333-b) to make my point clear. In 7.2.1, I show that the '*' in (333-b) should rather be replaced by '#' in the contexts where *knihy* cannot be contextually anchored.

b. *Naše teta ráda rozdá__, ale nerada přijme__.
   our aunt gladly give-out.PF but un-gladly receives.PF
   'Our aunt will like to give but won't like to receive.'

The ideal 'minimalist' theory should provide a unified explanation of the perfective aspect's repugnancy to INO for all types of verbs where it is attested, not just for those with incremental themes.[41] Moreover, if any other types of direct objects show similar behavior with respect to perfective aspect as INO do, as e.g. the indefinite BP in (333-b), the theory should extend to these cases as well. Conversely, these overt objects could be instrumental in illuminating the INO's behavior as well. The next section takes the first step towards this goal by mapping the aspect-related behavior of the major syntactico-semantic classes of Czech nouns.

7.2 INO's Mates and Antagonists among Noun Phrases

7.2.1 Definites and (Non-Specific) Indefinites

Perfective verbs take what seems like a non-homogenous class of expressions as their internal arguments. Their direct object can be an overtly quantified nominal phrase as in (337-a), a morphologically bare singular noun phrase as in (337-b) or a morphologically bare plural noun phrase as in (337-c). However, there is a profound contrast between the latter two when it comes to their interpretation. While a morphologically bare singular can complement a perfective verb regardless of its interpretation, bare plurals cannot be interpreted as indefinite. (By 'indefinite' I always mean non-specific, low-scope existential indefinite. When talking about specific indefinite interpretation, I say so explicitly; see the immediately following section, 7.2.2, for discussing this type of indefiniteness.) In the following example, I simply assume that both the indefinite as well as the definite interpretation of direct objects is contextually licensed.

(337) a. Karel včera vyřezal nějakou figurku / nějaké figurky.
           Charles yesterday carved.PF some figurine / some figurines
           'Yesterday, Charles carved some figurine / some figurines.'

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[41]For an extensive criticism of the term 'incremental' in the way it is used by Krifka and its redefinition, see Rothstein 2004.

b. Karel   včera   vyřezal   figurku.
Charles yesterday carved.PF figurine
'Yesterday, Charles carved a figurine / the figurine.'

c. Karel   včera   vyřezal   figurky.
Charles yesterday carved.PF figurines
'Yesterday, Charles carved #figurines / the figurines.'

This contrast is striking since all morphologically bare nouns in Czech can in principle be interpreted as either definite or indefinite (or specific indefinite, cf. 7.2.2), as shown in the parallel sentences in (338) with imperfective verbs. The data in (337-c) are even more surprising when we consider that the clause-final nominal expressions in Czech have a greater tendency to be interpreted as indefinite rather than definite, especially in the case of bare noun phrases (Burianová 2016).

(338)   a. Karel   včera   vyřezával   figurku.
Charles yesterday carved.IMPF figurine
'Yesterday, Charles was carving a/the figurine.'

b. Karel   včera   vyřezával   figurky.
Charles yesterday carved.IMPF figurines
'Yesterday, Charles was carving (the) figurines.'

The incompatibility of indefinite bare plurals (BPs) with perfective verbs is evident in the contexts where the BP's referent cannot be referentially linked to another item in the discourse. Since the definite interpretation requires the noun's referent to be familiar either from the discourse or from the situation (Heim 1982, von Heusinger 2002, Roberts 2003), and the indefinite interpretation is not allowed at all, using a BP in such a context makes the sentence semantically/pragmatically odd.

(339)   Context: *Co včera Karel udělal?* 'What did Charles do yesterday?'

C#Karel   včera   vyřezal   figurky.
Charles yesterday carved.PF figurines
'Yesterday, Charles carved the figurines.'

The oddness can be overcome if the hearer accommodates the familiarity presupposition associated with the definite interpretation. Thus, a very natural reaction to (339) would be

something like *Jaký figurky?* 'What figurines?'. Importantly, there is no way to accommodate for the indefinite interpretation: that one is simply ruled out.[42]

7.2.2 Specific Indefinites

In some cases, especially with morphologically bare plural nouns that have adjectival or postnominal modifiers, the direct object of perfective verbs can be interpreted as specific rather than definite. Such constructions are perfectly acceptable as well, not leading to the semantic oddness observed in (339).

(340)   Context: *Co včera Karel udělal?* 'What did Charles do yesterday?'

Karel   včera   vyřezal   moc pěkný figurky   pastýřů.
Charles yesterday carved.PF very nice   figurines of shepherds
'Yesterday, Charles carved some very nice shepherd figurines.'

In (340), the identity of the figurines is not known to the listener, but the speaker has a unique set of figurines in mind, which he is referring to. This conforms precisely to the commonly used informal definition of specificity in (341) (taken from von Heusinger 2011:(49b)). The difference between Czech and English is that in English, specific nouns are always marked by some determiner; they cannot be morphologically bare as in Czech.

(341) $[\![a_{\mathrm{ref}}\ N]\!]$ is defined only if there is a unique individual that the speaker

of the sentence has in mind, and this individual is N

Von Heusinger (2002) argues that both definite and specific NPs are referentially linked to another discourse referent, but while definite descriptions are bound within a broader discourse on the basis of the pragmatic property of familiarity, specific descriptions have to be sentence-bound. According to von Heusinger, they are functionally anchored either to the speaker of the sentence (the prototypical case), or to another discourse item, such as the subject or the object. The anchor is familiar to the hearer while the anchoring function and the referent of the phrase itself are not; this is what distinguishes specifics from definites.

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[42]See Lewis 1979 for the introduction of the concept of presupposition accommodation; for a more nuanced approach, see Beaver and Zeevat 2007.

The specificity of non-definite BPs complementing perfective verbs can be confirmed by several linguistic indicators listed in Fodor and Sag 1982 (see also von Heusinger 2011:1030). A main indicator is the descriptive content of the phrase: the richer it is, the more likely the phrase is to have a specific reading. This dovetails nicely with the observation I made above in relation to (340) about the propensity of BPs with several modifiers to become direct objects of perfective verbs without necessarily being definite in the traditional sense of the word. Fodor and Sag also consider relative clauses as indicators of specificity of an NP, with non-restrictive relative clauses being the strongest trigger, which often leads to the loss of the narrow-scope quantified reading. Indeed, bare plurals are generally acceptable as objects of perfective verbs if they are modified by a non-restrictive relative clause even if they do not refer to a familiar entity.

(342)   Context: *Co včera Karel udělal?* 'What did Charles do yesterday?'

Karel   včera   vyřezal   figurky   pastýřů,   který   hnedka
Charles yesterday carved.PF figurines of shepherds which immediately
prodal na Etsy.
sold   on Etsy
'Yesterday, Charles carved some shepherd figurines, which he immediately

sold on Etsy.'

In English, specific reading can be marked by the colloquial, non-demonstrative *this* or by the adjective *certain*. In Czech, these markers have parallels in the colloquial expressions *takový* 'such' or *jeden takový* 'one such' and the rather formal *jistý* 'certain'. Indeed, if these modifiers are inserted in unacceptable sentences with a BP object and a perfective verb like (339), the sentences become acceptable.

(343)   Context: *Co včera Karel udělal?* 'What did Charles do yesterday?'

Karel   včera   vyřezal   takový (jedny) figurky.
Charles yesterday carved.PF such   ones   figurines
'Yesterday, Charles carved those figurines.' (the hearer does not know about

any figurines)

7.2.3 Kinds and Generics

In addition to the definite and specific interpretation, a BP in the object position of a perfective verb can be interpreted as kind-denoting or as generic. The kind interpretation is limited to the predicates that take kinds as themes – which are scarce. Two examples are provided below.

(344) a. Egypťani vynalezli zubní pastu, hieroglyfy a   pyramidy.
           Egyptians invented toothpaste, hieroglyphs and pyramids
           'Egyptians invented toothpaste, hieroglyphs and pyramids.'

       b. Lidi vybili   mamuty   před 10 000 lety.
           people killed off mammoths before 10 000 years
           'The people killed of mammoths 10 000 years ago.'

The generic interpretation of BP arises in characterizing sentences. These sentences have a generically interpreted predicate, which, if expressed by perfective verbs, have a modal-like meaning (cf. Krifka *et al.* 1995).

(345) a. Zenové meditace   nemocné lidi   ne-vyléčí.
           zen   meditations sick   people not-cure.PF
           'Zen meditations do not cure sick people.'

       b. Naše firma zrenovuje   i   opravdu zanedbané zahrady.
           our firm renovates.PF even truly   neglected gardens
           'Our company will renovate even truly neglected gardens.'

7.2.4 Bare Plurals – Mass Nouns Parallelism

It is known that in English and many other languages, bare plural nouns behave on a par with mass nouns in several respects. Czech is not an exception. All the contrasts presented above for BPs hold also for morphologically bare mass nouns, which have default singular number in Czech. They can be interpreted as either definite or indefinite when complementing imperfective verbs, but they can only have the definite (or specific indefinite) interpretation when complementing perfective verbs.

(346) a. Karel snědl   nějakou rýži.
           Charles ate.PF some   rice
           'Charles ate some rice.'

b. Karel jedl rýži.
   Charles ate.IMPF rice
   'Charles was eating rice / the rice.'

c. Karel snědl rýži.
   Charles ate.PF rice
   'Charles ate #rice / the rice.'

This leads again to the semantic/pragmatic weirdness in the contexts where the familiarity presupposition is not satisfied for object's referent.

(347) Context: *Co (u)dělal Karel večer?* 'What did Charles do in the evening?'

a. C#Snědl rýži.
    ate.PF rice
   'He ate rice (completely).'

b. Jedl rýži.
   ate.IMPF rice
   'He was eating rice.'

As expected, morphologically bare mass nouns can get kind readings and generic readings in combination with perfective verbs as well.

(348) a. Marie Curie objevila radium v roce 1898.
    Marie Curie discovered.PF radium in 1898
   'Marie Curie discovered radium in 1898.'

b. Vlhké prostředí starožitný nábytek spolehlivě zlikviduje.
    moist environment antique furniture reliably destroys.PF
   'Antique furniture gets inevitably destroyed by the moist environment.'

7.2.5 Interim Summary

To sum up, monotransitive verbs can take as complements overt quantifier phrases, singular count nouns, definite/specific plural and mass nouns, kind-denoting plural and mass nouns, and generically-interpreted plural and mass nouns. They cannot take as complements indefinite bare plurals and mass nouns. At first sight, it might seem that there is no single syntactic or semantic factor that distinguishes these. While the phrases with an overt quantifier might have a richer syntactic structure, it has been argued that morphologically bare nouns in article-less languages like Czech do *not* have a phonologically null determiner-head

(Bošković 2008, Despić 2009, Despić 2011, Bošković 2012). Given the standard hierarchy of nominal functional projections in (349) (Alexiadou 2001, Borer 2005a), they have to be at least NumPs, since they are specified for number.

(349)   Det $\gg$ (Quantifier) $\gg$ Num (or Classifier) $\gg$ n $\gg$ (... $\gg$) $\sqrt{\text{ROOT}}$

The issue is that indefinitely interpreted bare plurals, too, are specified for the category of number, and indefinite mass nouns get the (morphologically default) singular number, so both of these types of nouns have to be (at least) NumPs as well.[43]

An alternative, semantic explanation, claiming that only the latter group of internal arguments has cumulative reference while the internal arguments compatible with perfectives are quantized, has proven inadequate as well; see 7.1. Nevertheless, I show that if we put together recent findings from both syntax and semantics, we can explain the data discussed in this section without compromising. This in turn will allow us to properly understand the aspectually conditioned distribution of INO.

7.3   Perfectivity, Argumenthood, and the Semantics of NPs

7.3.1   Individual-Denoting Nouns

Chierchia (1998) in his study of bare, determinerless nominal arguments distinguishes three types of languages: languages in which all NPs are argumental (like Chinese), languages in which all NPs are predicative (like Romance), and languages in which bare NPs can be both argumental, or predicative (like Germanic or Slavic). He also argues that if a [+predicative, +argumental] language does not have determiners (like Czech), its bare nominal phrases can denote kinds, providing that the kind-formation operation ('nominalization', shifting properties to kinds; see (236) above) is defined for them. As I already discussed in 5.2.3, for Chierchia, bare plurals denote properties, entities of type $\langle et \rangle$, and they shift to kinds, entities of type $\langle e \rangle$, at an NP-level, whereas mass nouns denote kinds directly so no shift is

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[43]The number on mass nouns cannot be just the pleonastic morphology inserted at PF since it is involved in their compositional interpretation. While the singular is associated with the default mass interpretation (discussed in more detail in 7.3.1), most mass nouns in Czech can be marked for plural as well, in which case they get the sortal or 'serving-of' interpretation, as I already exemplified in (94).

needed. In the current theories, operating with a more nuanced nominal functional hierarchy in (349), it is standardly assumed that all (bare) nPs denote properties. Since the type-shifting operation of nominalization is sensitive to the value of Num, being defined only for plural count nouns, the property-to-kind shift should be associated with the number projection. The nominalizing 'down'-operator ($^\cap$) cannot be applied to properties which are true just of singularities because kinds are not understood as something that has a singular instance in every world. Kinds and plural properties, on the other hand, can be seen as "two modes of packaging the same information" (Chierchia 1998:352).

(350)   Kind interpretation of bare nouns

    a.   [$_{\text{NumP}}$ *figurk-y*$_{\text{PL}}$ [$_{\text{nP}}$ *figurk-*]] $\rightsquigarrow$ $^\cap$FIGURINES = f

        (where f is the figurine-kind)

    b.   [$_{\text{NumP}}$ *figurk-a*$_{\text{SG}}$ [$_{\text{nP}}$ *figurk-*]] $\rightsquigarrow$ $^\cap$FIGURINE = undefined

Chierchia's proposal was elaborated and modified by Dayal (2004), who focuses on its consequences for [+pred, +arg] languages with no determiners, with data drawn mainly from Hindi and Russian. Dayal shows that in these languages, bare nouns can undergo another type-shifting operation, associated with the application of the Frege-Russel iota-operator which derives uniqueness.

(351)   "Definite" interpretation of bare nouns

    a.   [$_{\text{NumP}}$ *figurk-y*$_{\text{PL}}$ [$_{\text{nP}}$ *figurk-*]] $\rightsquigarrow$ ιFIGURINES

    b.   [$_{\text{NumP}}$ *figurk-a*$_{\text{SG}}$ [$_{\text{nP}}$ *figurk-*]] $\rightsquigarrow$ ιFIGURINE

While the kind-forming $^\cap$-operator is conceived as a function from properties to functions from situations to the maximal entity that satisfies the given property in those situations, the *iota*-operator is a function from properties directly to the maximal entity with that property in a given situation if there is one, cf. Dayal 2004:(35).

(352)   a. $^\cap$: $\lambda P \, \lambda s \, \iota x \, [P_s(x)]$

      b. ι: $\lambda P \, \iota x \, [P_s(x)]$

         where P_s is the extension of a property P at a situation s

Dayal also argues that "indefinitely interpreted" bare singulars are in fact ι-shifted singular nouns that do not satisfy familiarity presupposition but still satisfy uniqueness, on account of their singularity: their denotation is only defined if there is a single, unique object satisfying the NP description in a given situation. (See also Gebhardt 2009 for arguing that the ι-operation is not enough to explain the difference between 'the' and 'a', and additional pragmatic features are needed to capture definiteness as opposed specificity.) Dayal supports her claim by examples where a singular noun denoting a non-familiar NP makes the non-unique reading impossible. This is in contrast with a plural indefinite noun, the interpretation of which is derived from a kind term through something like DKP, by accessing its realizations in a given situation (see (240) and (358)). The following Czech sentences are modeled after Dayal's examples from Hindi and Russian, and they exhibit the same contrast. Crucially for the test to work, it has to be set up such that there is only one situation index available to bind the situation variable on a bare nominal.

(353)   a.   ^{??}#Všude   byl pes.
               everywhere was dog
               'There was one (particular) dog everywhere.'

        b.   Všude   byli psi.
            everywhere were dogs
            'There were dogs everywhere.'

(354)   a.   ^{??}#V téhle kleci teď spí   tygr a   tygr žere.
               in this   cage now sleeps tiger and tiger feeds
               'In this cage, a tiger now sleeps and (that same tiger) feeds.'

        b.   V téhle kleci teď spí a   žerou tygři.
            in this   cage now sleep and feed   tigers
            'In this cage, tigers are sleeping and feeding now.'

(355)   a.   ^{??}#Dvě hodiny do   místnosti lezla   myš.
               two hours   into room   crept.IMPF mouse
               'For two hours, a mouse (the same one) kept creeping into the room.'

        b.   Dvě hodiny do   místnosti lezly   myši.
            two hours   into room   crept.IMPF mice
            'For two hours, mice kept creeping into the room.'

In each of the (a)-examples above, the only interpretation allowed for a bare singular subject noun is the one where a particular individual is the sole argument of the described event.

But this interpretation is pragmatically odd, given the way our world works. Only if the situation index on a noun gets multiple values, as in the following examples with locative phrases implying multiple situations, is using a bare singular fine in the contexts where it expresses multiple individuals.

(356)   a.   V každém rohu   byl pes.
                 in each   corner was dog
                 'There was a dog in each corner.'

           b.   V téhle kleci teď spí   tygr a   v tamté tygr žere.
                 in this   cage now sleeps tiger and in that   tiger feeds
                 'In this cage, a tiger is sleeping, and in that one, a tiger is feeding.'

Dayal's approach differs from Chierchia, for whom indefinite bare singular nouns would be simply generalized quantifiers, presumably with a null version of an indefinite article responsible for the existential quantification, so their semantic translation would be as follows:

(357)   [$_{\text{NumP}}$ *figurk-a*$_{\text{SG}}$ [$_{\text{nP}}$ *figurk-*]] $\rightsquigarrow$ λQ $\exists$x [FIGURINE$_s$(x) $\wedge$ Q$_s$(x)]

I assume that morphologically bare singulars in Czech are interpreted along the lines suggested in Dayal 2004, rather than as quantifier phrases with a null quantifier. I do so because of the data in (353) – (355) and because the existence of a null indefinite determiner does not have any support in syntax either, as discussed in the works of Bošković and his followers. Nevertheless, both Dayal's and Chierchia's approaches to morphologically bare singulars would be in principle compatible with my proposal regarding INO.

I suppose that the ι-operator or its kin derives not only the definite interpretation but also the specific interpretation of morphologically bare nouns, which can be found with descriptively richer phrases in Czech and which was exemplified for plural nominal phrases in (340), (342), and (343). Recall that specific nouns, too, denote a unique individual in a given situation, but instead of knowing that individual from the context, the hearer just needs to know that it is referentially anchored to the speaker, or some other expression. Von Heusinger (2002, 2011) reviews several formal mechanisms to achieve this. A common way to derive the specific interpretation is through the ϵ-operator which forms a term

out of a predicate (Hilbert and Bernays 1939), just like the ι-operator. According to von Heusinger, ϵ-operator is interpreted as a choice function, selecting one element out of the set, whereby the selection is determined by the context in which the indefinite is located. Since properties/sets are denoted by nPs, it is a natural move to associate ϵ-shift with NumP, just like ι-shift. Note though that the way ι-shift is defined in (352-b) is very broad, requiring uniqueness, but saying nothing about familiarity or contextual anchoring, so it de facto subsumes a more narrowly defined ϵ-shift.[44]

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[44]That the traditional categories of definiteness and specificity might not be able to cover the whole range of meanings associated with bare noun phrases in languages like Czech is confirmed by the following examples of BP&MN combining with a perfective verb. These nouns clearly don't satisfy the familiarity presupposition, but they denote some contextually determined amount of a given entity. For example, if one fries schnitzels for the dinner, they come in prototypical batches; if one "eats" poisonous mushrooms and ends up in a hospital, it is expected that he ate an amount sufficient enough to make him sick, be it a single bite; if one orders rice in a restaurant, it comes as a portion or its multiple.

(i)   a.   Karel   usmažil   k obědu řízky.
            Charles roasted.PF for dinner schnitzels
            Charles roasted (a batch of) schnitzels for the dinner.
    b.   Karel   objednal   rýži.
            Charles ordered.PF rice
            'Charles ordered (a serving of) rice.'
    c.   Karel   snědl jedovaté houby,   tak je v nemocnici.
            Charles ate.PF poisonous mushrooms so   is in hospital
            'Charles ate (some amount of) poisonous mushrooms, so he is in a hospital.'

                                     (Radek Šimík, p.c.)

Notice that in a different context, which does not carry the presupposition of a certain amount of the given entity, the perfective verbs are no longer compatible with the same nouns unless they are interpreted as familiar or at least specific in von Heusinger's terms.

(ii)   a.   Karel   zabalil   řízky.
            Charles packed.PF schnitzels
            Charles packed #schnitzels / the schnitzels.
    b.   Karel   srovnal   jedovaté houby.
            Charles organized.PF poisonous mushrooms
            'Charles organized #poisonous mushrooms / the poisonous mushrooms.'
    c.   Karel   snědl rýži.
            Charles ate.PF rice
            'Charles ate #rice / the rice.'

Also, if a different noun is used in the same context as in (i) that does not carry the presupposition of some prototypical amount, the sentence is not felicitous without a previous context.

(iii)   Karel   usmažil   k obědu králíky.
        Charles roasted.PF for dinner rabbits
        Charles roasted #rabbits / the rabbits for the dinner.

The notion of "a certain contextually specified amount of" intuitively fits in with both Dayal's idea of situation-bound uniqueness as well as with von Heusinger's idea of a contextually determined choice function selecting a single element out of a set. Since I am not equipped to pursue the semantics of these phrases in

To sum up, we can say that all types of morphologically bare nominal phrases that we have examined so far and that can become objects of perfective verbs are $\langle e \rangle$-type entities derived by various types of semantic shifts at the syntactic level of the number category: singular, plural, and mass definite/specific terms derived by ι/ϵ-shift; plural and mass kind-terms derived by $\cap$-shift;[45] and indefinite singular terms derived also by ι-shift but without satisfying familiarity or contextual anchoring.

