

ON THE SYNTAX OF MISSING OBJECTS

*A Study with Special Reference to English,
Polish, and Hungarian*

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Abbreviations

∅	missing object (pre-theoretical marking)
1	first person
1S.SG.2O	first-person singular subject & second-person object
2	second person
2O	second-person object
3	third person
ACC	accusative case
ADJ	adjective
ADN	adnominal
ADV	adverb
C	complementiser
CL	clitic
COND	conditional mood

COP	copula
DECL	declarative marker
DEF	definite/objective conjugation
ELAT	elative case
F	feminine gender
IMPRSNL	impersonal verb form
IMPER	imperative verb form
INDEF	indefinite/subjective conjugation
INSTR	instrumental case
LV	light verb
MOD	modifier
N	neuter gender
NEG	negation
PERF	perfective aspect
PL	plural number
POSS	possessive marker
PRED	marker of predication
PREF	prefix
PRES	present tense

PROG	progressive marker
PRT	particle
PV	preverb
SE	verbal/voice-related marker
SG	singular number
SUBL	sublative case
SUBJU	subjunctive mood
TOP	topic
VOC	vocative case

CORPORA:

BNC	British National Corpus
Brown	Brown University Standard Corpus of Present-Day American English
NKJP	Narodowy Korpus Języka Polskiego [National Corpus of Polish]

The glosses and the marking of missing objects in the examples from the linguistics sources have been modified in accordance with the conventions adopted here. Glosses and translations of examples from non-English sources are mine. Unless the sources of the examples and acceptability judgments are given in the text, the examples are constructed and their acceptability has been checked with native-speaker informants, as indicated in the footnotes throughout the text.

Introduction

In structures with missing/null/implicit objects, the information provided by the phonetic form of a sentence does not correspond to the selectional requirements of the verb whose internal argument cannot be identified in the overt string, but is strongly implied (e.g. *I am reading \emptyset* implies *I am reading stuff*). In this work, I explore aspects of structures with missing direct objects, focusing on their syntax and some interactions between syntax and the lexicon, syntax and semantics, and syntax and morphology. The discussion here is limited to structures with verbs which select for nominal ($\langle e \rangle$ -type) objects. Other types of objects pose numerous additional questions which still await resolving in theoretical research even when the object is overt. Only accusative objects are included here to eliminate the potential influence of the syntax and semantics of oblique case on object drop, which constitutes an interesting topic for further research.

In the theoretical analysis which I develop here, I aim at contributing to the on-going inquiry into the derivation of structures with missing objects and into

the parameters of variation in this area. This is a necessary step in deepening our understanding of the phenomenon of null arguments in natural language grammar. The main hypothesis which I offer here is that missing objects are represented in the syntax minimally as the nominalising head *n* and maximally as full pronouns. I treat cross-linguistic variation and similarities observed with respect to the constraints on missing objects as resulting from an interplay between the language-specific lexical specifications of the *n* heads and their language-internal morphosyntactic realisation, as well as from the mechanisms of interpretation of argumental phrases available in different languages.

The discussion of the empirical material pertains mainly to English (Indo-European, West Germanic), Polish (Indo-European, Slavic), and Hungarian (Uralic, Finno-Ugric), in the hope that comparing and contrasting these languages can be conducive to isolating some features of the grammar which regulate the availability of missing objects in natural language. The data come from linguistic literature, from corpora, and from native-speaker judgments of constructed examples. The judgments of the Polish examples are primarily mine, but have been checked with other native speakers. I have gathered the judgments of examples from other languages studied here over the past couple of years, consulting different speakers at different times. I provide the relevant information in footnotes accompanying the examples.

Comparing and contrasting English, Polish, and Hungarian

Different languages impose different restrictions on the use of missing objects. At the same time, data from language acquisition have been taken to suggest that the non-realisation of an object is an option widely available at least in early stages of language development, even when the adult language severely restricts object drop (see, e.g., Pérez-Leroux, Pirvulescu & Roberge 2008; Pérez-Leroux, Pirvulescu, Roberge & Castilla 2013). Thus, comparing and contrasting how typologically different languages restrict object drop can not only provide important indicators about the nature of missing objects, but it can also help deduce the relevant components of the initial state. Investigating what features of the grammar contribute to restricting object drop in particular languages and what features of the grammar can help bypass these restrictions is a crucial step towards developing theories of argument drop. Proper understanding of both the licensing and the blocking factors is necessary if theories of missing objects are to be complete.