In 7.2.1, I concluded that perfective verbs can have as objects different semantic types of morphologically bare nominal phrases, with one notable exception: existentially interpreted BP&MN. The difference between all acceptable object types and the only perfectivity-incompatible object type is now getting a clearer contour: low-scope indefinite plural and mass nouns are the only type of morphologically bare complement that does *not* denote an individual semantically compatible with a given predicate at the level of v. In other words, they do not represent a proper syntactic argument filling in an open slot in the argument structure of a verb. As already discussed in 5.2.3, indefinite bare plurals and masses are derived by a local, type-adjusting operation of $\exists$-closure, called Derived Kind Predication, which fixes incompatible semantic primitives (an individual-taking episodic predicate and a kind-denoting term) at the level of semantic interpretation. But it does not change the semantics of a NumP itself, so it still denotes a kind/property. This mismatch is captured by question marks in the following tree, including the DKP operation which fixes the incompatible types. (For expository purposes, I do not consider the possibility of ι-shift or of a kind-taking predicate in the following tree.)

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detail here, I leave it as a challenge for further research.

[45]In addition to plural kind terms, Czech allows morphologically bare kind terms in singular. They can be found in the object position of perfective verbs as well, as in (i). I follow Dayal 2004 in treating those as ι-shifted nouns denoting in the taxonomic domain, the domain of properties of sub-kinds instead of the domain of properties of ordinary individuals.

(i) Edison vynalezl   žárovk-u.
     Edison invented.PF lightbulb-ACC.SG.F
     'Edison invented the lightbulb.'

(358)
        3:vP

    2:NumP   1:v

     [+pl]

1: $\lambda x \lambda e[\text{VERB}(e) \wedge \text{Theme}(x)(e)]$

2: $^{\cap}P = \lambda s\ \iota x\ [P_s(x)]$ (i.e. a kind defined by property P)

3: ??? (function application not applicable)

3 (after DKP): $\lambda e \exists x[\text{VERB}(e) \wedge \text{Theme}(x)(e) \wedge {}^{\cup\cap}P_s(x)]$

7.3.2 Generic Nouns and Other Quantifier-Bound Variables

I have intentionally left out one last group of morphologically bare arguments from the previous discussion: generically interpreted plural and mass nouns, exemplified in (345) and (348-b). Their semantics was already discussed in the first part of the thesis in 2.3.2, in relation to the semantics of generic null objects. Like all other plural/mass nouns, they start the derivation as property-to-kind shifted NumPs, but in order to get interpreted generically, they have to move out of the internal argument position within a vP to the restrictor of a generic quantifier GEN, while leaving behind a co-indexed trace, which is semantically interpreted as an individual variable. If they stayed within a vP, they could only be "saved" by the DKP mechanism, which would result in a low-scope existential, rather than the generic interpretation. The derivation of such generically interpreted nouns is schematically captured in the following tree.

(359)
         4

 GEN   NumP   ...

         ...   3:vP

       2:t$_{\text{NumP}}$ 1:v

1: $\lambda x \lambda e[\text{VERB}(e) \wedge \text{Theme}(x)(e)]$

2: x_i

3: $\lambda e[\text{VERB}(e) \wedge \text{Theme}(x_i)(e)]$

4: $\text{GEN}x,s\ [(^{\cup\cap}P_s(x)) \wedge C(s)][\text{VERB}(e) \wedge \text{Theme}(x)(e)]$

In the translation of the node 4 in (359), I conform to the line of research pursued here in treating BP&MN as kind terms. The generic operator then has to quantify over instantiations of a given kind in contextually specified situations (C(s)). Chierchia (1995, 1998) proposes that the variables bound by GEN are obtained from the material in its restriction via a process of accommodation, which can be formalized as a generalized type-shifting

operation for different types of NPs (not just kind-denoting NPs, cf. Chierchia 1995:(42)). A different formalization of the same idea is offered in Dayal 2011a:1091; it employs the realization relation R which relates kinds to their instances (see (72-b)):

(360)   GENx,s $[R(x,(^\cap P_s) \land C(s)][\text{VERB}(e) \land \text{Theme}(x)(e)]$

If we were to adopt yet an alternative implementation, according to which BP&MN are ambiguous between property-denoting and kind-denoting (Wilkinson 1991, Diesing 1992, Kratzer 1995; cf. 5.2.3), the resulting logical form of the structure in (359) would be as follows:

(361)   GENx,s $[P_s(x)) \land C(s)][\text{VERB}(e) \land \text{Theme}(x)(e)]$

From the viewpoint of vP-semantics, which is of our primary concern here, the derivation in (359) is not too different from cases in which a verb merges with an overtly quantified noun phrase (QP), which too can function as a grammatical object of perfective transitive verbs. Such phrases are semantically analyzed as generalized quantifiers, that is, as sets of properties (or second-order properties, Heim and Kratzer 1998:141), and therefore entities of type $\langle et, t \rangle$. According to the rule of Quantifier Raising, originally proposed in May 1977, such entities cannot be arguments of individual-taking verbal predicates directly, but they have to move, covertly or overtly, out of the vP to create an operator-variable configuration from which the scope of the operator can be calculated (see Heim and Kratzer 1998:211 for relevant discussion). The trace left by a moved QP is interpreted as an $\langle e \rangle$-type variable, co-indexed with a moved QP, which ensures that the latter binds the former.

Note, however, that both the neo-Carlsonian approach in (360) as well as the ambiguity approach in (361) raise some nontrivial questions about the exact formalization of GEN. In contrast to generalized quantifiers such as *každý* 'every' or *nějaký* 'some', which are base-generated together with the quantified NP and raise as one unit out of the vP for interpretation purposes, GEN is base-generated separately, presumably in the same functional projection as modals (cf. Krifka *et al.* 1995), so the only thing that raises out of the vP is the restricting NP. This in itself should not be a problem; see Sportiche 2005 or Kondrashova and Šimík 2013 for invoking the 'restrictor raising' for certain cases of quantification.

The complications arise when we assume that GEN also binds the situation variable, which makes it behave as an adverbial quantifier of type $\langle \mathrm{st}, \mathrm{st} \rangle$ – while in order to take properties as an argument, it should be of type $\langle \mathrm{et} \langle \mathrm{et}, \mathrm{t} \rangle \rangle$. Moreover, Kondrashova and Šimík 2013 specifically argue that a single quantifier cannot be both, a Q-adverb and a Q-determiner at the same time. I do not attempt to resolve this issue here, relying on Chierchia's 'accommodation of the material in GEN's restrictor by type shifts' to take care of the job, while acknowledging that there is definitely more to be said on this particular topic.

The behavior of covertly generically quantified and overtly quantified phrases completes the set of conditions imposed on direct objects of perfective verbs: They (or their traces) have to be entities of argumental type ($\langle \mathrm{e} \rangle$ or $\langle \mathrm{et}, \mathrm{t} \rangle$) and they have to be semantically compatible with the predicate type (in terms of whether it is kind-taking or not) without resorting to something like DKP. Note that this latter condition correlates syntactically with the argument's ability to move out of the vP to a higher position in the syntactic structure: while low-scope indefinite direct objects are confined to the v-projection where a predicate merges with its internal argument and where the type-adjusting $\exists$-closure applies[46] (Chierchia 1998:368), all other arguments are free to re-merge; in fact, some of them have to re-merge in order to get interpreted. In 8.1.2, I suggest a concrete mechanism that ties this generalization with the grammatical category of perfectivity.

7.4 Summary

The goal of Chapter 7 is to map the conditions that perfective verbs pose on *overt* direct objects, in the hope of finding some parallels that would elucidate perfective verbs' ban covert indefinite objects. This strategy is partially motivated by the insufficiency of the currently available accounts of the interaction between event delimitedness and internal argument delimitedness. Section 7.2 provides a preliminary description of different syntactico-semantic types of Czech morphologically bare nouns in the role of direct internal arguments of perfective verbs, namely singular and plural nouns that are interpreted as either definite or

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[46]Existentially interpreted BP&MN thus might seem close to semantically incorporated nouns which are also analyzed as a result of a low-scope $\exists$-closure, and as phrases that cannot move out of the vP (de Hoop 1992, Ramchand 1997). The difference is that incorporated nouns are usually treated as number-neutral properties which combine with a special type of property-taking predicates (Van Geenhoven 1996, Farkas and de Swart 2003); see the discussion towards the end of Section 5.2.3.

specific or indefinite, and plural and mass nouns that are interpreted as kinds or as generic. I summarize this part in 7.2.5, concluding that neither the bare nouns' semantics nor their syntax can explain in itself why (low-scope) indefinite BP&MN's cannot serve as arguments of perfectives while all other nouns can.

In 7.3, I take my survey one step further in proposing a semantic typology of Czech nouns, building on the work of Chierchia (1998) and Dayal (2004). I conclude that Czech overt nouns are syntactically always (at least) NumPs, and that their meaning is derived either by two basic type shifts (ι, $^{\cap}$) that turn them to referential entities of type $\langle e \rangle$, or they are operator-bound variables, that move to the restrictor of the respective quantifier, leaving a co-indexed $\langle e \rangle$-type trace in their base-generated position. Indefinitely interpreted BP&MN are the only exception; they are present within the vP as property-to-kind-shifted NumPs, but they are uninterpretable at this stage, due to merging with episodic predicates, so their indefinite semantics is a result of a local $\exists$-closing type shifter, which has no reflex in syntax. An INO's mate is found.

Chapter 8

Deriving INO's Incompatibility with Perfective Aspect

8.1 The Syntax and Semantics of Aspect

8.1.1 Perfective as the Marked Member of an Aspectual Opposition

Even though aspect is often treated as a syntactic categorial feature with two values, perfective and imperfective (Schoorlemmer 1995, a.o.), this view has been challenged since Jakobson 1932. Jakobson describes imperfectivity as a category which is 'subordinate' to perfectivity: a perfective verb expresses the event in its totality or as bounded; an imperfective verb simply does not say anything about the event's totality – rather than expressing that it is *not* bounded. In Jakobson's terminology, applied to morphological categories in general, perfectives represent the marked form and imperfectives the unmarked one; see also Forsyth 1970. These insights encouraged other researchers to treat imperfective as a sort of "leftover category", or as "aspect non-aspect" because it does not have a uniform meaning (see for example Paslawska and von Stechow 2003 for Russian). In Czech, this approach is supported by the fact that verbs which are morphologically imperfective can denote a single episodic event that is in progress or a repeated event that constitutes a habit. Even though there are numerous competing analyses of progressivity and habituality, most of the recent ones converge on treating progressive and habitual interpretation as a result of the application of two different operators, PROG (Landman 1992, Portner 1998) and HAB (Ferreira 2005), operating on the meaning of a vP. These operators are placed in the Asp-head, especially in languages where imperfectivity is morphologically marked (see, for example, Altshuler 2010 for the analysis of Russian imperfective as involving the PROG operator).

As already discussed in 5.2.2, all Asp-heads, regardless of their perfectivity value, are standardly understood as categories of type $\langle vt, it \rangle$ – functions from properties of events

to properties of reference times. The analysis of aspect as encoding the relation between a described eventuality and the reference time as the "narrative placeholder" goes back to the works of Kamp (1979), Kamp and Rohrer (1983), and Kamp and Reyle (1993), who relied on the notion of "point of reference" by Reichenbach (1947). Probably the first analysis of Slavic aspect in terms of Reichenbach's relational analysis was provided by Timberlake (1985). Since Klein 1994, perfectivity has been associated with the relation 'includes' between the reference time and the temporal trace of an event (Link 1987); imperfectivity, on the other hand, implies that the relation 'is included in' holds between the two, in the given order; see (227) repeated here as (362).

(362)   Perfective and imperfective aspect (after Paslawska and von Stechow 2003)

    a. $[+\text{PF}] \rightsquigarrow \lambda E\lambda t\exists e\ [E(e) \wedge \tau(e)\subseteq t]$

    b. $[-\text{PF}] \rightsquigarrow \lambda E\lambda t\exists e\ [E(e) \wedge t\subseteq\tau(e)]$

Note that the existential closure over the event variable in the extensional semantic translation of imperfective aspect in (362-b) is not quite correct. Informally speaking, what exists in the world of evaluation is not the event per se but only its "contextually relevant stage" (Landman 1992). For example, an event of *Mary climbing the mountain* is true at a world w and interval i iff there is an event going on during i in w which, if it is not interrupted, will continue to become an event in which Mary climbed the mountain. In the modal treatment of progressively interpreted verbs (Portner 1998), which was also adopted by Ferreira (2005) for habituals, these continuation events exist in the worlds constrained by the so-called modal base (M) that are also ranked best according to the ordering source (O). (A modal base and an ordering source are, together with a quantifier over possible worlds, three crucial ingredients of Kratzer's 1981 theory of modals.) Borrowing a notation from Ferreira 2005, $\cap$M(w) represents the set of worlds in which every proposition provided by the modal base is true, and O(w) represents a set of propositions understood as an ideal according to which worlds can be ranked. The semantics of a progressive operator is then specified as follows, taking the intensions of vP denotations (type $\langle s, vt\rangle$) as an argument, where v is the type of events and s is the type of worlds (see Ferreira 2005:115 for more details).

(363) $[\![\text{PROG}]\!]^{w} = \lambda\wp_{\langle s,vt\rangle}\lambda t.$ for every world w' in BEST(M, O, w, t), there is an event
          e, s.t. $t \subseteq \tau(e)$, and $\wp(w')(e)=1$

          where BEST(M, O, w, t) = the set of worlds w' in $\cap$M(w, t), such that there
          is no world w" in $\cap$M(w, t), where $w"<_{O(w,t)}w'$

The entry in (363) should therefore replace the one in (362-b) to account more adequately
for the semantics of progressive. Ferreira argues that the modal component integrated in
the meaning of progressive imperfectives carries over to habitual imperfectives, except for
the number specification of events occurring in the world w': there is not a single event but
"a *plural* event e, such that $t \subseteq \tau(e)$, and $\wp(w')(e)=1$".

   Perfective aspect, on the other hand, selects the run time of the whole event, asserts the
existence of such an event in the world of evaluation and places it (or it's run time, to be
precise) within the reference time interval. As a consequence, such a temporarily bounded
event is perceived as "completed" or "quantized".[47]

8.1.2   Perfectivity as a Verbal Quantity Feature

Even though it proves difficult, if not impossible to define a unifying semantic property of
arguments of events that can be perfectivized and so perceived as bounded (see especially
Krifka 1998 and Rothstein 2004 for relevant proposals), the exploration of the syntax and
semantics of various types of nominal complements of perfective verbs in 7.3 suggests that
there is a unifying *syntactic* property of successfully perfectivized transitive predicates:
their internal argument has to be expressed by a phrase that can move out of the θ-marking
position, where it was initially merged, to a higher position in the syntactic structure, where
it gets interpreted.[48]

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[47]The terms 'completed' or 'quantized' are used in the pre-theoretical sense here. Note that many analyses
of aspect differ precisely in whether they consider perfective verbs as denoting events which are 'total' or
'completed' or '(internally) bounded' or 'viewed from outside' or 'quantized' or 'packaged' etc., cf. Paslawska
and von Stechow 2003:334.

[48]In fact, the ability of a nominal expression to undergo Move α could be understood as a 'syntactic
argumenthood test', of sorts. Only the expressions that can merge with a light verbal head and then re-
merge at another position in the structure are expressions that can satisfy the theta-marking capacity of
a given verb directly, without resorting to some additional interpretive mechanisms that do not have any
reflex in syntax. In this sense, an indefinite BP or MN would not be a true (syntactic) argument of a verb

Assuming that Asp represents one of the core functional categories in the extended verbal projection, it is probably the most neglected category when it comes to understanding its syntactic properties. A lot has been written on the semantics of aspect, but not much has been said about the featural composition of aspectual heads. While nobody doubts that Asp has a semantically interpretable feature, the presented evidence that it is visible to syntax – which should come from the data showing that it triggers merge, Agree, or spell-out operations (cf. Adger and Svenonius 2011:46) – is rather scarce. I have already discarded the idea that there is something like a binary "aspect feature" with [±perfective] values, even though it might still be used as a convenient notational shortcut. I want to put forward that what is traditionally labeled as perfective aspect should be viewed, in terms of syntax, as the presence of a privative verbal-quantity feature in the extended verbal projection, selecting for a vP (see Borer 2005b for a related idea, discussed in 8.4.4). If this categorial feature is not present, the PROG-operator can apply to a vP-meaning instead, giving rise to what is traditionally called imperfectivity. I also presume that the verbal quantity feature, which I label as Q_{Pf} here, is unvalued, and it is has an EPP-like property in requiring another expression with valued quantity to merge with it.[49] For convenience, I label the head hosting this feature as Asp_Q (rather than just Q_{Pf}), to emphasize its connection to the traditionally understood Asp.

It is evident that Asp_Q is structurally parallel to Chomsky's 1991 Agr_O, both in its

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(cf. Giorgi and Pianesi 2001), and neither would INO. Given the possibility of the type shifts at the NumP level discussed in 7.3.1, this approach is clearly at odds with the definition of argumenthood based on the presence of the DP-layer within a nominal expression, as in Longobardi 1994. However, it conforms to an older proposal of Stowell (1981:382), where θ-role assignment to an argument is cast as copying the referential index from the subcategorized object to a slot in the θ-grid of a verb. Neither indefinite BP&MN nor INO have a referential index, so they cannot "assign" it to an argument slot in the verbal matrix.

[49] EPP feature was originally associated only with Tense (Chomsky 1981). But in Chomsky 2000, it has been recast as a second-order feature that can be associated with any 'core functional category', determining positions not forced by the Projection Principle, virtually replacing the notion of 'strong features' from Chomsky 1993, 1995. Since an EPP feature is usually understood as a purely formal requirement for a filled Spec, while strong features are understood as more constrained, requiring that Agree or 'feature-checking' relation is established with a matching element, the latter concept is probably more apt for capturing the data on perfectivity and its relation to quantification in Czech. However, if EPP or strength are both understood as true second-order features, adding a classificatory property to a categorial feature, which itself can be valued or unvalued (Chomsky 2001), the difference between EPP and strength is minimized. This newer approach is applied e.g. in Pesetsky and Torrego 2007 where EPP is understood as a property of a probe, which leads to the re-merge of a category containing the goal to the probing head or its projection, according to the rules of pied-piping. Agree then acts as a precursor of this movement. For more on the distinction between categorial features, like Q_{Pf}, and 'properties of features' or 'second-order features', like strength or EPP, see Adger and Svenonius 2011.

position in the functional sequence and in its potential to bear an EPP feature that triggers the object's movement to its specifier. It has been suggested by several authors that the projection like Asp_Q/Agr_O is dedicated to checking both accusative case and telicity (Borer 1994, 2005b, Schmitt 1996, van Hout 1996, Giorgi and Pianesi 2001). However, this dependence cannot be right for Czech, where different types of object NPs, including those that stay in-situ (such as low-scope indefinite BP&MN) receive structural accusative. Moreover, in recent years, an alternative, configurational approach to structural case assignment has gained momentum in the linguistic literature (Yip *et al.* 1987, Marantz 1991, Bittner and Hale 1996, McFadden 2004, Bobaljik 2008, Baker and Vinokurova 2010, Preminger 2011, Baker 2015). This approach does not derive structural case marking from the presence of certain functional categories but from the relative hierarchical ordering of nominal phrases that need to be case-marked. Simply put, accusative is understood as "dependent case" that appears on an NP that is c-commanded by another NP within the same case domain, whenever neither of these phrases get inherent or lexical case. I do not intend to argue here that the configurational method of case assignment is more adequate for Czech, but it is clear that if this option is viable in the languages like Czech, it is not surprising to find out that an Agr_O-like head (more precisely, a functional head that has the same relative position in the extended verbal projection as Agr_O) has nothing to do with case and serves a different purpose.

Importantly, the aspectual head Asp_Q is not a θ-marking head (like Tense, and in contrast to both agent-marking Voice and theme-marking v), therefore arguments cannot merge with it externally, but they have to move to it from a θ-marking position c-commanded by Asp, in accord with the conditions on "pure merge".

(364)   Pure Merge in θ-position is required of (and restricted to) arguments.

Chomsky 2000:(6)

For monotransitive verbs, the closest expression in Asp_Q's c-commanding domain with a valued quantity which can re-merge in Spec,Asp_Q is their (direct) internal argument phrase. Importantly, the verbal Q_{Pf} feature shall not be mistaken for what is labeled as Q in

the nominal domain, the overt quantifying expression, usually associated with an independent functional layer in the extended nominal projection and the notion of QP ('quantifier phrase'). We have evidence that any "true" nominal argument – an argument that can move out of its θ-marking position – can serve as a quantity-determiner for a verbal predicate. I suppose, quite unsurprisingly, that this is so because of the role that the direct internal argument plays in determining the culmination point of an event. Culmination is often seen as a prerequisite for telicity: a vP is telic if it denotes an event which reached an endpoint, which culminated in one way or other, and which thus has a 'set terminal point' (Krifka 1989, 1998; see also Rothstein 2004 for a more formal definition of culmination and its relation to the properties of telic events). Both Krifka and Rothstein stress out that (a)telicity is not the property of events themselves but only of their linguistic descriptions, i.e. the same event can be described as either telic or telic. Formally, telicity versus atelicity is often tested by a vP's compatibility with terminative versus durative adverbials: events described as atelic are compatible with *for*-time phrases or their equivalents in other languages, events described as telic are either compatible with *in*-time phrases that denote the time span of the event (in the case of accomplishments), or they are momentary events, for which neither of the adverb types can be used in the event-measuring sense (the case of achievements). If the *in*-time phrase is used with momentary events, it can only measure the time that passes before the event occurrs. (Note that in this latter interpretation, all verbs below would be compatible with an *in*-time adverbial.)

(365) a. Karel to četl   hodinu. (*atelic*)
           Charles it read.IMPF hour.ACC
           'Charles was reading it for an hour.'

       b. Karel to vyhazoval   hodinu. (*atelic*)
           Charles it threw out.IMPF hour.ACC
           'Charles was throwing it out for an hour.'

       c. Karel to přečetl za hodinu. (*telic*)
           Charles it read.PF in hour.ACC
           'Charles read it in an hour.'

       d. Karel to vyhodil   (za hodinu). (*telic*)
           Charles it threw out.PF in hour.ACC
           'Charles threw it out in an hour, i.e. it took him one hour to get to throwing

           it out (in an instant).'

It is generally assumed that the set terminal point giving rise to the telic interpretation of a vP requires an appropriate theme or path, not just in English but in other languages as well, see, for example, Dayal 2011b:150 for Hindi. In languages like Czech, where perfective verbs always describe events as telic, the perfectivity-inducing morphosyntactic category has to in some sense "check" that some specification of the culmination point is provided for the given event. Since perfectivity itself is grammaticalized as a syntactic feature, it is not surprising that this requirement too is grammaticalized as an Agree relation between a probe and a goal.

In this way, Czech is the reverse of languages with non-grammaticalized aspect like English. In those languages, the type of the internal argument often determines whether or not the event will be perceived as telic. In effect, the verb itself can be ambiguous between denoting a telic, culminated event, as in *John will read a book/kill a rabbit*, or an atelic one, as in *John will read books/kill rabbits*. In Czech, the perfective form tells you that the verb has to denote a telic event, thus ruling out any ambiguity, but it goes hand in hand with the verb having a more limited set of grammatically acceptable internal arguments.

The role of the goal for the probing Q_{Pf} is typically fulfilled by the theme argument of monotransitive verbs, but it is well-known that paths and other quantificational expressions can serve this function as well, and I show how this fits in in 8.3. These alternative ways of satisfying the verbal quantity feature will provide independent empirical support for treating Q_{Pf} as having a movement-triggering EPP feature in Czech, which is hard to obtain just from simple monotransitive structures. Active forms of perfective verbs in Czech undergo an obligatory v-to-T head movement (v-to-Asp-to-Voice-to-T, to be precise) in present tense form, expressing semantic future, and v-to-Voice movement in past tense, whereby the auxiliary 'be' expresses T (see Veselovská and Karlík 2004:(39)). Therefore there is no good way to show that their objects have to raise to Spec,Asp$_Q$ since they end up in a post-verbal position anyway.

(366) Já schválí-m   cenu.   Ty jsi   schválil   plán.
       I approve.PF-1SG.PRES price.ACC you AUX.2SG approve.PF-PAST plan.ACC
       'I approve the price. You approved the plan.'

To make things more complicated, this holds only for a pragmatically neutral word order. Czech is a language with a very flexible word order, motivated by the requirement that the given information precedes the contextually new information (Kučerová 2007) and that given expressions avoid the stressed position (Šimík and Wierzba To appear). These conditions can affect the surface linearization of a sentence substantially.

Even if we assumed that there are some vP-level adverbs that have to merge after the internal argument but before the aspectual head, the raised object can still appear before or after such an adverb on the surface, according to whether that adverb expresses new or old information. For example, (367) could be an answer to the question 'How much does Umi write in a summer?'. In this case, the phrase 'in a summer' is given and in the answer, it has to precede the new information 'one novel' – which itself, I argue, has raised to Spec,Asp_Q for feature-valuation reasons.

(367)   Umi sepíš-e   za léto   jeden román.
         Umi write-s up in summer one   novel
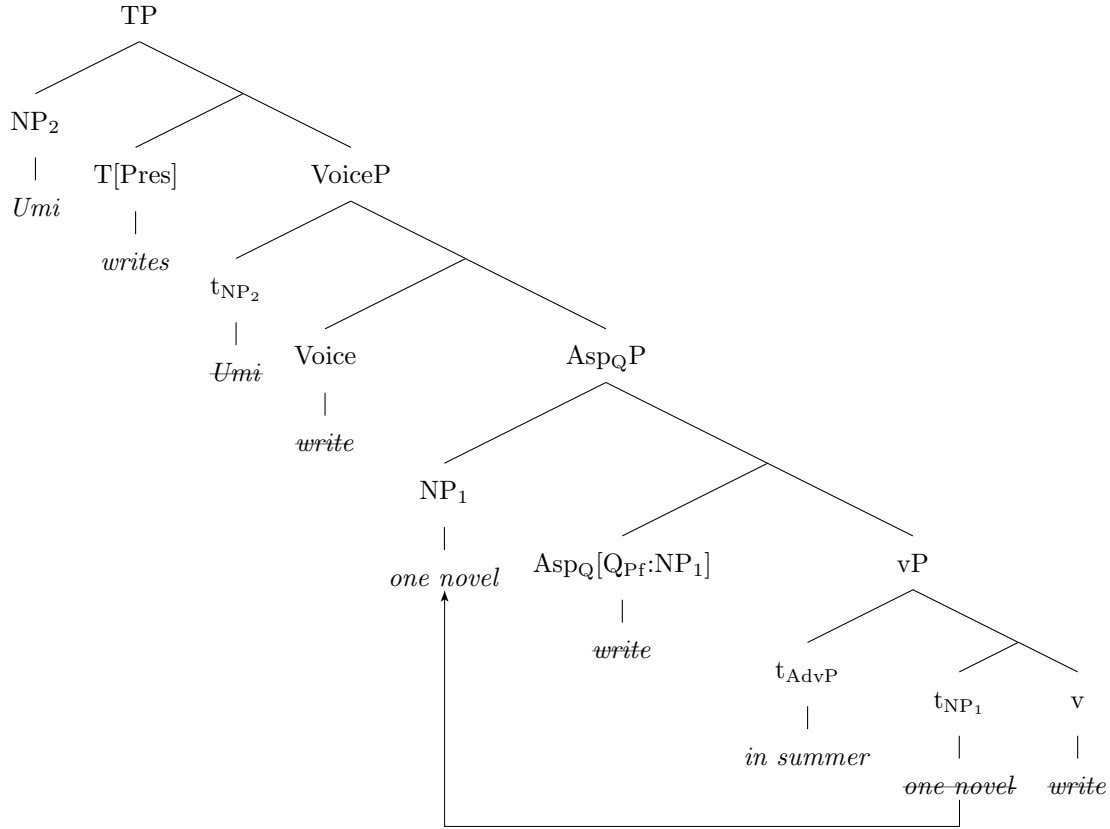   'In a summer, Umi writes one novel.'
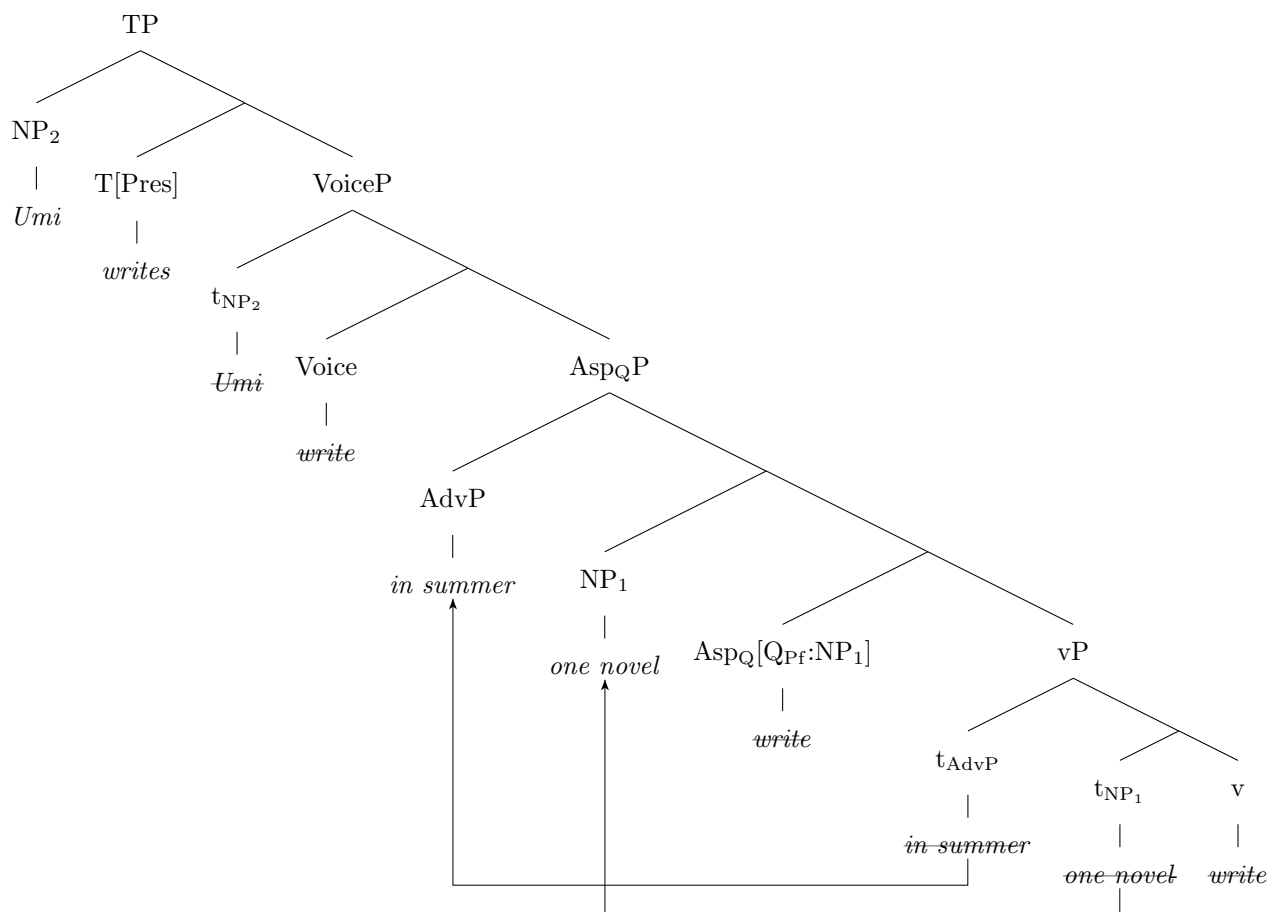
The sentence in (368) is a bit more telling.

(368)   Umi sepíš-e   jeden román za léto.
         Umi write-s up one   novel   in summer
         'Umi writes one novel in a summer.'

This could be an answer to the question 'How long does it take Umi to write a novel?', in which case 'in a summer' is the new piece of information and it has to linearly follow the given phrase 'a novel'. But (368) could also be an answer to the question 'How productive is Umi?'. In that case, both 'a novel' and 'in a summer' represent new pieces of information and there has to be another explanation for why the direct object precedes the vP-adverb 'in a summer' (which presumably starts the derivation as left-adjoined (Kayne 1994)). The aspect-driven

movement provides just that, as depicted in the following tree for the sentence in (368).

TP
├── NP$_2$
│   │
│   *Umi*
├── T[Pres]
│   │
│   *writes*
└── VoiceP
    ├── t$_{NP_2}$
    │   │
    │   ~~*Umi*~~
    ├── Voice
    │   │
    │   ~~*write*~~
    └── Asp$_Q$P
        ├── NP$_1$
        │   │
        │   *one novel*
        ├── Asp$_Q$[Q$_{Pf}$:NP$_1$]
        │   │
        │   ~~*write*~~
        └── vP
            ├── t$_{AdvP}$
            │   │
            │   *in summer*
            ├── t$_{NP_1}$
            │   │
            │   ~~*one novel*~~
            └── v
                │
                ~~*write*~~

8.2 Perfectivity Feature Interaction with Null Objects

8.2.1 Consequences of Q$_{Pf}$ for INO and BP&MN

Before presenting further data supporting the proposed analysis, let me summarize how it contributes to the main goal of the third part of this thesis: uncovering the mechanism behind the incompatibility of indefinite null objects and perfective verbs. In 5.2.3, I established that both INO and indefinite BP&MN functioning as objects are derived by a local type-repairing mechanism of ∃-closure at the point where the projected v normally merges with its internal argument. In 7.2.1, I showed that indefinite BP&MN behave like INO – and unlike all other nominals – also when it comes to their incompatibility with perfective verbs. After examining different syntactico-semantic types of well-formed objects of perfective verbs in 7.3, I suggested in 8.1.2 that we can relate INO's and indefinite bare plural and mass objects' incompatibility with perfectives to their confinement to the v-projection:

Indefinite null objects cannot move out of a vP because they do not exist as syntactic objects; indefinite BP&MN cannot move out of a vP to Spec,Asp_Q, because if they did, the conditions for their existential quantification, bringing about their indefiniteness, would not be satisfied. All other syntactico-semantic types of direct objects correspond to expressions that can freely re-merge in the syntactic derivation. In fact, in the case of clauses based on perfective verbs, they *have to* re-merge at least once, with the projection of a verb-measuring, aspectual category Asp_Q. INO and indefinite BP&MN, on the other hand, are "closed" within a vP, so they cannot satisfy the strong, EPP-like quantificational feature of Asp_Q.

It should be remembered that despite their similarities, there is an important distinction between INO and BP&MN, following from their syntactic status. Kind-denoting morphologically bare plural and mass nouns, from which indefinite BP&MN are semantically derived by DKP, are syntactically NumPs. As such, they can alternatively move out of a vP and get bound by a generic quantifier, if the sentence provides one, as in (345) and (348-b). In contrast, INO do not correspond to any syntactic node, not even a phonologically empty one. They exist only as a part of the semantic interpretation of a particular syntactic derivation at LF; in particular, they are not kind-denoting NumPs that could escape the effect of $\exists$-closure and get bound higher up in the structure like BP&MN. The fact that there are no generic null objects denoting "stuff in general" confirms this rather straightforwardly. (As we very well know, there are generic null objects denoting "*people* in general", whose derivation constitutes the topic of Part I.)

8.2.2   Consequences of Q_{Pf} for GNO

I just argued that INO behave with respect to perfectivity like indefinite BP&MN, despite the former being null and the latter being overt. Here I want to explain why INO behave differently with respect to perfectivity than GNO, despite both of them being phonologically null. The relevant data were already presented in 4.2 so let me give just one representative example of GNO's versus INO's distribution in perfective structures.

(369)   a.   Nezdary   učí___/naučí___   pokoře.
              failures.NOM teach.IMPF/teach.PF humbleness.DAT
              'Failures teach (one) humbleness.'

        b.   Bohumil Hrabal psal___/*napsal___   po hospodách.
              Bohumil Hrabal wrote.IMPF/wrote.PF in pubs
              'Bohumil Hrabal was writing / wrote in pubs.'

In 3.4.1, I concluded that GNO are unpronounced n-nodes bearing just an interpretable gender feature, which semantically correspond to the set of individuals characterized as Personas. In order to get interpreted, this node moves to the restrictor of the (co-indexed) silent generic operator GEN, where it supplies one of the variables to be generalized over, as captured in the following tree.[50]

(370)

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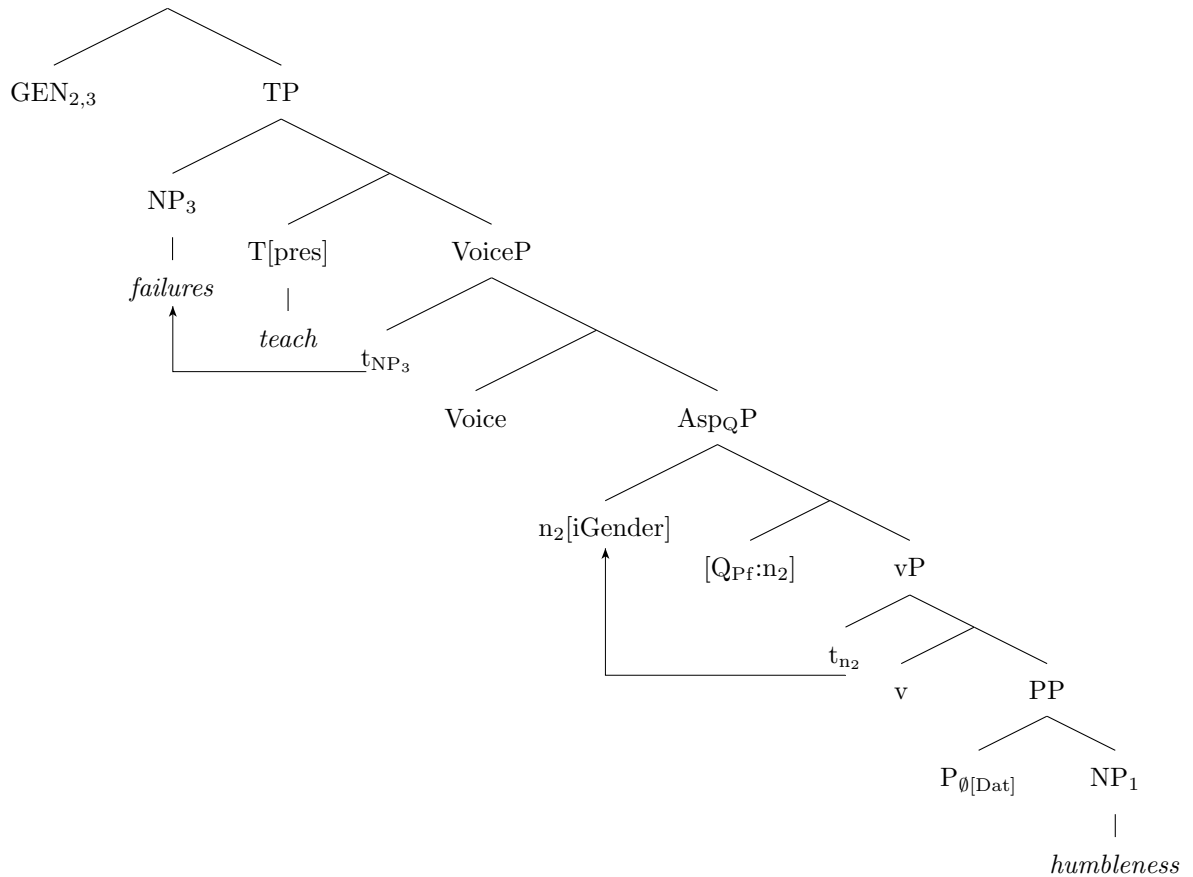
[50]For the proposal regarding the syntactic analysis of the dative argument in (370) as a complement of a null, dative-assigning P that conflates with the verbal chain, see Dvořák 2010a.
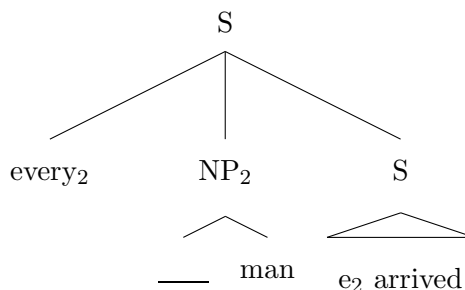
In contrast to the typical quantifying determiners, such as *some* or *every*, which relate one set to another, GEN is assumed to always bind the situation variable s and possibly other variables – which raises some challenges, as discussed in 7.3.2. Unfortunately, Krifka *et al.* 1995 or any other proponents of the dyadic generic quantifier do not go into the specifics of how the suggested generic formulas are accomplished by the syntactico-semantic composition, simply referring to Heim 1982 for the "details of implementation". However, Heim never talks about a null generic operator, less so about null generic persona arguments. She only mentions the existence of generic singular indefinites of the type *A dog has four legs* and shows how they would fit into her theory of English indefinites as restricted free variables; see Heim 1982:191. When deriving the logical form, Heim assumes the following four construal rules:

(371) 1. **NP-Indexing:** Assign every NP a referential index.

2. **NP-Prefixing:** Adjoin every non-pronominal NP to S, leaving behind a co-indexed empty NP (such empty NP is to be treated as individual variable).

3. **Quantifier Construal:** Attach every quantifier as a leftmost immediate constituent of S.

4. **Quantifier Indexing:** Copy the referential index of every indefinite NP as a selection index onto the lowest c-commanding quantifier.

The last rule replaces Lewis's 'unselective quantifiers' by quantifiers with 'selection indices', reacting thus to the comment made already by Lewis himself (1975:8) that "adverbs of quantification are not entirely unselective: they can bind indefinitely many free variables in the modified sentence, but some variables – the ones used to quantify past the adverbs – remain unbound". In Heim's system, "a quantifier binds all and only those variables whose referential indices match one of the quantifier's selection indices" (1982:96). For example, a sentence with a universal quantifier *Every man arrived* would have the following logical form according to the rules above:

(372)

```
                              S
                    ╱         │         ╲
             every₂         NP₂          S
                          ╱    ╲       ╱   ╲
                      ___   man    e₂ arrived
```

Quantifiers can get selection indices in two ways: by bringing them along under movement, as in (372), or by having them assigned under Quantifier Indexing referred to in (371). Since there is no movement of a quantifier in the case of GNO, it is the Quantifier Indexing rule that I rely on in (370), when determining which variables get bound by GEN. I do not consider it necessary to adopt all the steps in (371), especially if we do not share some other assumptions made by Heim, such as the one about the presence of existential closure in the nuclear scope of every quantifier. For example, it is questionable whether something like NP-Prefixing in (371) is needed if Quantifier Indexing takes care of which quantifier binds what. It is also unnecessary to adjoin GEN as high as the sentence node, particularly if we have reasons to assume it is associated with a specific functional projection. (Obviously, I stick to the binary branching in my diagrams (Kayne 1984), which was not standard yet in 1982.)