Due to numerous differences in the grammatical systems of English, Polish, and Hungarian crosscutting at various points relevant to argument realisation, these languages provide interesting material for the present research goal. For example, both English and Hungarian have articles, indicating that their referen-

tial arguments typically project DP structures. On the other hand, Polish lacks articles, making the hypothesis that referential arguments need not be DPs worth entertaining (see, a.o., Corver 1990; Chierchia 1998; Willim 2000; Bošković 2008, 2012 and references therein). Furthermore, Polish, but not English and Hungarian, is a language with a grammatical gender system, and Hungarian, but not English and Polish, has a conjugational system sensitive to the presence and the features of the object. The variety of environments in which object drop is available and restricted in these languages is a function of the combination of the components of the initial state and the differences in the individual adult grammars. Investigating the relevant points of variation and similarity can thus not only inform theories of missing objects, but it also has the potential to contribute to theories of linguistic variation in general.

Structure of the current work

This book consists of two parts. Part 1 offers a novel theoretical contribution, focusing on the theory of the representation of missing objects in the context of linguistic variation. Part 2 is driven by the need to systematise the highly complex set of empirical facts and analytical approaches scattered in the literature over the past decades and emerging from some new corpus data.

The empirical picture of object drop in Hungarian which emerges from the literature provides a solid basis for its theoretical analysis. It is clear that Hungarian makes available both non-anaphoric and anaphoric indefinite and definite missing objects. The property of object drop in Hungarian which is most relevant to syntactic analyses is the restriction on definite object drop imposed by the number (and person) feature of the object. In particular, third-person definite objects can be dropped in Hungarian only when they are singular. To add to the mystery, first-person and second-person objects can be dropped both when they are singular and when they are plural, even though the judgments are somewhat degraded in the latter case. Accounting for these asymmetries forms a significant component of the theoretical approach to object drop which I develop in part 1, especially in chapter 3. In brief, I propose there that the facts follow from the internal structure of pronominal projections in Hungarian and from the way in which heads of these projections are interpreted at the syntax-morphology (SM) interface.

The picture of the availability of missing objects in English and Polish is somewhat less clear than in Hungarian. This pertains to definite objects, as well as to factors influencing unspecified object drop, such as rich specification of the manner in which an action is performed. The corpus data gathered for the purpose of this study show that anaphoric object drop is productive also in English

and Polish and that non-anaphoric objects have a wider spectrum of possible interpretations than has so far frequently been taken to be the case. Unlike what could be expected based on some previous studies, rich manner specification contributes to restricting rather than to licensing unspecified object drop. I capture this observation with the generalisation in (1) in section 1.2 of chapter 1.

- (1) *Manner specification generalisation* [parametrisable]

If a verb makes object drop available, its near synonym with a more specific manner component tends to block it.

In addition to contradicting some intuitions presented in the literature on the licensing of indefinite missing objects, data leading to the generalisation in (1) show that the influence of rich manner specification, familiar from its effects on grammatical processes such as *that*-deletion, is also relevant to object drop.

Discussing the empirical facts in part 1 and 2, I also show that definite missing objects are more flexible than overt pronouns in terms of interpretation both in English and in Polish, even though this is not so in Hungarian. I take this observation into consideration in the theoretical analysis in part 1. I propose that definite missing objects in Hungarian are composed with the same interpretable heads as overt pronouns, but such objects are structurally smaller than overt pronouns

in English and Polish. Definite interpretation of the missing object is achieved via mediation of the D head in Hungarian, but it results from the application of the type-shifting ι operation in the semantics in English and Polish. The main purpose of part 1 of the book is to offer a novel theory of the representation of missing objects. This includes not only definite object drop, which I discuss in detail in chapter 3, but also indefinite object drop. As indefinite missing objects behave in parallel in English, Polish, and Hungarian, I offer a uniform analysis of indefinite object drop in the three languages in chapter 2. The syntactic representation which I postulate for these objects is n , where n is a nominalising head which is not accompanied by a root. I take this head to have a denotation of type $\langle e, t \rangle$ and to be interpreted in this context via the same mechanism which is used for interpretation of bare mass nouns. I support this proposal with the observation that indefinite missing objects and bare mass nouns share two important interpretive properties: they do not impose restrictions on the numerosity of the entities in their extension and they always take narrow scope (in English). Before I provide a detailed discussion of this part of the analysis of missing objects in chapter 2, in chapter 1 I outline some background assumptions and more general motivations for the type of analysis which I offer.