Crucially for our purpose, the iGender-denoting n in generic sentences leaves a coindexed trace in Spec,vP, where it was initially merged, and it moves to GEN's restrictor through Spec,Asp_Q, where it either stays or it moves further up, also leaving a coindexed individual variable, in accordance with the rules of Quantifier Indexing. This way, GNO satisfies the unvalued perfectivity feature, unlike its null indefinite counterpart. Recall that the movement of an object phrase to Spec,Asp_Q has to proceed before spell-out since it satisfies a strong, unvalued feature. Further raising to a quantifier, on the other hand, can proceed covertly since it happens for purely interpretive reasons. This difference is of course not readily detectable in the case of a phonologically null argument, like the one above.

8.3   INO and Alternative Ways to Delimit an Event

Even though direct internal arguments are a natural source of a quantity value for transitive predicates, there are other ways to satisfy the quantificational requirement of perfective verbs, which involve verbal prefixation or the existence of other vP-internal arguments, such as directional prepositional phrases. Here, I focus only on those which interact with the verbs' compatibility with INO or BP&MN as objects because they provide a valuable testing tool for the analysis I proposed.

8.3.1   Quantificational Prefixes

It is well known that Slavic languages have a rich inventory of verbal prefixes. Czech has twenty of them: *do-, na-, nad(e)-, o-, ob(e)-, od(e)-, po-, pod(e)-, pro-, pře-, před(e)-, při-, roz(e)-, s(e)-, u-, v(e)-, vy-, vz(e)-, z(e)-, za-*. Most of these prefixes have some underlying directional meaning, based on the meaning of a corresponding preposition; see Biskup 2007, 2012a. When combined with a root, these prefixes modify its original lexical semantics, often giving rise to an idiosyncratic, non-compositional interpretation, unique for a particular prefix + root combination, much like in the case of verbal particles in English or German (cf. Kratzer 2000 and Paslawska and von Stechow 2003). There are also several regularly-behaving prefixes which explicitly express some quantificational aspect of an event, especially with respect to time or intensity, or another adverbial-like modification. The former group is usually called 'lexical prefixes' (or 'internal prefixes'), and it is assumed that they are generated within vP; the latter are called 'superlexical prefixes' (or 'external prefixes') and they are often being analyzed as generated outside of vP (Babko-Malaya 1999, Romanova 2004, Svenonius 2004, Gehrke 2008, di Sciullo and Slabakova 2005, Richardson 2007). The lexical versus superlexical terminology was introduced in Smith 1991, but the distinction itself can be found much earlier, in the descriptions of grammars of various Slavic languages, such as Isačenko 1962 for Russian or Šlosar 1978 for Czech. Nevertheless, the exact specification of the members of each group and their syntactic analysis is still a matter of debate since the criteria for separating prefixes into the two classes represent general tendencies rather than foolproof rules; see Biskup 2007, 2012b and Žaucer 2009, 2012 for discussion and criticism.

There are two particular quantificational prefixes I want to mention here, because they productively combine with transitive predicates: cumulative *na-*[51] and completive *do-*. The cumulative *na-* prefix attaching to a transitive verb always quantifies over its direct object. It could be paraphrased as "some quantity of" (where the quantity can be further specified implicitly or explicitly, especially by the object's overt quantifier). It is often mistakenly stated in the literature that *na-* means "a lot of", but that need not be the case, as the following example shows.

(373)   Marie na-pekla   příliš málo perníčků.
         Mary NA-baked too   few   gingerbread cookies.GEN
         'Mary baked too few gingerbread cookies.'

Given the meaning of *na-*, verbs with this prefix can have as direct objects only phrases which denote some plurality or mass.[52] Since the burden of the internal argument's quantification is shifted from the nominal projection to the verbal, it is not surprising that we can find *na-* verbs which are perfective and which take bare plural and mass nouns as objects, even if their definite or specific interpretation is not licensed.

(374)   Marie šla   na zahradu na-trhat   kytky   a   na-sbírat   hrách.
         Mary went to garden   NA-tear.PF flowers and NA-collect.PF pea
         'Mary went to the garden to gather some (quantity of) flowers and pick some

         (quantity of) peas.'

(374) represents only a seeming contradiction to the conclusion I made in 7.3, that morphologically bare plural and mass nouns have to be interpreted as denoting a unique set of individuals in order to be compatible with perfective verbs. Even though the direct objects in (374) are morphologically bare, they have to be treated on a par with overtly quantified

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[51]Not all cases of *na-* are cumulative in Czech. It can be a purely perfectivizing prefix as in *na-psat*, a directional prefix as in *na-skočit*, or an idiosyncratic prefix as in *na-jít*:

(i)   na-psat   – na-skočit   – na-jít
       NA-write.PF – on-jump.PF – NA-go.PF
       'to write'   –   'to jump on' – 'to find'

[52]But see Součková 2004:19 et seq. for discussion of a special class of verbs, verbs of cutting or breaking, which allow the combination of *na-* with verbs taking singular objects, under the provision that the described process can affect the singular object repeatedly.

nominal phrases after merging with the *na-* verb. Contrast (374) with a sentence like (375), in which a different prefix is used with the same stem and where only the definite/specific interpretation is allowed:

(375) Marie šla   na zahradu o-trhat   kytky a po-sbírat   hrách.
       Mary went to garden   O-tear.PF flowers and PO-collect.PF pea
       'Mary went to the garden to tear off the flowers and to collect the peas.'

On the other hand, *na-* verbs cannot productively combine with INO because in that case, the quantificational prefix would have nothing to quantify over. Součková (2004), following Filip (2000), analyzes *na-* as denoting a measure function which applies to a property supplied by the direct object.

(376) ⟦*na-*⟧ = λPλx[P(x) ∧ m(x) = c]

       where P is a predicate, m is a measure function and c is some contextually deter-
       mined value

                                                                    Součková 2004:(62)

It follows that if the syntactic derivation fails to provide *na-* with a property it would apply to, thus depriving the measure function of an argument, it becomes uninterpretable. There are only two attested cases of transitive verbs with the cumulative *na-* prefix and with a null object, and both of these fall in the category of lexicalized (idiomatized) null object verbs, as the comparison with the parallel imperfective verb with an INO reveals.

(377) a. Marie na-pekla___   (na neděli   / na svatbu).
           Mary NA-baked.PF for Sunday   for wedding
           'Mary baked some quantity of pastry (for Sunday / for the wedding).

       b. Marie zrovna peče___,   proto   ne-můžu opravovat troubu.
           Mary just   bakes.IMPF that's why not-can   repair   oven
           'Mary is baking right now so I cannot repair the oven.'

(378) a. Marie na-vařila___   (dopředu).
           Mary NA-cooked.PF ahead
           'Mary cooked some quantity of dishes (ahead).'

       b. Ne-ruš   Marii, když vaří___.
           not-disturb Mary when cooks.IMPF
           'Do not disturb Mary when she cooks.'

In (377-a), the missing object can be interpreted only as some amount of homemade pastry, such as cakes or sweets, typically baked for Sundays or for feasts (such as weddings) in Czechia. In (377-b), where a non-prefixed, imperfective verb combines with a null object, the empty position can be interpreted as anything that can be baked. It could be some meat, some pastry or even some clay-based creations that need to be baked, depending on the context. In the same fashion, (378-a) only means that Mary prepared some quantity of dishes. In (378-b), however, Mary can be cooking anything (anything cookable, to be precise), even if it was just tea or an egg (cf. the assessment of the contextual aspect of INO in Chapter 6). I return to the idiomatized null objects again in 9.2.1.

The other prefix I want to discuss, completive *do-*, behaves quite differently from *na-* in that it quantifies directly over the event, rather than over its internal argument. It picks the final stage of an event described by the verb, closed off by the culmination point; its closest paraphrase in English would be the phase verb *finish* or *stop*, followed by the *-ing-* form. When a morphologically bare plural or mass noun becomes its object, it has to be interpreted as definite/specific, as with all other perfective transitives (see Chapter 7). As a consequence, the following sentence would be ungrammatical in contexts where definitness or specificity are not licensed.

(379)   Karel   do-četl   knihy o válce.
         Charles DO-read.PF books on war
         'Charles finished (reading) the books on war / a specific set of books on war /

         #books on war.'

If a perfective transitive verb with *do-* does not have an overt object, the sentence is not ungrammatical, as one might expect. Rather, it means that the process simply finished with some contextually determined entity as a theme. For example, in the following sentence, the object of *do-četl* could be paraphrased as 'he finished reading whatever part he was reading'. The null object does not have to be interpreted anaphorically, i.e. he did not have to complete reading the (whole) book he was reading. The example also demonstrates that other perfectivizing prefixes would not be allowed in such a null-object construction.

(380) Karel   seděl   na lavičce a   četl   (knihu). Když
       Charles sat.IMPF on bench   and read.IMPF book   when
       do-četl___/*pře-četl___/*roze-četl___,   rozhlédl se   a   odešel.
       DO-read.PF/PŘE-read.PF/ROZ-read.PF looked around and left
       'Charles was sitting on a bench and reading (a book). When he finished rea-

       ding/read/started to read, he looked around and left.'

I assume that the prefix *do-*, thanks to its completive, culmination-oriented semantics, is itself the source of the quantity value needed by the quantificational feature on Asp_Q. This allows the object position to be syntactically empty, as in (380), though it still has to be interpreted in accordance with the entailments and presuppositions triggered by the presence of *do-* (for a recent contribution to the semantics of completive *do-*, see Zinova and Filip 2014). The fact that verbs with completive *do-* do not need a syntactically represented object in order to be successfully constructed as perfective is confirmed by the fact that the prefix *do-* can merge with activity-denoting intransitive verbs as well. When it does, the resulting perfective verb entails that the denoted activity either stopped in a given situation, or that it is finished once and for all.

(381) a. Karel   křičel   / se smál   / pracoval.
           Charles screamed.IMPF / laughed.IMPF / worked.IMPF
           'Charles was screaming / laughing / working.'

       b. Karel   do-křičel   / se do-smál   / do-pracoval.
           Charles DO-screamed.PF / DO-laughed.PF / DO-worked.PF
           'Charles finished screaming / laughing / working (in a given situation).'

           OR 'Charles is done screaming / laughing / working (forever).'

Do- is not the only quantificational prefix that can merge with intransitive verbs, licensing their perfective form. There is a quantificational prefix *za-* that selects just activity verbs with no internal argument, which belong syntactically to the class of unergatives. In Dvořák 2010b, I argue that *za-* picks the minimal, instantaneous interval down to which an activity is homogenenous in the sense of Dowty 1979.

(382) a. Karel   křičel   / se smál   / pracoval.
           Charles screamed.IMPF / laughed.IMPF / worked.IMPF
   'Charles was screaming / laughing / working.'

b. Karel   za-křičel   / se za-smál   / za-pracoval.
Charles ZA-screamed.PF / ZA-laughed.PF / ZA-worked.PF
'Charles screamed / laughed / worked a bit.'

There are, presumably, more than these three quantificational prefixes in Czech, with different quantificational interpretations and/or subcategorizations, but I do not explore their properties any further here. The purpose of these examples is to show that even though the matter of aspectual quantification is more complicated than it might originally seem, the particularities can be explained without contradicting the original proposal about the interaction between INO and perfectivity that I made in 8.2.1. Namely, if INO are present in the transitive vP on their own, and the intransitivized vP gets selected by the perfective aspectual head Asp_Q, the resulting structure becomes ungrammatical because INO's inability to move to Spec,Asp_Q. This, however, can be diverted if another quantificational element steps in which can satisfy Asp_Q's feature-checking needs instead. Prefixes such as cumulative *na-* and completive *do-* represent two examples of such a quantificational element. Directional prepositional phrases discussed in the next section represent another.

Before proceeding to the topic of PPs, let me add a comment on the syntax of prefixes and its interaction with the syntax of an aspectual head. Based on the literature on superlexical prefixes (Ramchand 2004, Svenonius 2004, Romanova 2006, a.o.), I suppose that at least some of the quantificational prefixes discussed here are generated below AspP, and are incorporated into the verbal chain by head-movement. As a consequence, the unvalued quantity feature of a perfective verb can be satisfied either by movement into the specifier of the category Q_{Pf}, as in the case of re-mergable internal arguments, or by movement into the category Q_{Pf} itself, as in the case of quantificational prefixes. This is a welcome result, as these are two standard modes of satisfying any EPP feature, not just the one associated with Q_{Pf} (cf. Adger and Svenonius 2011).

(383)   Two modes of valuing perfectivity feature: XP-movement or head-movement
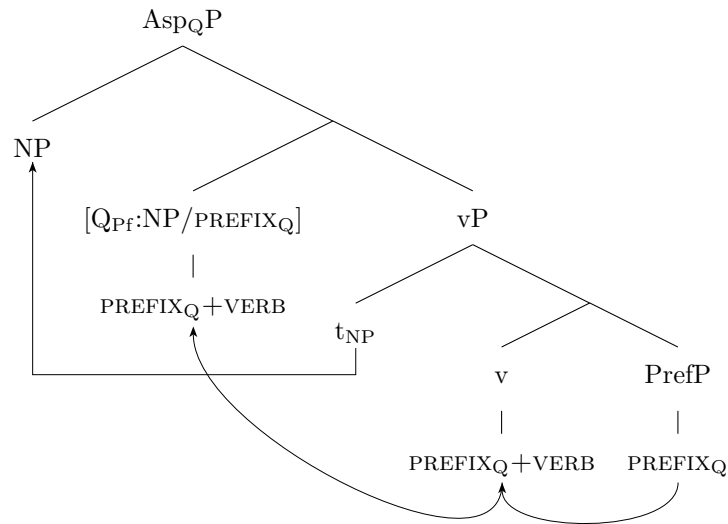
In the tree above, the prefix is generated in the complement of the verbalized root in what I label simply as PrefP. An alternative option would be to generate it as a head of a category that selects for vP as a complement. I do not aim to argue in favor of either option here, but I refer the interested reader to Biskup 2012b and Žaucer 2012 for the argument that all prefixes, lexical as well as superlexical, are generated within vP, inside something like PrefP. Yet another option would be to generate a superlexical prefix directly in the perfectivizing Asp_Q head. However, this cannot be the case for *do-*, as it can appear with imperfectivized verbs as well, and the presence of Asp_Q excludes the presence of the imperfectivizing operator, because of their contradictory semantics.

(384)   *[Teacher talking to kids who are writing an essay on a given topic:]*

Vidím, že   mnozí z vás už   dopisují___.
see   that many of you already DO-write-IMPF-PRES.3PL
'I see that many of you are finishing already.'

Cumulative *na-*, on the other hand, seems to resist imperfective forms, as Součková 2004:(22) shows (though a few counterexamples could be found as well), which could be easily explained if *na-* competed for the same position as the imperfectivizing operator. Likewise, the inceptive *za-* exemplified in (382-b) is mutually exclusive with imperfectivization; see

Dvořák 2010b:27 for relevant examples. Since both options, incorporation of the prefix under a head-movement as well as its external merge in Asp_Q, are compatible with the current proposal, given that the prefix bears a possible value for Q_{Pf}, I leave the determination of the initial merging point of individual quantificational prefixes to other studies.

8.3.2 Path Phrases

Mono-argumental transitive predicates have a limited set of options when it comes to satisfying the quantity feature in the perfective aspectual head: the source of its value can be either the direct object or a quantificational prefix, such as cumulative *na-* or completive *do-*. But for predicates with more than one internal argument, the set of options is expected to be bigger (while for intransitive predicates with no internal argument, it reduces just to quantificational prefixes, such as those in (381) and (382)).

In general, predicates with non-direct vP-internal arguments can employ those arguments as the source of their Q_{Pf} value. The typical exemplary of this case are verbs of motion, which take directional PPs or directional adverbs as their sole arguments. These arguments are analyzed as carrying the generalized path θ-role, semantically corresponding to goals, paths or sources (see esp the works of Ray Jackendoff 1972, 1990).[53]

If the proposal about the inability of indefinite BP&MN to check the Q_{Pf} in Asp_Q is on the right track, we expect perfective verbs with a direct object and with a path argument to be grammatical even if the direct object corresponds to indefinite BP&MN. Even though such an object is unable to check the Q_{Pf} feature, the path argument should be able to do so. The data confirm that this is indeed the case. (The definite interpretation of BP&MN is not considered in the example below.)

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[53]In Czech, as well as in English, the argumental PP can almost always be implicit. While the topic of implicit path arguments would easily make a dissertation of its own (see Larson 1988a for setting up the scene), let me note that an implicit PP with a verb of motion always refers to some unique, contextually determined entity, so it is not surprising that it still allows the predicate to be interpreted as telic.

(i)   Karel   přišel   (domů / sem / na nějaké specifické místo / ...).
            Charles came.PF home / here / to some   specific   place
            'Charles came (home / here / to a certain place / ...).'

(385)   a.   Karel   při-nes-l   do výkupny   lahve.
                Charles PŘI-carry.PF-PAST to collection centre bottles
                'Charles brought bottles to the collection centre.'

         b.   Karel   od-vez-e   na skládku   starý nábytek.
                Charles OD-carry.PF-PRES to junkyard old   furniture
                'Charles takes old furniture off to a junkyard.'

Moreover, if a bare plural or a mass noun in a perfective structure gets interpreted as existentially closed over within a vP, the path-denoting PP typically has to precede it, as in the example above. This is presumably a result of the PP moving to Spec,Asp$_Q$ from its base-generated position beneath the object NP, as captured in the tree diagram (386) for the example (385-b). This movement, represented by the straightline arrow in the tree below, provides an independent support for the EPP feature of Q$_{Pf}$, which has to merge with the constituent it receives a value from.

(386)
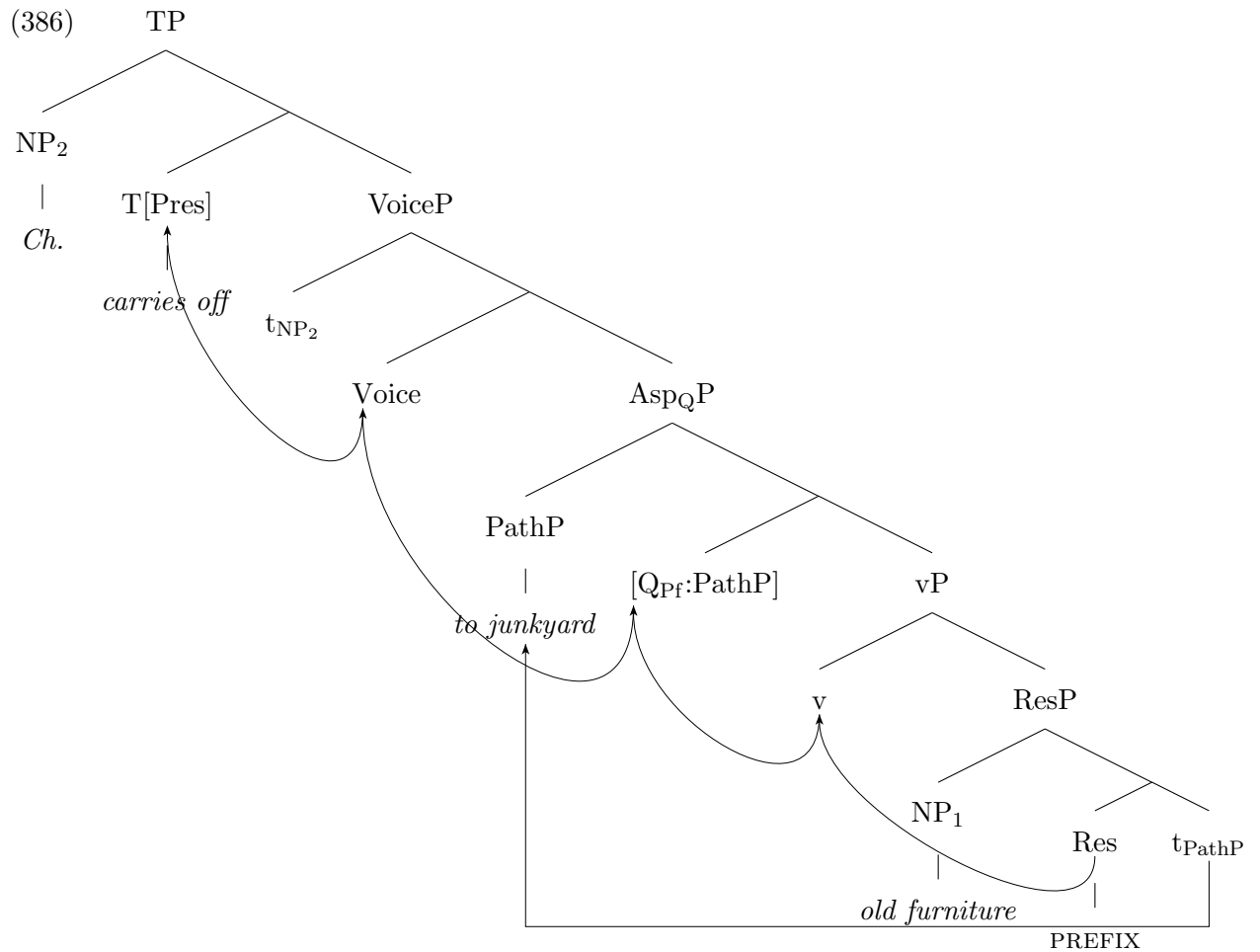
In this derivation, I follow Svenonius 2004 (and other contributions in the same volume) in generating direct objects of verbs of motion as subjects of a resultative small clause, ResP, which as a whole constitutes a single complement of the verb (cf. Stowell 1981, Baker 1997:(79), Hale and Keyser 2002, and others for employing this strategy for constructions with two internal arguments, one of which is usually a path). Svenonius also argues that the head of the resultative clause is spelled-out as a verbal prefix in Slavic languages, and it incorporates into verb under a head-movement (in the spirit of Baker's 1988 P-incorporation but without absorbing any case). This cyclic head-movement is represented by the curved arrow in the tree above.

The sentences (385-a) and (385-b) are fine even in the contexts where a definite or a specific interpretation of the direct object is not licensed. In contrast, in (387-a) and (387-b), the PP stays in situ, and the only possible interpretation is the one where the direct object refers to a unique, maximal entity that was either previously mentioned in the discourse or that is in some other way known to the speaker and the hearer. This means that the direct object phrase itself can move to Spec,Asp$_Q$ to satisfy its quantificational needs.

(387)   a.   Karel   přinesl   lahve   do výkupny.
                  Charles brought.PF bottles to collection centre
                  'Charles brought the bottles to the collection centre.'

          b.   Karel   odvezl   starý nábytek na skládku.
                  Charles carried.PF old   furniture to junkyard
                  'Charles took the old furniture to a junkyard.'

When a verb of transfer is imperfective, it does not pose the same constraint on the interpretation of the direct object. In (388-a) and (388-b), the direct object can be interpreted as definite as well as (non-specific) indefinite. This would confirm that t PathP movement is obligatory only in the case of perfective verbs.

(388)   a.   Karel   nesl   lahve   do výkupny.
                  Charles carried.IMPF bottles to collection centre
                  'Charles was carrying (the) bottles to the collection centre.'

          b.   Karel   vezl   starý nábytek na skládku.
                  Charles carried.IMPF old   furniture to junkyard
                  'Charles was carrying (the) old furniture to a junkyard.'

The word-order in (388-a) and (388-b) presupposes that both the direct object and the directional PP present new information. If the path argument was known from the previous discourse while only the direct object presents a new piece of information, the PP would have to precede the direct object, in order to conform to the constraints on the information structure of Czech sentences.

Let me also note that none of the sentences above allows the INO, regardless of perfectivity.

(389) a. *Karel přinesl/nesl___ na party.
          Charles brought.PF/IMPF to party
          'Charles brought/was bringing to a party.'

       b. *Karel odvezl/vezl___ na skládku.
          Charles carried.PF/IMPF to junkyard
          'Charles carried/was carrying to a junkyard.'

This observation is not unexpected. Recall that the intransitivization rule defined in (232) (repeated below) can apply only to v-nodes that denote an individual-seeking predicate.

Intransitivization

If $[\![v]\!] \in D_{\langle e,vt \rangle}$, then $[\![v_{\text{Intr}}]\!] = \lambda e_{\langle v \rangle} \exists x [[\![v]\!](x)(e)]$

Direct objects of verbs of motion, however, are not internal arguments of the main predicate (v) but external arguments of a small clause whose head is a resultative predicate (Res), as shown in (386). Consequently, the intransitivization operation cannot apply to the predicate that takes the whole resultative phrase (ResP) as its complement.

On the other hand, Chierchia's DKP-mechanism (240), which enables the narrow-scope indefinite interpretation of (primarily kind-denoting) BP&MN, is not limited to a particular syntactic node. It can apply any time when a property-denoting expression merges with a kind-denoting expression. Therefore we expect it to be available also for the subjects of small clauses/ResPs, which are semantically arguments of a predicate Be (or Become) in Res. I assume, for the time being, that this is how the indefinite interpretation of direct objects is achieved in examples like (385-a) and (385-b).

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8.4   Related Proposals

I am not aware of any other proposal that draws the parallel between the distribution of null indefinite objects and the distribution of indefinite bare plural and mass nouns and that relates their incompatibility with perfective verbs to their inability to move out of the vP where they are base-generated. But there are several proposals in the literature which anticipate individual aspects of the theory I propose here. My own analysis took shape in part in response to those proposals. I now discuss the ones that pertain most directly to the issues that I focus on here.

8.4.1   Krifka (1992) and Filip (1995)

In 7.2.1, I showed that indefinite bare plural and mass nouns, just like INO, cannot become direct objects of perfective verbs in Czech. That indefinite BP&MN cannot complement perfective verbs in Czech has been observed before by Filip (1985, 1995, 1996) and Krifka (1992) but with a slightly inaccurate interpretation of the data (see also di Sciullo and Slabakova 2005 for a related observation for Russian, Bulgarian, and Polish). Krifka (1992:49) notes that morphologically bare nouns in Czech are ambiguous between a definite and an indefinite interpretation. He also notes that singular count nouns are quantized regardless of whether they are definite or indefinite, but plural count nouns and mass nouns (without overt quantifiers or measure phrases) are quantized only if they are interpreted as definite (cf. the definition of quantizedness in (329-b)). Krifka also assumes that part of the meaning conveyed by perfective aspect is that it makes the predicate quantized ($\lambda P\lambda e[P(e)\wedge \mathrm{Qua}(P)]$), which is why perfective verbs are understood to denote "completed" events, events with a set terminal point. The quantized verbal predicate in turn forces a quantized interpretation of the object NP. Just as there is a homomorphism from the extent of the incremental theme to the extent of the event in English, there is a transfer of quantificational properties in the opposite direction in Slavic languages, from predicates to their objects. Krifka cites the examples in (390) to support his claim.

(390)   a.   Ota pil   víno   /   jedl   hrušku   /   jedl   hrušky.
             Ota drank.IMPF wine   ate.IMPF pear   ate.IMPF pears
             'Ota drank (the) wine   /   ate a/the pear   /   ate (the) pears.'

  b. Ota vypil víno / snědl hrušku / snědl hrušky.
    Ota drank.PF wine ate.PF pear   ate.PF pears
    'Ota drank the wine / ate a/the pear / ate the pears.'

However, Krifka's conclusion faces several problems. If perfectivity always forces the definite interpretation of BP&MN, it is not clear why there are examples like those in (339) or (347-a), in which a perfective verb has a bare plural or a mass object, but which are ill-formed, unless embedded in the context that licenses the definite interpretation. Nor is it possible to pronounce Krifka's example in (391) out-of-the-blue, unless the hearer accommodates the uniqueness presupposition:

(391) $^{C\#}$Ota snědl hrušky.
     Ota ate.PF pears

Even though I agree with Krifka that the unwelcome, indefinite reading of BP is excluded by general principles, it is important to understand that the data above can be very well explained by simply assuming that BP&MN in Czech are ambiguous between a definite and an indefinite interpretation, and perfective aspect is compatible only with the former – without assuming that the perfective verb somehow transfers its quantizedness to a noun in the direct object position (unfortunately, Krifka doesn't spell-out the exact mechanism of how this transfer happens in his short contribution to the topic of Czech aspect). Of course, the alternative interpretation of the data that I espouse still requires an explanation of *why* perfectives should be incompatible with indefinites, and I suggested a reason in 8.1.

  Second, I showed in Chapter 7 that BP&MN can be ambiguous between a definite and a specific indefinite interpretation when complementing perfective verbs. It is not clear how this could be achieved with that same perfective verb being the source of object's quantizedness/definiteness, without resorting to the discourse and the communication situation anyway.

  Third, as Krifka himself notes, if quantized predicates cause their themes to be quantized, one would expect imperfective verbs, denoting non-quantized, cumulative predicates to force the cumulative interpretation of their direct objects – on a par with English, where cumulative incremental themes lead to atelicity, as discussed in 7.1 above. But the data go against this prediction, as shown in the glosses for (390-a).

Filip (1995) correctly observes that it is not always the case that direct BP&MN objects of perfective verbs have to be interpreted as quantized since different perfectivizing prefixes are associated with different quantificational meanings. This is the topic I explored here in 8.3.1. Filip distinguishes terminologically between a 'quantized' interpretation of telic predicates and a temporarily 'bounded' interpretation of perfective aspect. However, she makes an even stronger claim than Krifka regarding the relation between regular perfective verbs and their incremental themes, saying that "mass and plural noun phrases derive their bounded and referentially specific interpretation from the perfective verb", which in her view is associated with an "all-inclusive" or "holistic" entailment, as in the following example:

(392)   a.   Pletla   svetry.
             knitted.IMPF sweaters
             'She was knitting sweaters.'

        b.   Upletla   svetry.
             knitted.PF sweaters
             'She knitted (all) the swea-
             ters.'

But recall that the ι-operator, in the form it is used nowadays for the derivation of definiteness, already entails maximality or "all-inclusion". The uniqueness account of singular definites developed by Russell (1905) was extended by Sharvy (1980) and Link (1983) to plurals and mass nouns precisely by appealing to the maximality requirement, which gives the largest member of the set ι operates on. Specifically, Link proposed that both singular and plural definites identify the maximal individual which meets the NP description.[54] In the case of plurals like 'sweaters', this corresponds to the largest plurality of sweaters available in a given situation, if such a plurality is defined. So the extra stipulation about maximality associated just with definite/specific direct objects of *perfective* verbs is redundant.

8.4.2   Babko-Malaya (1999)

In 5.3, I discussed Babko-Malaya's analysis of INO as a result of a generalized type-shifting mechanism that applies to verbs merging with property-denoting arguments, including the
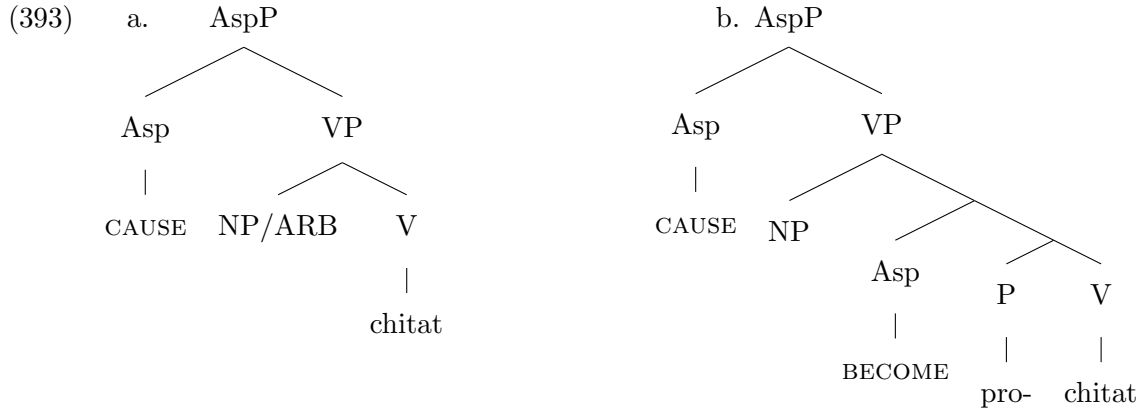
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[54]If maximality is the only condition on definiteness, the definite article could be viewed as denoting a function that takes a set and returns its maximal element, see Ferreira 2005:12.

(i) $[\![\text{the}]\!] = \lambda P.\max(P)$
        $z = \max(P) \leftrightarrow z \in P \wedge \forall x: x \in P \rightarrow x \leq z$

null ARB argument. This author also has an original proposal for why internal arguments are obligatory with perfective verbs in Russian (even though she does not discuss the parallelism between INO and indefinite BP&MN when it comes to their incompatibility with perfective verbs).

The leading assumption behind Babko-Malaya's analysis is that the direct object of perfective verbs is not the logical argument of the verb but rather the argument of a perfectivizing prefix, so it has to be introduced in its Spec, in order for the compositional interpretation to work. The following trees capture the purported difference between the imperfective verb *chitat* 'read.IMPF' (which allows INO) and the perfective *prochitat* 'read.PF' (which does not).

(393)   a.   AspP

                Asp   VP
                 |
              CAUSE   NP/ARB   V
                                      |
                                   chitat

         b. AspP

                Asp   VP
                 |
              CAUSE   NP
                                Asp   P   V
                                 | | |
                              BECOME   pro- chitat

Babko-Malaya claims that in order for the structure to be interpreted, the Spec,V in (393-b) cannot be empty and has to provide an argument for the Become predicate. However, it is not clear why it cannot be filled by an ARB argument, denoting the property of being self-identical ($\lambda x[x=x]$), as it can in the case of transitive imperfectives in (393-a). Babko-Malaya's existential type lifter is formulated in a very general way, allowing any predicate of times that is in need of an individual argument to take a property-denoting argument instead, as stated in (253), repeated here as (394):

(394)   ∃: $\lambda T \lambda S \lambda t \exists u_\tau [T(u,t) \wedge S(u)]$

         where τ is any type, T is of type $\langle \tau, it \rangle$, S is of type $\langle \tau t \rangle$ and t is of type $\langle i \rangle$

Babko-Malaya's conclusion is even more surprising when we consider that, in her view, the

same ∃-operator derives the indefinite interpretation of overt nouns, including the singular indefinites such as *a man* in *A man came in*. These indefinite nouns can undoubtedly function as direct objects of perfective verbs, so it seems we cannot rule out the application of (394) from perfective structures altogether. And if it can apply to phonologically overt properties, why should it be banned from applying to phonologically silent ones?

A more compelling criticism is brought up by Babko-Malaya herself when she notes that her line of argumentation predicts that any verb with a perfectivizing prefix should disallow the application of intransitivizing ∃-closure, even if it is the "imperfectivized perfective" (quotation marks are my own), in effect allowing the existence of INO only for bare-stem imperfectives. To confirm this, Babko-Malaya cites a single example where a prefixed imperfective verb does not allow INO:

(395) a. *Ivan pere-pisy-va-l___.
           Ivan PERE-write-.IMPF-PAST
           'Ivan was copying/rewriting.'

       b. Ivan pere-pisy-va-l   pismo.
           Ivan PERE-write-IMPF-PAST letter
           'Ivan was copying/re-writing a/the letter.'

However, the source of the ill-formedness in (395-a) is not so much the null object as the insufficient context in which it appears, as I discussed in detail in Chapter 6. Note that the parallel prefixed imperfective verb in Czech, *přepisovat*, can have an INO, for example in the discourse in (396). However, the corresponding perfective verb, *přepsat*, would not be grammatical even in this richer context, as (396) also shows.

(396) Karlovi   se   rozbila kopírka, tak musel dnes pře-piso-va-t___ /
       Charles.DAT .REFL broke   copier   so must today PŘE-write-.IMPF
       *pře-psa-t___ ručně.
        PŘE-write.PF by hand
       'Charles's copy machine broke so he had to be copying by hand today.'

Moreover, Russian allows INO with another prefixed imperfective verbs based on the root *psa-*, *spisyvat*, which means to 'cheat during an exam'. The semantically corresponding verb can intransitivize in Czech too, though it takes a different prefix.

(397)   a.   Russian   Ivan   s-pisy-va-l___ / *se-psa-l___
                             Charles S-wrote.IMPF   S-wrote.PF
                             'Charles was copying / copied.'

          b.   Czech   Karel   o-piso-va-l___ / *o-psa-l___.
                             Charles O-wrote.IMPF   O-wrote.PF
                             'Charles was copying / copied.'

There are plenty of other prefixed imperfective verbs which allow INO in Czech (in the appropriate context) and which are derivationally related to prefixed perfective verbs. I gave some examples in (247) in the discussion of secondary imperfectivization, and I also showed that the morphologically simpler, perfective counterparts of these verbs do not have the same freedom, regardless of how we play with the context. Russian does not seem to be as free with respect to INO as Czech is,[55] but even in Russian, one can find multiple examples of imperfectivized prefixed verbs which have an indefinite null object, especially if they denote habitual activities.

(398)   a.   Ivan vse vremya vy-rezaet___   / ras-krašivaet___.
               Ivan all time   VY-carves.IMPF   RAS-draws.IMPF
               'Ivan is carving out / drawing all the time.'

          b.   Ivan *vy-rezal___   / *ras-krašil___.
               Ivan VY-carved.PF   RAS-drew.PF
               'Ivan carved out / drew.'

These data provide rather substantial evidence against any proposal that ties the necessity of an overt internal argument directly to the presence of a perfectivizing affix in the verbal structure.

8.4.3 Giorgi and Pianesi (2001)

In their 2001 article, Giorgi and Pianesi do not talk about INO, but similarly to this thesis, they develop a syntactico-semantic analysis of perfectivity/telicity which aims at explaining the roles of arguments in determining telicity as reflexes of morphosyntactic conditions. According to them, morphologically perfective verbs always express terminated
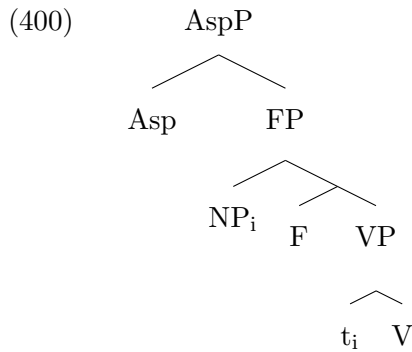
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[55]On the other hand, Russian allows object ellipsis in many more configurations than Czech does, as I already noted in relation to (303). One might wonder whether these two facts are related, and the abundance of one strategy somehow precludes employing the other.

events, which are furthermore telic. They build on an old idea in the literature that the logical form of telic predicates involves two events (Dowty 1979, Tenny 1994, Pustejovsky 1995, Higginbotham 2000), the process and the telos, which is the right boundary (rb) of the whole event e; atelic predicates, on the other hand, denote just a single event. According to Giorgi and Pianesi, the logical form of a telic predicate like *eat an apple* would be captured as follows:

(399)   eat an apple $\rightsquigarrow$ $\lambda ee'\exists x[\text{eat}(e) \wedge \theta_2(e,x) \wedge e'=f_{\theta_2}(x) \wedge \text{rb}(e',e) \wedge \text{apple}(x)]$

Giorgi and Pianesi 2001:(78)

In the notation above, ee' is the pair consisting of the processual part and the telos of an event, e.g. $p_1 = \langle e_1, e_2 \rangle$ could be the eventive pair corresponding to the telic event of eating one half of an apple; $f_{\theta_2}(x)$ is a function built out of the thematic relation θ_2 (i.e. theme or patient) that identifies the telos subevent in combination with the direct object reference. Giorgi and Pianesi (2001:257) assume that this telic function requires an individual variable in the place of the direct object in order for it to work properly, when classifying the telic event variable. They also propose that the telos/boundary corresponds to an independent light verb functional category (F) which takes a VP as a complement. The category F provides the second eventive variable and it requires a referential phrase in its specifier, so that the thematic role function f_{θ_2} can be assigned to it.

(400)   AspP

```
          AspP
         /    \
       Asp     FP
              /  \
           NPᵢ    \
                 /  \
                F    VP
                     /\
                   tᵢ  V
```

Giorgi and Pianessi suggest that the object NP moves to Spec,F for syntactic reasons, to receive/check its (strong) case, along the lines suggested in de Hoop 1992 or Borer 1994.

However, only referential phrases[56] can undergo this movement. BP&MN, being predicative, cannot undergo the movement to Spec,F. They undergo semantic incorporation into the verb instead, which leads to the introduction of their existential quantification, as formalized (for example) in Van Geenhoven 1996. It follows from Van Geenhoven's proposal that in addition to a regular transitive predicate, there has to be an incorporating version of the same predicate, which takes properties as arguments, as stated in (401).

(401) $\lambda P_{\langle s,et \rangle} \lambda w_s \lambda x_e \exists y [eat(x, y) \wedge P_w(y)]$ Giorgi and Pianesi 2001:(92-a)

However, Giorgi and Pianesi do not think that this is necessary. Rather, they suggest that the semantic incorporation/existential closure applies at LF, to all direct objects that stay within a VP. As a result, BP&MN are not referential per se; what is referential is only the whole [$_{VP}$V BP/MN] constituent. Since the BP/MN cannot move, there is no singular variable to enter the appropriate semantic configuration at an FP level. This means that the thematic function f_{θ_2} has no argument to apply to and the right boundary of an event is not determined. Giorgi and Pianesi use this reasoning to rule out the presence of BP&MN as direct objects of perfective verbs (based on telic predicates), but it is obvious that the same analysis, if everything else works, could be easily extended to INO, because they too cannot move out of VP (or, in my terms, vP) to Spec,F, as I showed earlier.

What is common to Giorgi and Pianesi's proposal and to my proposal in 8.1 is that we both argue that the incompatibility of BP&MN with perfectives is the consequence of their inability to move out of the VP/vP where they have been base-generated. What distinguishes their proposal and mine is the explanation for why this inability leads to a problem. I claim that such expressions cannot satisfy the unvalued quantificational feature associated with a perfective aspectual head, which requires the movement of an argument XP to Spec,Asp$_{Pf}$ (or the incorporation of a quantificational prefix under cyclic head-movement). Giorgi and Pianesi, in contrast, claim that the event structure of telic verbs corresponds to two separate verbal functional heads, whereby the NP that merges with the

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[56]Somewhat confusingly, Giorgi and Pianesi clump both individual-referring expressions and generalized quantifiers together under the label 'referential phrase'. While it is true that both of these types correspond to an individual or an individual variable at this point in the derivation, referential noun phrases are usually thought of as standing in opposition to noun phrases that quantify over individuals rather than referring to an individual or a group of individuals (as well as in the opposition to noun phrases that denote a property).

lower verbal head has to move to the specifier of the higher one in order for the compositional semantics to work. While my proposal derives the incongruence between BP&MN and perfectives from the grammatical properties of the category of aspect, they derive it from the semantic properties of a vP before Asp even merges.

One thing I find problematic about Giorgi and Pianesi's theoretical proposal is that they do not accompany it with the actual compositional semantics for the individual nodes in the syntactic tree (400) that they propose. Even though their proposal rests on the gradual buildup of the vP semantics (FP + VP in their notation), they only provide the final logical form for the whole structure in (399). But even if we accept that without the object's movement the derivation of telic predicates would be uninterpretable, there are several reasons why Giorgi and Pianesi's explanation cannot be on the right track.

First of all, just as in the case of Babko-Malaya's proposal reviewed in 8.4.2, this analysis predicts that any time there is an imperfective verb built out of a telic predicate, it cannot have a BP/MN as its direct object – and it should not allow INO either because the FP would be a part of the extended verbal projection of such a derivationally complex verb. As I already mentioned in Section 5.3.1, it has been argued by a number of authors that the so-called secondary imperfectives are the result of a morphosyntactic derivation (affixation in Asp), mainly due to their productivity and their similarity to progressive *-ing* in English. And the data go clearly against the prediction that their objects should follow the requirements imposed on the objects of perfective verbs: see (247), (396), and (397).

Second, the composite syntactic analysis of telic predicates is not accepted unequivo-cally, as already discussed in 5.4.1. Many researchers who promote the two-event analysis of accomplishments, consisting of a process-subevent and a become-subevent (Dowty 1979, Higginbotham 2000, Rothstein 2004, to name a few representative examples) simply assume that this complex meaning is associated with a single verbal head. Others propose that only some telic predicates have an additional syntactic head (ResP) introducing the predicate Become (Svenonius 2004, Ramchand 2008, Alexiadou *et al.* 2014), typically reserving the existence of such an extra head to predicates with an evident resultative small clause. More-over, it is generally argued that if there is a ResP inside telic predicates, it is generated first, as a complement to the main lexical verbal head – not above it, as Giorgi and Pianesi's FP

is. In order to achieve the desired interpretation, the direct internal argument of predicates with a syntactic resultative head is generated in Spec,Res, as a small clause subject; see the tree for the sentence with a direct object and a path phrase in (386). This makes Giorgi and Pianesi's argument difficult to maintain, since it is based on the necessity of a movement of a θ-marked phrase out of VP, but no such movement is needed for interpretive reasons, even in the case of syntactically complex telic predicates.

Another thing that casts doubt over Giorgi and Pianesi's analysis is the fact that only a subgroup of telic predicates, the so-called accomplishments, are argued to have a complex semantic structure. IN contrast, achievements consist only of a single, punctual become-event, as expressed in the following classical template.

(402)   Verb class templates

a.   state $\lambda e.P(e)$

b.   activity $\lambda e.(\text{Do}(P))(e)$

c.   achievement $\lambda e.(\text{Become}(P))(e)$

d.   accomplishment $\lambda e.\exists e_1 \exists e_2 [e = {}^S(e_1 \sqcup e_2) \wedge (\text{Do}(P))(e_1) \wedge (\text{Become}(P))(e_2)]$

(where ^{S} is a summing operation, as defined in Rothstein 2004:35)

However, perfective verbs based on achievement predicates impose the same conditions on their direct objects as perfective verbs based on accomplishment predicates. In English, this is reflected in ungrammaticality of BP&MN as direct objects of (non-progressivized) achievements, as in (403); in Czech, it is reflected as a ban on their (non-specific) indefinite interpretation, as in (404).

(403)   a.   John broke a glass / several glasses / the glasses / *glasses (in an instant).

b.   John saved a kitten / a couple of kittens / the kittens / *kittens (in a moment).

c.   John lifted a box / three boxes / the boxes / *boxes (in an instant).

(404)   Context: *Co se stalo?* 'What happened?'

a.   Karel   rozbil   sklenici / několik sklenic / sklenice.
      Charles broke.PF glass   / several glasses / glasses
      'Charles broke a/the glass / several glasses / #glasses / the glasses.'

   b. Karel   zachránil koťátko / několik koťátek / koťátka.
       Charles saved.PF kitten   / several kittens / kittens
       'Charles saved a/the kitten / several kittens / #kittens / the kittens.'

It is not clear how an analysis based on object movement from a process-denoting VP to a telos-denoting FP would help in those cases. At the same time, I showed in Section 8.3 that even perfective verbs based on accomplishment predicates can take indefinite BP&MN as their objects if there is another way to satisfy the quantificational requirement of a perfective aspectual head, namely the presence of a path-denoting PP or a cumulative prefix *na-*. When it comes to PPs, Giorgi and Pianesi are aware that their analysis makes the wrong prediction for examples like (405), which should be grammatical because it has a referential argument that can move to Spec,F.

(405)   *John pushed the cart in three minutes.

To solve this issue, they propose that activity verbs like *push* do not project an FP, but they need a path phrase as well as a direct object in order to identify the telos. This solution, however, seems somewhat ad hoc and it is not clear why some direct objects should move to FP while others do not have to – if they always receive the same structural accusative case. This brings us to the last issue of Giorgi and Pianesi's proposal: their suggestion that direct objects move to FP for case reasons. There seems to be evidence that in some languages, a projection like FP is dedicated to the assignment of so-called strong object case, expressed as accusative and standing in the opposition to weak case, such as partitive (de Hoop 1992, van Hout 1996). However, this cannot be the case for Czech where all direct objects, including indefinitely interpreted BP&MN, are morphologically marked with structural accusative case (also 8.1). Even if there was a projection like FP in need of an individual variable, in languages like Czech, one would have to come up with an alternative syntactic motivation for the movement of an NP bearing a deep object θ-role to FP's specifier.
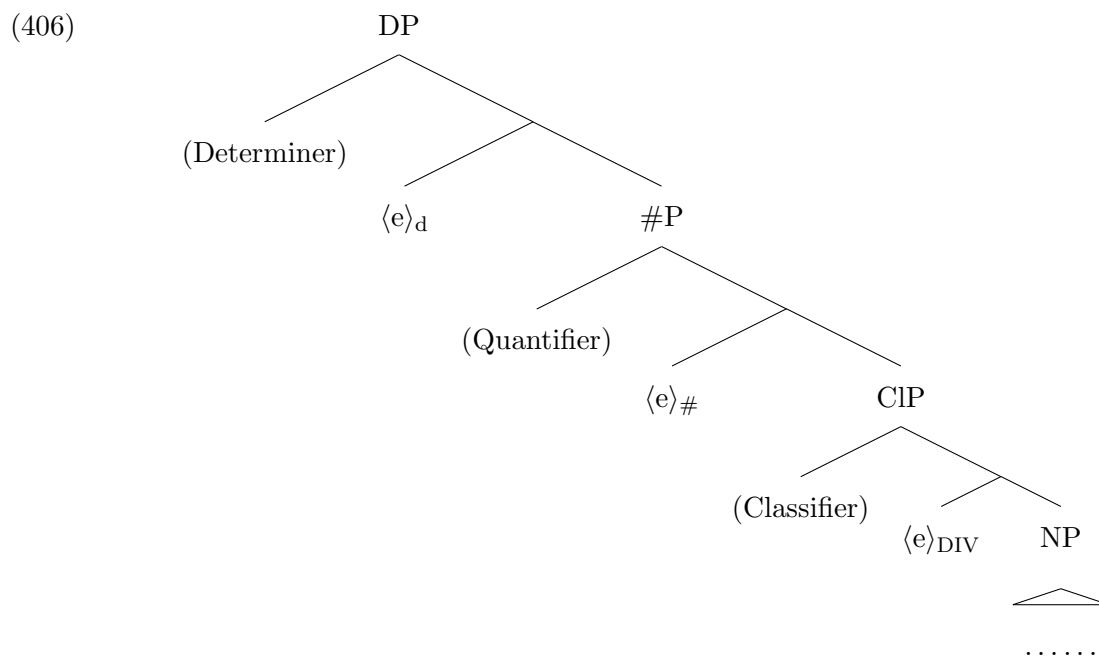
8.4.4   Borer (2005b)

Like Giorgi and Pianesi (2001), Borer (2005b) aims at explaining why indefinite BP&MN are not acceptable as direct objects of perfective verbs/telic predicates. Her proposal differs

from all the other proposals reviewed in this section in that it does not derive the syntactico-semantic constraints on objects of perfective verbs from the morphosyntax or semantics of verbal predicates (vPs) but from the presence of perfectivity-inducing syntactic head ($\mathrm{Asp_Q}$) and its features. Even though I agree with her on this on a general level, I differ from her in the way in which this insight is carried out. In what follows, I show why the path Borer takes cannot be the right one, especially for the languages like Czech. Since Borer's proposal relies on a rather specific framework that she herself developed (Borer 2005a,b), let me briefly summarize it before getting to the heart of the argument.

In Borer's theory, nominal phrases have an articulated internal functional structure, in which each projection is headed by a categorially labeled open value ⟨e⟩ that needs to be assigned a range by the appropriate functional operator.

(406)

```
                        DP
                       /  \
                      /    \
            (Determiner)    \
                   ⟨e⟩_d    #P
                            /  \
                           /    \
                  (Quantifier)   \
                       ⟨e⟩_#     ClP
                                 /  \
                                /    \
                       (Classifier)   \
                             ⟨e⟩_DIV   NP
                                       /\
                                      ......
```

Double marking of any open functional value is ruled out as an instance of vacuous quantification. However, one grammatical formative, either a head feature or an f-morph, can bind more than one open value if the range of its semantic properties allows it. For example, the article *the* assigns a range to an open determiner value ⟨e⟩_d and an open quantity value ⟨e⟩_# when combining with a plural noun; the quantifier *every* assigns a range to all three open nominal values (range assignment is marked by superscripting):

(407)　a.　the dogs: [$_\text{DP}$ the$^\text{i}$.$\langle e^\text{i}\rangle_\text{d}$ [$_\text{\#P}$ ~~the$^\text{i}$.$\langle e^\text{i}\rangle_\text{\#}$~~ [$_\text{ClP}$ dog-s$^\text{j}\langle e^\text{j}\rangle_\text{DIV}$ [$_\text{NP}$ ~~dog~~]]]]

　　　　b.　every dog: [$_\text{DP}$ every$^\text{k}$.$\langle e^\text{k}\rangle_\text{d}$ [$_\text{\#P}$ ~~every$^\text{k}$.$\langle e^\text{k}\rangle_\text{\#}$~~ [$_\text{ClP}$ ~~every$^\text{k}$~~$\langle e^\text{k}\rangle_\text{DIV}$ [$_\text{NP}$ dog]]]]

The core postulates related to the structure in (406) are as follows: (1) All noun denotations are mass, they are of type $\langle et\rangle$. Count interpretation is a property of the syntax. (2) All count quantification must be preceded by the division of the mass predicate into countable portions, hence the obligatoriness of the classifier system in the context of cardinals and some quantifiers. (3) An open $\langle e\rangle$ value in the head of the classifier projection (ClP) gets assigned a range by plural inflection, and an open $\langle e\rangle$ value in the head of the quantity projection (\#P) gets assigned a range by cardinals or quantifiers (in languages like English). Both ClP and \#P may be absent from the structure. (4) The determiner projection, in contrast, may never be missing from the structure of nominal arguments. They all have to have a valued $\langle e\rangle_\text{d}$ which mediates the mapping from predicates to individuals or to quantifiers. Without $\langle e\rangle_\text{d}$, reference would not be possible, therefore a noun could not function as an argument. This reasoning goes back to Longobardi (1994), according to whom D has to be present in all arguments because it is a locus of the referential index. (See 3.2.3 where this controversial topic was discussed to some extent.)

Since BP&MN can be arguments, their $\langle e\rangle_\text{d}$ must project and must be assigned a range, to follow Borer's line of reasoning. But they are non-quantity structures, so they do not project $\langle e\rangle_\text{\#}$. Furthermore, only plural nouns project $\langle e\rangle_\text{DIV}$ (DIV stands for "divided"). In languages that have the grammatical category of plurality, $\langle e\rangle_\text{DIV}$ is assigned a range by a head feature on a moved N-stem that is spelled-out as a plural marking (Borer 2005a:95). The indefinite interpretation of a BP/MN is a result of the VP-level existential closure (Diesing 1992). This closure, treated by Borer as a covert adverb, is assumed to assign a range to $\langle e\rangle_\text{d}$, which amounts to binding the logical variable $\langle e\rangle_\text{d}$, but it is not capable of binding $\langle e\rangle_\text{\#}$. Even though Borer claims to follow Benedicto 1998 in extending the closure's nuclear scope to the c-command domain of the verb after its head-movements, meaning that there could be other constituents between the (moved) verb and the direct internal argument, she only provides examples of cases where the nominal phrase is an immediate sister to V. (408) shows the existential interpretation of direct objects in sentences like *John roasted/was roasting sausages* and *John sorted/was sorting rice*, respectively.

(408)   a. $\exists^i$ [$_V$ roast][$_{DP}$ $\langle e^i \rangle_d$ [$_{ClP}$ sausage-s $\langle e \rangle_{DIV}$[$_{NP}$ ~~sausage~~]]]

         b. $\exists^i$ [$_V$ sort][$_{DP}$ $\langle e^i \rangle_d$ [$_{NP}$ rice]]

Just as nominal stems denote an unstructured mass without quantity in Borer 2005a, Borer 2005b sees verbal stems as having no inherent quantity either. This corresponds semantically to atelicity. She builds on Krifka's insight that all verbs are inherently atelic and a quantized theme functions as an operator giving rise to telicity. However, she argues that the interplay between the quantificational properties of internal arguments and verbs is important for all theme-taking verbs, not just for those showing incrementality. In order to denote telic events, verbal stems have to be embedded within a quantity phrase which can quantify over the event divisions. Such a quantity phrase in the verbal domain is the aspectual phrase (Asp$_Q$P), and like #P in the nominal domain, it is headed by an open value $\langle e \rangle_\#$ that needs to be assigned range. On the semantic level, this corresponds to selecting a specific "quantity reticule", a webbing network with a fixed number of divisions, which the range assigner superimposes on the event, giving thus rise to a quantity event (Borer 2005b:76).

According to Borer, English does not have a direct range assigner (a head feature or an f-morph) for the verbal $\langle e \rangle_\#$, but the verbal quantity can be valued indirectly, through specifier-head agreement. This happens when there is a quantity DP in Spec,Asp$_Q$ and its quantity value [$_{\#P}\langle e^i \rangle_\#$] gets copied onto [$_{Asp_Q}\langle e \rangle_\#$], making this DP the 'subject-of-quantity'. Note that the nominal quantity value itself is copied under agreement from some quantity expression Q^i in Spec,#.

(409)   Indirect valuation of verbal quantity
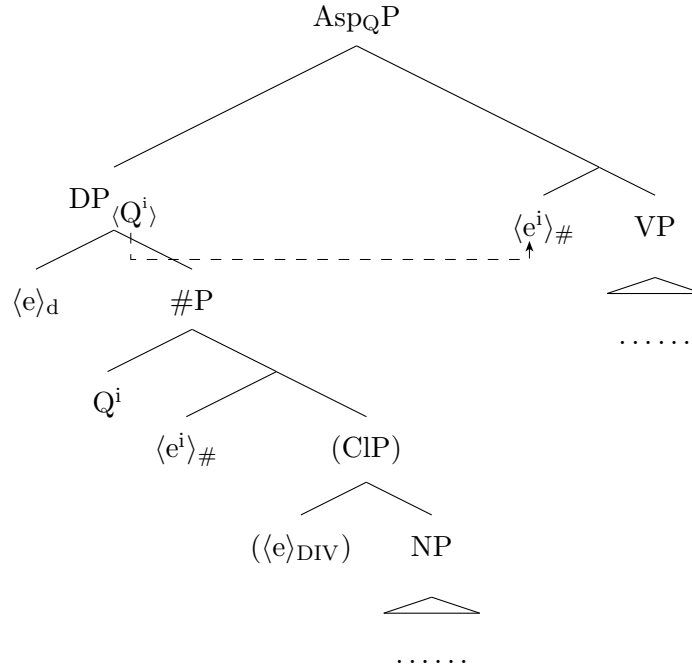
If a theme-denoting DP does not project #P – which happens when it has no way to get its value assigned – it cannot become the subject of a quantity event either. This is what rules out BP&MN as direct objects of perfective verbs denoting telic events in Borer's system. And this would rule out INO as objects of perfective verbs as well. Even though Borer does not discuss intransitivization specifically, she assumes that null pronouns with existential readings would have a structure parallel to BP or MN, depending on whether they lead to plural agreement or not. Something like INO would have to be structurally analyzed as a DP with no quantifier phrase, an optional classifier phrase, and pro in the place of NP, whereby the individual variable in D is bound by the same generally available $\exists$-closure that binds BP&MN in (408).

(410) $\exists^i$ $[_{DP}$ $\langle e^i \rangle_d$ $([_{ClP}$ $pro\langle div \rangle \langle e \rangle_{DIV})[_{NP}$ pro $]](\|)$

Apart from several general issues with this proposal, hinted at by Borer herself,[57] there is a profound reason why an analysis like this could not hold in Czech and other languages

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[57] One of them is a missing motivation for the inability of $\exists$-closure, deriving the interpretation of BP&MN, to assign range to the nominal $\langle e \rangle_\#$, as in (408). Also the fact that definite articles assign a range to $\langle e \rangle_d$ as well as to $\langle e \rangle_\#$, as in (407-a), forces Borer to make some queasy assumptions since definite articles co-occur with weak quantifiers, which can assign range to $\langle e \rangle_\#$ as well, cf. *the three/many/few books, the little water.*

which do not have the same elaborate system of determiners like English. As I already discussed in detail in 7.3, it has been argued that in many languages, bare NPs, or more precisely NumPs, can denote ⟨e⟩-type entities, thanks to the possibility of kind- and iota-shifts at these low levels of the nominal projection. Chierchia (1998:(26)) formulated what he calls the Blocking Principle, which concerns precisely the split between determiner languages and type-shifting languages.

(411)   **Blocking Principle** (Type shifting as last resort)
        For any type shifting operation τ and any X: $*\tau(X)$ if there is a determiner D such that for any set X in its domain, $D(X) = \tau(X)$

Dayal (2004:419) then elaborated on this principle by arguing for the precedence of a simple kind- or iota-shifting operation over changing the type by introducing the quantificational force:

(412)   **Revised Meaning Preservation:** $\{\cap, \iota\} > \exists$

It follows that in the languages that allow type shifting, the D-layer is not a requirement for argumenthood anymore. This claim is taken one step further in the works of Bošković and Despić who argue against the presence of a null D in article-less languages altogether. Bošković (2008) lists a number of syntactic differences between languages with and without articles, including scrambling, left-branch extraction, adjunct extraction from the nominal phrase, missing superiority effects in multiple Wh-fronting, the impossibility of clitic doubling, and the non-existence of double adnominal genitives, all of which he explains as a result of missing DP in languages without overt articles. It is not in the scope of this dissertation to verify the validity of Bošković's arguments. Given the convergence of syntactic and semantic research on this topic, I want to be cautious of postulating a null DP in the cases where there is no compelling reason to do so, other than preserving the parallelism with English. At the same time, I do not exclude the possibility of D-presence in other nominal or pronominal structures in Czech that were not examined in this thesis.

Borer's postulation of determiners with all arguments becomes dubious even in English, which does not allow the derivation of definites via ι, but which allows morphologically bare arguments denoting kinds, which are argued to be derived by the application of $^{\cap}$-operator to a property denoted by bare nPs (see also (121)).

(413)   a.   Gold is rare. $\rightsquigarrow$ rare($^{\cap}$GOLD)

           b.   Dogs are widespread. $\rightsquigarrow$ widespread($^{\cap}$DOGS)

Additionally, the phonologically null determiner would not have to be postulated for indefinite BP&MN as in (408) because they can be derived from the kind-meaning of bare noun phrases via an $\exists$-closing DKP-like mechanism (cf. (240)).

Importantly, the possibility of type shifting makes definite and low-scope indefinite (and also kind-denoting) nominal phrases structurally indistinguishable in Czech, since they all correspond to NumPs (Borer's ClPs). This is why the rationale for BP&MN's incompatibility with telicity-inducing predicates cannot be based on the absence of a single nominal functional layer, QP (Borer's #P), however tempting such a proposal might be. QP/#P projection does not have to be present in any of these nominal constructions.

To her credit, Borer (2005b) does not limit her discussion of perfective constructions to English but shows how her theory applies in other languages, including a substantial section on Czech and other Slavic languages. Unfortunately, the Czech data that she draws on are extremely selective, leading her to several uncorroborated conclusions. Borer argues that thanks to its rich array of verbal prefixes, Czech has something English does not have: direct range assigners for an open quantity value in Asp_Q. In her view, the prefixes realize a quantity feature that is either generated directly in Asp_Q as a head feature, or within VP in which case it incorporates into the verbal chain preposition-style. To support this claim she gives the following example of a perfective verb with the cumulative prefix *na-*.

(414)   a.   Petr na-pekl   housk-y.
                Petr NA-baked.PF roll-ACC.PL
                'Peter baked a lot of rolls/a batch of rolls.'

           b.   Petr [$_{TP}$ napekl [$_{Asp_QP}$ [$_{DP}\langle$e$\rangle_d$ [$_{\#P}\langle$e$^{na}\rangle_{\#}$ [housky]]] $\langle$na$\rangle$pekl $\langle$e$^{}_i\rangle_{\#}$ [$_{VP}$ pekl]]]

First of all, it should be mentioned that the gloss in (414-a) is not entirely correct in associating *na-* with the meaning of a large quantity. The sentence just means that Peter baked some amount of rolls. (414-a) could very well continue with ...*ale bylo jich málo* 'but there were too few of them' (see also (373)). More importantly, as I already discussed in 8.3.1, *na-* is a rather special verbal prefix in that it directly measures the set of entities denoted by the internal argument. That is why it can co-occur with non-definitely/non-specifically interpreted BP&MN in the position of direct objects of perfective constructions, which is something that other prefixes do not allow. However, Borer claims that all other prefixes have the same quantificational properties, citing the example (415-a).

(415)   a.   Petr u-pekl   housk-y.
             Petr U-baked.PF roll-ACC.PL
             'Peter baked all the rolls.'

        b.   Petr [$_{\text{TP}}$ upekl [$_{\text{AspQP}}$ [$_{\text{DP}}\langle e\rangle_d$ [$_{\#P}\langle e^u\rangle_{\#}$ [housky]]] $\langle u\rangle$pekl $\langle e^u\rangle_{\#}$ [$_{\text{VP}}$ pekl]]]

The arrows in (414-b) and (415-b) capture Borer's assumption that prefixes assign range to the quantity value of the nominal in Spec,Asp$_Q$, effectively forcing a quantity interpretation of all objects of prefixed verbs. This means that the transfer of quantity in Czech always goes in the opposite direction than it does in English (see (409)).

Again, let me first note that the English translation of the direct object in (415-a) as 'all the rolls' is not correct.[58] It can either mean that 'Peter baked the rolls / some specific rolls' that are somehow contextually anchored, or that he baked a batch of rolls since rolls are usually baked in batches. The latter interpretation is lexically limited: it is allowed only with those types of baked goods that are typically made in batches, such as *koláče*, *buchty*, *vdolky*, etc. (These types of Czech baked goodies do not have an equivalent in English, but they very roughly correspond to cookies, cupcakes or buns.) See the contrast with the following example where the 'batch-of' interpretation is not readily accessible; for more examples of this sort see footnote 44.

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[58]For the discussion of maximality in the case of definite interpretation, see the commentary to (392). I suspect that Borer's misconception is actually taken over from Filip's work.

(416)   a.   Petr u-pekl   chleb-a.
                Petr U-baked.PF bread-ACC.SG
                'Peter baked a/the bread.'

         b.   Petr u-pekl   chleb-y.
                Petr U-baked.PF bread-ACC.PL
                'Peter baked #breads / the breads / a unique set of breads / $^{?\#}$a batch of breads.'

Moreover, the prefix *u-* does not show the same behavior when merged with a different verbal stem. In the context where the definite/specific interpretation is not licensed, only a singular noun but not a plural one can serve as the direct object of a perfective verb with a prefix *u-*, as the following examples show.
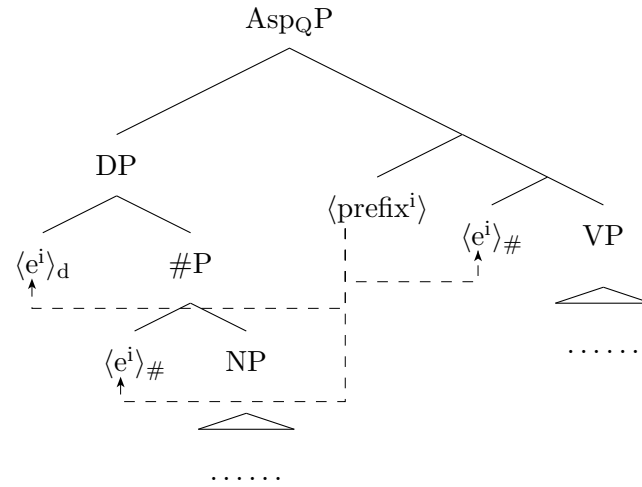
(417)   Petr zničehonic u-dělal   grimas-u   / *grimas-y.
        Petr suddenly   U-made.PF grin-ACC.SG   grin-ACC.PL
        'Peter suddenly made a grin / grins.'

(418)   Petr zničehonic u-trhl   tulipán   / *tulipán-y.
        Petr suddenly   U-picked.PF tulip.ACC.SG   tulip-ACC.PL
        'Peter suddenly picked a tulip / tulips.'

These data clearly go against the analysis of the *u*-prefix as the verbal $\langle e \rangle_{\#}$-range assigner, since a non-quantity object should in theory be allowed with a perfective prefixed verb whose verbal quantity valuation is taken care of. Similar counterexamples could be constructed for other prefixed perfective transitive verbs. Rather than being a prototypical example, the cumulative *na-* might be the only prefix (or one of a very small number of prefixes) that can value the aspectual quantity feature directly, which is the conclusion I drew in 8.3.1.

    Borer tries to take care of this problematic issue by proposing bi-directional transfer of quantity range from prefixes to the nominal heads as well as to the verbal aspectual head. She argues that "the perfective affixation gives rise obligatorily to the merger of $[_{\text{DP}}\langle e \rangle_{\#}]$, thereby forcing a quantity interpretation and excluding both bare mass and bare plurals" (2005b:179). Moreover, the quantity value that is copied under agreement from the aspectual head on the nominal $\langle e \rangle_{\#}$ is copied also on the nominal $\langle e \rangle_{\text{d}}$, as captured in (419).

(419)   Direct valuation of verbal quantity

$$\text{Asp}_\text{Q}\text{P}$$

DP $\langle\text{prefix}^\text{i}\rangle$ $\langle\text{e}^\text{i}\rangle_\#$ VP

$\langle\text{e}^\text{i}\rangle_\text{d}$ #P

$\langle\text{e}^\text{i}\rangle_\#$ NP

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· · · · · ·

But this only leads to more problems. Every time there is a BP or MN in the object position of a prefixed verb, Borer would expect the construction to be well-formed and the noun to be interpreted as definite. This completely ignores the role of context in licensing the definite/specific interpretation, thereby leaving unexplained examples like (417) or (418) (see also the criticism in 8.4.1).

A general consequence of the valuation mechanism in (419) is that it excludes the possibility of binding the open values in DP and #P by other operators. Since strong quantifiers and sentential generic quantification bind $\langle\text{e}\rangle_\#$ and $\langle\text{e}\rangle_\text{d}$ as well (see (407-b)), and double binding is ruled-out, the presence of prefixes is now predicted to be at odds with the presence of these quantifiers (see Borer 2005b:181). Once again, this prediction is not supported by the data. Both overtly universally quantified singular nouns and covertly generically quantified plural nouns are grammatical objects of perfective prefixed verbs.

(420)   Válka na-učí   každého člověka / lidi   vážit si   míru.
          war   NA-teaches.PF every   person   people appreciate peace
          'War teaches every person / people in general to appreciate peace.'

(421)   Karel   na-bral   všechny stopaře / každého stopaře, co   vypadal slušně.
          Charles NA-took.PF all hitchhikers   every hitchhiker who looked   decent
          'Charles took all hitchhikers / every hitchhiker who looked decent.'

The incompatibility between a perfective prefix and a strong quantifier is only attested in the case of cumulative na-, which is the datum that motivated Borer's proposal in (419).

But even in the case of cumulative *na-*, only some strong quantifiers seem to show what she expects.

(422) Karel na-nosil   všechny židle / ??každou židli do sálu.
Charles NA-took.PF all chairs   every chair into aula
'Charles carried all the chairs / every chair to the aula.'

I believe that it is possible to explain this particular incompatibility without advocating for the mechanism that gives unwanted results for all other perfective verbs; see the account of cumulative *na-* I sketched in 8.3.1 and the literature I refer to there.

There is another unwanted consequence that I already brought up in relation to some of the older proposals (Babko-Malaya 1999, Giorgi and Pianesi 2001) so I mention it here just briefly. Just like any other analysis that ties the syntactico-semantic properties of perfective verbs too tightly with prefixation, (419) runs into problems when the existence of prefixed imperfectivized verbs is considered; see also Filip 2000 who specifically argues against the view of prefixes as perfectivity markers. Given the assumptions about the internal structure of secondary imperfectives that I presented in 5.3.1, such verbs should follow the same rules as the constructions that they embed, namely prefixed verbal stems. This means, in Borer's system proposed for Czech, that secondary imperfectives should not allow indefinite BP&MN, strong quantifiers or generically quantified nouns as their internal arguments. But none of these predictions are borne out. In addition, the existence of unprefixed (or unsuffixed) transitive perfective verbs is not quite expected in this proposal, even though Czech has more than fifty perfective verbs that cannot be analyzed as affixed from the synchronic point of view; see (ii) – (iv) in (249) and some more examples below.

(423) Unprefixed perfective verbs in Czech (*-t* is the infinitival ending):
vzít 'to take', *říct* 'to say', *hodit* 'to throw', *skočit* 'to jump', *navštívit* 'to visit', *stanovit* 'to establish', *pustit* 'to drop', *praštit* 'to hit', *chytit* 'to catch', *stavit se* 'to stop by', *stát se* 'to happen', etc.

Regardless of all these particular issues, Borer's contribution to the analysis of aspect is

in equating the semantic category of telicity with the presence of the syntactically well-formed Asp_Q and the quantity value in the syntactic structure. While the validity of such an approach is still a matter of debate in English, this move makes a lot of sense in Czech, where perfectivity is a clearly defined grammatical category. As I argued in 8.1, I suppose that Czech is more English-like than Borer herself might want to admit: in Czech, the movement of the internal argument to $Spec,Asp_Q$ truly represents one of the key ways to "assign a range to" (i.e. check a feature of) the open quantity value in Asp_Q.

8.5 Summary

The core of Chapter 8 is a data-driven proposal about the syntactico-semantic character of the perfective aspectual head and its interaction with different types of internal arguments, which effectively leads to the explanation of INO's incompatibility with perfectives. I start by recapitulating state of the art in the theory of aspect, with focus on Slavic languages. I accentuate the analyses of imperfectivity as a result of PROG-operator operating on a vP semantics, and perfectivity as a "marked" member of the opposition that makes the event denoted by vP to be perceived as telic/culminated. Acknowledging that the grammatically marked category of perfectivity imposes restrictions on the types of arguments that a verb can successfully merge with, not found in the corresponding imperfective structures, I suggest to syntactically formalize perfectivity as an unvalued verbal quantity feature Q_{Pf} located in what is traditionally labeled as the head Asp. The EPP-ness of Q_{Pf} requires the movement of a syntactic argument to $Spec,Asp_Q$ – which in the case of transitive verbs with a single internal argument has to be their direct object. INO cannot satisfy Q_{Pf} because they are present only in the compositional semantics accompanying the syntactic structure but not in syntax per se. The infelicity in satisfying Q_{Pf} extends to (syntactically represented) indefinite BP&MN, which "exist" as indefinite only inside vP. On the other hand, generic null objects are predicted to be compatible with perfective verbs under this proposal since they are GEN-bound variables introduced by lexically empty n-heads, which can freely raise out of vP to $Spec,Asp_Q$.

In 8.3.1, I turn to an alternative way of satisfying Q_{Pf}, the incorporation of a quantificational prefix into the verbal chain. I show how cumulative *na-*, completive *do-*, and

inceptive *za-* allow the verb to successfuly perfectivize without forcing the presence of an overt direct object that can raise to Spec,Asp$_Q$. In 8.3.2, I show that the path argument of PP-taking verbs can play the same role as the direct internal argument in satisfying Q$_{Pf}$, by re-merging in Spec,Asp$_Q$.

The complex task of reviewing the previous proposals that touch on the discussed topic is undertaken in the last section, 8.4. Let me pinpoint here just the main discrepancies of each theory, which are overcome in the current proposal. (A) Both Krifka 1992 and Filip 1995 assume that in Czech, perfectivity on a verbs *causes* the definite interpretation of bare plural and mass nouns. However, Czech bare nouns are already ambiguous between a definite and an indefinite interpretation, so if anything, perfective aspect can be just *compatible* with one of the two, and other contextual factors have to determine that the definite (or specific) interpretation is the one to be actually picked. (B) Babko-Malaya 1999 is the only work where the incompatibility of perfective verbs with INO is mentioned explicitly. She attempts to derive it as a result of syntactic event structure decomposition, accompanied by stipulation that Become-predicates cannot have a null property-denoting argument in their specifier, somewhat on a par with Alexiadou *et al.*'s explanation in 5.4.1 for the distinction between non-core transitive and core transitive verbs. I already showed in 5.3.3 why Babko-Malaya's analysis of INO is not tenable; here I point to several incongruencies in her own theory of perfectivity and its undesirable stipulativity, as well as to the wrong prediction that it makes for secondary imperfectives's compatibility with INO. (C) Giorgi and Pianessi 1997 assume a complex, two-event semantics for all perfective verbs, mirroring some of the older accounts of telic verbs in English. They then posit an additional (case-marking) functional projection between VP and AspP, and postulate that the telos part of an event cannot be computed if the direct object does not raise to the specifier of this projection. Apart from certain vagueness of this proposal, it makes a number of wrong predictions, namely that argumental PPs of perfective verbs can be omitted if the direct object is present, that perfective achievement predicates should allow indefinite BP&MN as their direct objects, in contrast to accomplishment predicates, and, just like in Babko-Malaya's case, that secondary imperfectives should exhibit repugnance for indefinite BP&MN and INO. (D) Borer deserves credit for providing a complex syntactico-semantic analysis of the interaction between aspect

and different internal argument types, not limiting herself just to incremental themes or accomplishment-type predicates. She does the pioneering work in connecting the semantics of perfectivity with the syntactic properties of Asp, evolving around the notion of verbal quantity that needs to be delimited in one way or other. This is something that inspired the author of this thesis in her own proposal. One of the drawbacks of Borer's (2005b) theory is that it is written within a highly specific framework that is somewhat hard to grasp, especially for anyone who has not spent a substantial time studying the thepry primitives like 'range assigner' or 'quantity reticule'. A problematic implication of her theory is the default presence of D in all arguments, including indefinite BP&MN and different sorts of null arguments. Even though she should be praised for reserving non-neglectable space in her book to aspect in Czech, her description of the behavior of Czech perfectives is quite distorted, which is probably caused by her limited access to Czech data.

Chapter 9

Consequences and Related Issues

9.1 Intransitivization and Unaccusative Predicates

9.1.1 INO Can Never Remain Single

Since the goal of this dissertation is to uncover the mechanisms behind the derivation of null direct objects, I have been purposefully limiting my discussions to verbs that can have direct objects, i.e. to transitive verbs. Note, however, that the intransitivization rule itself does not refer to the notion of the direct object but only to the notion of the (direct) internal argument of a verbal predicate, the 'theme' argument. Therefore, the rule should theoretically be applicable also to unaccusative predicates, which merge only with an internal argument but not with an external one, giving thus rise to the existence of intransitive verbs/structures. This is because the intransitivization happens at a syntactic level (vP) where the difference between a transitive and an intransitive unaccusative verb is not noticeable yet. However, even if the single argument of an unaccusative predicate gets existentially quantified, the well-formedness of a clause based on such a predicate is ruled out for grammatical reasons. Any such a structure has a Tense/Inflection head with an unvalued φ-feature, probing for some φ-bearing target. But an "intransitivized unaccusative" does not have any available target, bearing a φ-feature. Existentially quantified arguments derived by intransitivization are not syntactically represented, which means that they do not have any syntactic features whatsoever. This makes them completely invisible for the probe. The non-existence of imperfective unaccusatives with indefinite null subjects confirms this prediction, cf. (424).

(424)   a.   *Kvete___   / *Rozkvétá___.
              bloom.IMPF.3SG.NEUT   blossom.IMPF.3SG.NEUT
              'Stuff blooms / stuff is blossoming.'

b. *Hyne___.
   die.IMPF.3SG.NEUT
   'Stuff is dying.'

The predicates in (424) display third person singular neuter agreement because that is the morphological default in Czech which arises if the predicate has no φ-features to agree with. (I do not consider the possibility of anaphoric third person singular neuter *pro* in the glosses above to make my point clear. Under the anaphoric interpretation the sentences would be grammatical.)

Probably the closest thing to the hypothesized unaccusative structure with an ∃-closed non-overt argument would be the following impersonal constructions, featuring the default third person singular neuter agreement on a verb.

(425)   a.   Venku   mrzne.
             outside freeze.IMPF.3SG.NEUT
             'It's freezing outside', lit. 'It freezes outside.'

        b.   Hoří!
             burn.IMPF.3SG.NEUT
             'Fire!', lit. 'It burns!'

        c.   Na půdě dobře schne.
             in attic well   dry.IMPF.3SG.NEUT
             'The clothes dry well in the attic', lit. 'It dries well in the attic.'

It is assumed that all the verbs above give rise to unaccusative structures when complemented by an overt nominal argument (to the extent that the category of unaccusativity and unergativity can be distinguished in Czech; see Medová 2009:131 for discussion). But when they are objectless as in (425), all the eventualities imply some natural force causer, as characteristic for classical weather verbs, like *sněží* 'it snows' or *hřmí* 'it thunders'. It has been argued that such weather predicates feature a null weather pronoun in Spec,Voice, which has the status of a 'quasi argument', receiving a special atmospheric θ-role (Chomsky 1981, Rizzi 1986, Schäfer 2008, 2012, Wood 2015). This makes the predicates in (425) akin to unergatives rather than unaccusatives, even though one might argue that they also contain an existentially quantified internal argument. On the other hand, no such quasi argument is available in the case of unaccusative verbs in (424) because the atmospheric/external force

θ-role is not semantically compatible with them. The ungrammaticality of (424) in spite of the presence of default agreement morphology also suggests that no verb can project a clausal structure on its own, without projecting at least one argumental position. This fits in with the conclusion that the Czech impersonal passives based on unergative verbs, formed with the reflexive *se* and also receiving the default third person singular neuter agreement, still project the external argument position and fill it with PRO$_{arb}$ (Medová 2009, following Kayne 1986).

(426)   PRO$_{arb}$ Tancova-l-o se   tam   až do rána.
          danced-PAST-3SG.N REFL there until morning
          'They danced there until the morning', lit. 'It danced there until the morning.'

Finally, the necessity of the presence of at least some syntactic argument to satisfy φ-probing T is supported by Preminger (2011), who argues that default agreement is a result of Agree relation with a featurally defficient goal, which only makes the feature $[\varphi]$ accessible to T (the root of the feature geometry shared by all nominals) but no other specific φ-features, such as person or number. Dative subjects in Icelandic are one example of such a deficient agreement target.

9.1.2   Unaccusatives and Perfectivity

Another area where the present theory makes predictions outside of the scope of transitive verbs is the relation between the quantificational requirements of the perfective aspectual head Spec,Asp$_Q$ and the type of the internal argument that it allows. I argued in 8.1 that the unvalued quantity feature Q$_{Pf}$ associated with this head gets valued under merge with a syntactic argument that is base-generated and θ-marked in Spec,v. Since INO and indefinite BP&MN are not remergable syntactic arguments, they cannot fulfill the role of verbal quantity assigners. The transitive structure where they figure as internal arguments are ungrammatical, unless an alternative way of valuing Q$_{Pf}$ (by quantificational prefixes) is exercised. If we extend this logic to monoargumental unaccusative structures, we expect them to follow the same pattern: if they are perfective, their single (internal) argument should not be INO or indefinite BP/MN. I just concluded in 9.1.1 that the only argument of unaccusatives cannot be INO regardless of the verb's aspectual value. But when it comes

to BP&MN objects, the data confirm the expected pattern. Morphologically bare plural and mass subjects in perfective unaccusative clauses in (427-a), (428-a), and (429-a) are always interpreted as denoting a unique set of individuals, which is either definite, known to both the speaker and the listener, or specific, known just to the speaker; see 7.2.2. In the corresponding imperfective clauses, the non-specific indefinite interpretation where the object refers simply to some instantiations of the kind denoted by the object noun is allowed as well. In fact, this interpretation is the most preferred one in the minimized contexts below since it does not require any presupposition accommodation, in contrast to the definite/specific interpretation.

(427) a. V sadě   dozrály   hrušky.
           in orchard ripened.PF pears
           'In the orchard, #pears / (all) the pears / some specific pears ripened.'

       b. V sadě   dozrávaly   hrušky.
           in orchard ripened.IMPF pears
           'In the orchard, pears / ?the pears / ?some specific pears were ripening.'

(428) a. Na půdě praskly   trámy.
           in attic cracked.PF beams
           'In the attic, #beams / the beams / a specific set of beams cracked.'

       b. Na půdě praskají   trámy.
           in attic crack.IMPF beams
           'In the attic, beams / ?the beams / ?a specific set of beams are cracking.'

(429) a. V oboře   uhynuli jeleni.
           in game-preserve died.PF deer
           '#Deer / (all) the deer / a specific group of deer died in the game-preserve.'

       b. V oboře   hynou   jeleni.
           in game-preserve die.IMPF deer
           'Deer / ?the deer / ?a specific group of deer are dying in the game-preserve.'

9.2   Other Types of Null Objects

In this dissertation, I analyzed two particular types of null objects: generic null objects in Part I, and indefinite null objects in Part II. The array of possible types of null objects distinguished in the linguistic literature is of course much bigger; for an insightful recapitulation see Cote 1996. In the remainder of this section, I briefly review other types of

null objects that exist in Czech in addition to INO and GNO since they are sometimes mistakenly conflated with INO. The purpose of this review is not to provide an in-depth analysis of these remaining null object types but only to show that not all null object are alike and one has to carefully distinguish between the different types when identifying their syntactic and semantic properties.

9.2.1   Lexicalized Null Objects (LNO)

Some transitive verbs have a constant, idiomatized meaning when their object is not expressed overtly. These verbs can be perfective or imperfective, but in general, perfective verbs with LNO are more common, presumably because the INO strategy is not available to them for reasons discussed at length in Chapter 8.

For example, the verb *zavřít* 'to close' can take a whole range of objects, but when objectless, it only means 'close the door', or, somewhat less often, 'shut down a business, usually a store'.

(430)   a.   Karel   ne-zavřel   dveře/ústa/slepice/krám.
               Charles not-closed.PF door/mouth/hens/store
               'Charles did not close the door / his mouth / the chicken coop / the store.'

         b.   Karel   ne-zavřel___.
               Charles not-closed.PF
               'Charles did not close the door.' OR 'Charles did not shut down his store.'

Another often cited example of an LNO is the verb *zavěsit* 'to hang up'. When used intransitively, it only means that one did not hang up (his phone), on a par with English. Note however, that the collocation *zavěsit telefon* 'to hang up one's phone' is already idiomatized. Normally, the verb *zavěsit* takes a direct object and a directional PP, *zavěsit něco někam* 'to hang up something somewhere'. But in the case of 'hang up one's phone', its valency frame is reduced to a single complement in accusative.

(431)   a.   Karel   zavěsil   síť ke stropu / obraz   na zeď / sluchátko do
               Charles hung up.PF net to ceiling / painting on wall / receiver   to
               telefonu / telefon (*do něčeho).
               phone   / phone to something
               'Charles hung the net up to the ceiling / the painting up on the wall / the

receiver up to the phone / the phone up.'

b. Karel   zavěsil___.
   Charles hung up.PF
   'Charles hung up.'

It is quite typical that many of the idiomatized meanings of LNO are limited to a particular jargon or slang. For example, in the environment of card players, (430-b) means that Charles did not use his cards in such a way that it closes the game; in soccer slang, (431-b) means that Charles scored a goal.

The tendency of LNO to appear with transitive verbs that already have an idiomatized meaning is matched by the fact that LNO can be often found with predicates that allow only one particular entity in the role of an internal argument. For example, in Czech, one cannot *smeknout* 'to uncap, to tip' anything else except the hat he's wearing; one cannot *zaparkovat* 'to park' anything else except the vehicle (s)he is driving. Both of these verbs appear more often without an overt object than with it in Czech.

(432) a. Karel   smeknul   (klobouk).
          Charles tipped.PF hat
          'Charles tipped his hat.'

       b. Karel   zaparkoval (auto)
          Charles parked.PF   car
          'Charles parked a car he was driving.'

However, keeping these objects overt is not awkward, in contrast to INO (cf. (313) and (314)). Obviously, if there is a communicative need to further semantically specify the direct objects of these verbs, they have to be overt:

(433) Karel   smeknul   svůj nádherný nový klobouk.
       Charles removed.PF his beautiful new hat
       'Charles removed his beautiful new hat from his head.'

If a perfective verb that allows an LNO has a (usually prefixed) stem that can be used to derive the corresponding imperfective verb, this morphosyntactically derived imperfective can take an LNO as well. This is expected if the lexicalized meaning is associated with a particular stem before it enters the point in the syntactic derivation where (im)perfectivity

is determined. To give a concrete example, the perfective verb *s-hodit* 'to throw down' and its imperfective, syntactically derived counterpart *s-hazovat* normally take a direct object and a directional PP 'to throw something down from somewhere'. But they also have an idiomatic meaning 'to lose weight', in which case they take just a direct object without a PP, cf. (434-a). This object does not have to be expressed on the surface, whereby both a perfective *shodit* and the corresponding imperfective *shazovat* keep the idiomatic meaning.

(434)   a.   Karel   shodil/shazoval   seno z vlečky   / návrh   ze stolu   /
                Charles threw down.PF/IMPF hay from wagon   suggestion from table
                nadbytečné kilogramy (*z těla).
                excessive   kilograms from body
                'Charles threw / was throwing down hay from a wagon / the suggestion from the table / excessive kilograms.'

        b.   Čím je člověk starší, tím hůř   shodí/shazuje___.
                how is human older thus worse throws down.PF/IMPF
                'The older a person is, the harder it is to lose / be losing weight.'

In addition, the imperfective *shazovat* can combine with an INO if the context provides some information about the kind of thing that is being thrown down, as in (435-a). As expected, in such a scenario, the perfective verb is ungrammatical.

(435)   *[A group of people needs to get hay down from the wagon. One of them decides:]*

        a.   Karel   bude shazovat___   (a   my budeme odnášet___).
                Charles will   throw down.IMPF (and we will carry away.IMPF)
                'Charles will be throwing down (and we will be carrying away).'

        b. *Karel   shodí___   (a   my odneseme___).
                Charles throws down.PF (and we carry away.PF)
                'Charles will throw down (and we will carry away).'

Some lexical-semantic classes of verbs are more prone to having null objects with an idiomatized meaning than others. Probably the most numerous is the group of verbs describing various chores. All of the following verbs are perfective and their null object could be interpreted as "all the entities in a given household or another given location that the described activity normally affects with respect to the agent of the event".

(436)   Karel   ustlal___,   uklidil___, zametl___, vysál___,   vytřel___,
         Charles made the bed.PF cleaned.PF swept.PF   vacuumed.PF out-wiped.PF
         vypral___,   vyžehlil___, nakoupil___ a   uvařil___. Další den zoral___   a
         laundered.PF ironed.PF   shopped.PF and cooked.PF next day ploughed.PF and
         vyplel___. A   taky vymaloval___.
         weeded.PF and also painted.PF
         'Charles made the bed(s), cleaned up, swept the floor, did the vacuuming, wiped

         the floor, did the laundry, did the ironing, did the shopping, and cooked dinner.

         The next day, he ploughed the field(s) and weeded the bed(s). And he also painted

         the room(s).'

Notably, not *all* verbs describing chores allow LNO:

(437)   Karel   umyl   *(nádobí), utřel   *(prach), pověsil   *(prádlo) a
         Charles washed.PF   dishes   wiped.PF dust   hanged.PF clothes and
         vynesl   *(odpadky).
         took out.PF   garbage
         'Charles washed the dishes, wiped out the dust, hanged up the clothes (to dry)

         and took out the garbage.'

The idiomaticity of the interpretation of objectless verbs in (436) is apparent when we
consider that even if one can for example "vacuum" many different types of things, including
the tiniest ones, objectless perfective "vacuum" can only describe a situation where the
vacuuming affected all the areas that are normally being vacuumed. It is obvious that
these LNO have an indexical aspect to their meaning as well since what they refer to is
determined by the external argument's reference. But their idiomatized content makes them
clearly different from the regular anaphoric pronouns, as the following contrast shows.

(438)   a.   Za válendou jsou rozsypané brambůrky. Můžeš je prosímtě vysát?
               behind sofa are scattered chips   can them please   vaccum.PF
               'There are scattered chips behind the sofa. Could you please vacuum them?'

         b.   Za   válendou jsou rozsypané brambůrky. #Můžeš prosímtě vysát___?
               behind sofa   are scattered chips   can   please   vaccum.PF
               'There are scattered chips behind the sofa. #Could you please vacuum the

               apartment? / do the vacuuming?'

Another example showing the interpretive stubbornness of LNO of chore verbs is given

in (439). If one *nakoupí* 'does the shopping', one buys all the food and possibly other household supplies that are needed – not just one particular type of items, even if they were contextually prominent.

(439)   a.   Docházelo   nám   jídlo, tak jsem   nakoupil___.
                out-ran.IMPF we.DAT food so   AUX.1SG shopped.PF
                'We were running out of food supplies, so I did the shopping.'

        b.   Docházel   nám   toaleťák,   #tak jsem   nakoupil___.
                out-ran.IMPF we.DAT toilet paper so   AUX.1SG shopped.PF
                'We were running out of toilet paper, so I did the shopping.'

There is also a marked difference between the lexicalized null objects of chore verbs and the INO accompanying the imperfective form of the same verbs. While the perfective verb *vyprat* 'to wash, to launder' in (440-a) can describe only a situation where Charles did the laundry, washing all the clothes that needed to be washed in that particular situation, the imperfective form in (440-b), which allows INO, can be used to describe a situation in which Charles is washing clothes as a part of doing the laundry, but it can be used just as well to describe a situation where he is just washing one of his socks in a sink.

(440)   a.   Karel   vypral___.
                Charles laundered.PF
                'Charles did the laundry.' #Charles washed some clothes / a sock / . . .'

        b.   Karel   právě pere___.
                Charles right launders.IMPF
                'Charles is doing the laundry / washing something from the category of clothes right now.'

One of the often-used tests for the lexicality of null objects is to compare nearly synonymous verbs with respect to their null-object-licensing. For example, the objectless verb *zabít* 'to kill' means to kill a person (the verb itself can take much broader range of patients, including rabbits or mosquitos). In contrast, its semantically closest counterpart, *zavraždit* 'to murder' cannot appear without an overt object.

(441)   Karel   v mládí zabil___/*zavraždil___.
          Charles in youth killed.PF/murdered.PF
          'Charles killed someone when he was young.'

In addition, the imperfective *zabíjet* 'to kill' has an idiomatic meaning 'to slaughter a pig, to make a pig-slaughtering feast'. Again, the imperfective *vraždit* 'to murder' cannot be used with this interpretation if objectless (it could be used with a regular INO interpretation though, as expected, cf. (270)).

(442) Zítra   budeme u strejdy zabíjet__/#vraždit__.
      tomorrow will   at uncle   kill.IMPF/murder.IMPF
      'We will be slaughtering a pig at my uncle's tomorrow.'

An imperfective verb that allows a LNO is *brát* 'to take'. This verb takes a multitude of different complements, but when used intransitively (and without any previous context), it only has the meaning 'to get one's wage', as exemplified in (443-a) and (443-b). When a context is added that supplies the kind of the stuff that is being taken, *bere* allows an INO as well, as in (443-c) where it could be paraphrased as 'resources', both financial and material.

(443) a. Zítra   beru__.
         tomorrow take.IMPF.1SG
         'I am getting my wage tomorrow.'

      b. Kolik   bereš__?
         how much take.IMPF.2SG
         'How much is your wage?'

      c. Karel   od   své staré matky pořád jenom bere__
         Charles from his old   mom   always only   takes.IMPF
         'Charles only takes from his old mom.'

In fact, the verb 'eat', so often discussed in the works on INO and intransitivization, allows LNO in Czech as well, in its imperfective form, in addition to a regularly behaving INO exemplified in (149). This conventionalized meaning comes up especially in the construction with the adverb *už* 'already'. The most felicitous interpretation of (444-a) is that Charles already consumed a full-fledged dinner, not that he was just eating something representing food-kind or dinners-kind. In other contexts, this interpretation can come up alongside the regular INO interpretation. For example, (444-b) could be expressed by a person surprised about seeing the addressee biting into something in the middle of a class, but it can be also pronounced by a wife in a situation where she is asking her husband whether he is going to

have a dinner after coming home from a tiring day at work.

(444)   a.   Karel   už   jedl___   (proto   s námi ne-bude obědvat).
               Charles already ate.IMPF therefore with us not-will dine
               'Charles ate already (so he won't dine with us).'

          b.   Budeš   teď jíst___?
               will.2SG now eat.IMPF
               'You will be eating now?' OR 'Will you have a dinner now?'

I bring these data up to warn specifically against using the verb *eat* as a prototypical example of an INO verb, as has been done in English. Just like in English, it does not represent the properties of the majority of intransitivized verbs (see also Martí 2011).

The examples gathered in this section show that LNO differ from INO in several respects. First, they can be found with both imperfective and perfective verbal forms.[59] Second, the descriptive content of LNO is not determined by the context in which the verb appears. Even if its overt direct objects can refer to descriptively distinct entities, LNO associated with a given verb always refers to one particular type of entities. Third, LNO never have low-scope indefinite interpretation characteristic for INO and BP&MN. They often denote semantically specific entities that are referentially linked to the subject (cf. (432-a) and (436)).

9.2.2   Definite Null Objects (DNO)

Another group of null objects that is often cited in the literature and that can be found in Czech as well are definite null objects. They are so called because they refer to unique individuals (singular or plural) that are familiar to the discourse participants. They have been sometimes called "anaphoric null objects" (as in Condoravdi and Gawron 1996), or ranked among so-called null complement anaphors, but the majority of researchers concede that they correspond to definite descriptions rather than to anaphoric pronouns (see Cote 1996, Pedersen 2011, Williams 2012 and references in 4.4.2). One of the arguments in favor

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[59]This does not mean that LNO are completely aspect-insensitive. Some transitive verbs have a lexicalized meaning associated with their stem, which can be embedded in a perfective or in an imperfective morpho-syntactic structure ((434)); other have a lexicalized meaning that is bound to a particular aspectual value ((442) or (443-a)). Exploring the interaction between the idiomatization of a null object and the syntactic level where it happens is one of the important topics for further research in this area.

of their definite, non-anaphoric interpretation is the fact that they do not have to always be co-referential with an entity in the previous discourse, but they can also refer cataphorically or be just situationally determined. In (445-a), the perfective verb *poslechnout* 'to obey' has a null object that can be interpreted either as 'mom', which appears in the previous sentence, or as 'granny' who appears in the follow-up discourse. If there is an overt pronoun instead of the DNO, as in (445-b), it can refer only anaphorically.

(445)   a.   Maminka$_i$ Karlíkovi řekla, aby nechodil na silnici. Ale on neposlechl___$_{i/j}$. Když mu babička$_j$ poručila, aby se jí držel pořád pevně za ruku, vběhl do silnice.

'Mom$_i$ told Charlie not to go on the road. But he did not obey___$_{i/j}$. When Granny$_j$ ordered him to firmly hold her hand, he ran into the road.'

   b.   Maminka$_i$ Karlíkovi řekla, aby nechodil na silnici. Ale on ji$_{i/*j}$ neposlechl. Když mu babička$_j$ poručila, aby se jí držel pořád pevně za ruku, vběhl do silnice.

'Mom$_i$ told Charlie not to go on the road. But he did not obey her$_{i/*j}$. When Granny$_j$ ordered him to firmly hold her hand, he ran into the road.'

The reference to the subsequently mentioned entity would be allowed for DNO in (445-a) even if there was no previous discourse, as the following example shows. Again, an overt pronoun does not allow this.

(446)   a.   Karlík zase neposlechl___$_j$. Když mu babička$_j$ poručila, aby se jí držel pořád pevně za ruku, vběhl do silnice.

'Charlie did not obey___$_j$ again. When Granny$_j$ ordered him to firmly hold her hand, he ran into the road.'

   b.   Karlík ji$_{i/*j}$ zase neposlechl. Když mu babička$_j$ poručila, aby se jí držel pořád pevně za ruku, vběhl do silnice.

'Charlie did not obey her$_{i/*j}$ again. When Granny$_j$ ordered him to firmly hold her hand, he ran into the road.'

DNO's contextual dependency is clearly visible also in the following example where the null object of a single perfective verb *vyhrát* 'to win' can get different interpretations according to different verbal contexts in which it is embedded.

(447)   a.   Karel vyhrál___.   ... Kupuje si stírací losy už roky.

                Charles won.   ... He has been buying scratch tickets for years.

        b.   ... Mužstvo, na které vsadil, si s domácími hravě poradilo.

                    ... The team he bet on easily beat the home team.

        c.   ... A to si ten lístek do tomboly nechtěl ani koupit.

                    ... And he didn't even want to buy the raffle ticket.

        d.   ... Jeho voliči rozjeli na facebooku neskutečnou kampaň.

                    ... His voters started an unbelievable campaign on facebook.

        e.   ... Částečně i díky tomu, že hlavní favorit závodu měl nehodu.

                    ... Partially thanks to the accident of the favorite of the race.

If there is no salient entity that the DNO could refer to, as in (448), the sentence is uninterpretable, unless the hearer accommodates the familiarity presupposition associated with DNO.

(448)   ^{C#}Karel   vyhrál___.

             Charles won.PF

             'Charles won.'

In the following example, the DNO's referent is not expressed anywhere in the text. But it is clear that DNO refers roughly to 'those who will see you dressed up', and both the speaker and the addressee have a unique contextually-determined set of individuals in mind who will represent them. (Alternatively, the following sentence could be pronounced as a generic statement about what costume makes people most surprised, in which case the null

position would count as a GNO.)

(449)   Nejvíc   překvapíš___ tím, když se   převlečeš za piráta.
        most   surprise.PF by it when REFL dress up for pirate
        'You'll surprise the most when you dress up as a pirate.'

The DNO in the next example refers to 'what Charles fired at'. This null object is somewhat peculiar in that it refers to an entity from the previous discourse, but this entity is also present only implicitly, as a part of an implicit directional PP: *Karel vystřelil (na něco)* 'Charles fired (at something)'.

(450)   Karel   vystřelil, ale ne-zasáhl___.
        Charles fired.PF but not-hit.PF
        'Charles fired but did not hit.'

One could undoubtedly come up with many more exciting examples of DNO in Czech. The purpose of this short preview is just to show that they differ from INO in two major respects: their definite interpretation and their compatibility with imperfective verbs. Note that by labeling these null objects as "definite", I don't say anything about the locus of their derivation, that is whether they are associated with individual predicates in the lexicon or whether they are the product of some systematically applying rule, like INO. I am not going to tackle that issue here, although Cote (1996) argues for the former approach. If it is right, it means that DNO are just a subgroup of LNO – distinguished from the rest by their referential properties but not by the module which brings them into existence.

9.3   Summary

In the last chapter of the thesis, I look for possible verification of the presented theory outside of the domain of transitive predicates but still inside the domain of predicates that take internal arguments, namely the domain of unaccusatives. It is shown that INO themselves cannot constitute a single argument of these "doubly intransitive" verbs, presumably because they have no φ-feature for T/Infl to agree with – and the presence of PRO_{arb} in Spec,Voice (or another φ-defficient argument), arguably required for the default agreement, is at odds with INO being the subject. On the other hand, the behavior of indefinite BP&MN

as subjects of unaccusative predicates, namely the preserved discrepancy between them and perfective marking on a verb, dovetails into the proposal I made in the previous chapter about their inability to check the quantificational feature of Asp_Q. Given that unaccusatives are characterized by not having an external argument (Burzio 1986, a.o.), the behavior of BP&MN specifically supports any theory that locates the source of the discrepancy in the low projections of the verbal functional sequence, before Voice is introduced.

To prevent occasional confusion of INO with other types of null objects, I briefly recap the main characteristics of two other types of null objects found in Czech, definite null objects and lexicalized null objects, bringing forward possible topics for future research in this area.

Chapter 10

Conclusion

One of the goals of this thesis was to utilize the data from a language with rich inflection to verify whether the existing theories of null objects, formulated mostly in the 1980s and 1990s uphold in the current minimalist framework; a related goal was to find out whether more recent research in both (morpho)syntax and semantics could bring some evolution into null objects' analysis. Two particular theoretical shifts are proposed and argued for. Generic null objects, analyzed since Rizzi 1986 as null arbitrary pronouns with syntactic features like gender, number, case, and semantic features [+human] and [+generic], are reanalyzed as bare syntactic nodes, carrying just the categorial feature n and the gender feature. The conjunction of the nominalizer n and the gender feature is not something specific to GNO but something typical for all nouns in gender-marking languages (see references in 3.1.2), so no extra assumptions needed to be made in this respect. What makes GNO different from overt nouns is that they do not have other layers of the nominal functional sequence, namely the category of number and the category of determiner. I argue that the missing NumP is what prevents GNO from being case-marked / projecting KaseP in Czech. In addition to simplifying GNO's syntax, I dispense with both semantic features posited for GNO as primitives by Rizzi. GNO's humanness is argued to follow from the meaning of an interpretable gender feature on n, namely from the property Persona restricting the individual variable introduced in the n-head. GNO's genericity is a result of this variable being bound by the modal-like generic operator GEN. However, the same n-node with the same Persona semantics can also give rise to substantivized adjectives, in which case the presence of GEN is not needed to license it.

Most of my research has been carried on the data from Czech, but I assume that its results are transferrable to other languages where GNO display equivalent properties. Two languages come to mind in particular, Italian and French, covered in Rizzi's and Authier's

studies on GNO. Note that just like in French and Italian, Czech GNO can participate in control, reflexive binding, and secondary predication (as shown in 2.2). Even though the participation in these constructions is taken by Landau (2010) as evidence for the presence of a D-head in GNO's syntactic structure, I show that if we take seriously the research on semantics of kinds and generics (such as Chierchia 1998 and Dayal 2004), the postulation of a D-layer is not necessary for these nominal arguments. Of course, if other independent evidence comes up, supporting the D- and Num-projection inside GNO in a given language, the theory of GNO proposed here would have to be modified accordingly. I am not aware of any such evidence in Czech, but it was not in the scope of this thesis to verify its existence in other languages.

The second shift in theory that I argue for is that the derivation of indefinite null objects traditionally associated with various transitive predicates in the lexicon should be replaced by their systematic derivation in syntax, by a rule of existential closure associated with the verbalizing, eventivity-introducing node v. The rule has the form $\exists \rightsquigarrow \lambda T_{\langle e, vt \rangle} \lambda e_{\langle v \rangle} \exists x \ [T(x)(e)]$, which ensures that it applies only to v+root mergers that denote an unsaturated transitive predicate of events. I call this type-shifting mechanism intransitivization. In order to prevent it from over-generating, I examined a range of contexts where intransitivization is allowed, and I distinguished verbs that allow it "on their own" from verbs that need more information from the context about the definitory property of the omitted argument to allow it. I proposed that intransitivization carries the presupposition that the kind instantiated by the existentially quantified individual variable is contextually known or pragmatically inferrable.

The proposed mechanism for INO derivation is minimalist in that it provides a single, principled rule instead of repeating the same ∃-quantifying operation for each predicate in the lexicon that allows it, and then specifying for each of these predicates under which conditions it is allowed to apply. Moreover, there already exists a parallel to the proposed intransitivization rule in the ∃-closing type-shifter that derives the low-scope indefinite interpretation of bare plurals and mass nouns (Chierchia 1998). However, the economy of INO derivation is not the only rationale I provide in support of syntactically triggered intransitivization. In the third chapter of the dissertation, I argue that it also helps us

understand the long-standing issue of the incompatibility of INO with perfective verbs in Czech (and with telic predicates in English). After examining different syntactico-semantic types of nominal arguments in the role of direct objects of perfective verbs, I argue that they have to move from their base-generated position in Spec,v into the specifier of the aspectual projection Spec,AspQ that selects for a vP in the extended verbal projection. Since INO are not present in syntax as independent arguments (for which I provide support in Section 4.3), they cannot undergo this movement and satisfy the EPP-like feature on AspQ. I note that the same explanation would not work in the case of lexicon-specified intransitivization since many perfective verbal stems which do not allow INO in their basic, underived form, do allow INO when the so-called secondary imperfectives are derived from them by suffixation. (That the derivation of secondary imperfectives is a regular morphosyntactic process has been established before, especially in the works of Tromsø linguistic group summarized in 5.3.1). Finally, I show where my proposal extends to English (and possibly to other languages) and I offer an explanation for the lower productivity of INO in English, based on the peculiarities of the first-phase syntax of English resultative verbs.

Overall, this work shows that even though INO are not syntactic arguments themselves, we can explain a number of generalizations about their behavior if we rely on the syntactic properties of the functional sequence and its compositional semantics. And the same approach saves us from making unnecessary stipulations also in the case of syntactically more active GNO.

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