Although the empirical focus here is on English, Polish, and Hungarian, my larger goal is to provide a framework for deriving cross-linguistic and intra-

linguistic variation in the domain of object drop. I hypothesise that variation of this type follows, first and foremost, from the association of heads in the extended nominal projection with phonemic features and from the system of interpretation of nominal phrases in a language. Both of these components are available to the child in primary linguistic data, which means that no additional elements need to be introduced to the theory of UG to account specifically for facts related to missing arguments. I discuss such broader issues of language variation and language acquisition in the concluding chapter.

Drawing on selected previous literature as well as on data from linguistic corpora, part 2 discusses various additional aspects of missing objects. The main aim is to clarify what has been learned so far and to provide some critical background on the broader spectrum of issues and analyses discussed in the literature on the topic, which are not of primary importance to the proposal developed in part 1, but which can serve as a basis for future studies. This part includes two chapters. Chapter 4 is concerned with the features of the object which are most salient in distinguishing the basic types of missing objects, namely their anaphoricity and definiteness. I also discuss here different types of approaches to the analysis of structures with missing objects, including analyses taking these structures to be intransitive, analyses postulating the syntactic projection of the object, and the approach equating these structures with antipassives.

In chapter 5, the discussion shifts to the influence of some features of the verb and the predicate/sentence on object drop. This includes verbal selectional restrictions, the manner and result components of verb meaning, as well as issues related to the interaction of object drop with *aktionsart*, telicity, and grammatical aspect. In this chapter, I also consider additional features of the syntactic, semantic, and pragmatic environment which license missing objects, including habituality, genericity, iterativity, and factors such as contrast. The purpose of reviewing these broader properties of structures with missing objects is to provide a comprehensive description of the phenomenon and a critical assessment of some previous analytical ideas, with a view to facilitating further linguistic variation research and theoretical debate.

Part I

A Theory of Missing Objects

Chapter 1

Missing objects in English, Polish, and Hungarian: developing a theoretical analysis

In part 1 of this work, I offer a novel analysis of indefinite and definite missing objects, with a view to accounting for data from English, Polish, and Hungarian and for the variation among these languages. At the same time, I explicate how this analysis can be applied to other languages to derive variation observed in the domain of argument drop. I begin in the present chapter by discussing some general issues. In section 1.1, I first provide a brief overview of some influential analyses of argument drop proposed earlier. I also present arguments against

adopting these analyses for the present purpose and argue for a novel approach. In section 1.2, I then focus on the hypothesis that at least with respect to English, the availability of object drop has to be encoded in verbal lexical entries. I agree that this approach seems to be well-motivated for definite missing objects, but I disagree that it is viable for indefinite missing objects. I discuss this issue in relation to rich specification of the manner of action in verbal meaning, offering a generalisation that rich manner specification tends to block object drop in the more specific of two nearly synonymous verbs.

In section 1.3, I move to presenting an overview of the data which guide the analysis in chapters 2 and 3. I conclude that: (a) indefinite object drop in English, Polish, and Hungarian involves the same mechanism; (b) specialised interpretations available with non-anaphoric missing objects should be accounted for within the domain of pragmatics and world knowledge; (c) the obligatory narrow scope of indefinite missing objects is not a strong argument for treating them as involving intransitive structures; (d) definite object drop involves different derivational paths in different languages; (e) as definite missing objects can participate in variable binding, they need to be analysed as involving transitive verbs; (f) definite missing objects and overt pronouns are not represented in the same way in English and Polish.

In section 1.4, I summarise some basic assumptions and features of the analy-

sis, elaborating on the aspects of the current grammatical theory within the minimalist framework on which I build. A more detailed discussion of indefinite missing objects is then offered in chapter 2, which is followed by a discussion of definite missing objects in chapter 3.

1.1 Modelling missing objects: previous approaches

In the chapters which follow, I focus on modelling the syntax of structures with missing objects, with some relevant discussion of the lexical components of verb meaning and the issues that arise as a result at the interfaces between syntax and semantics and syntax and morphology. The approach which I offer here has as one of its main goals an account of the observed cross-linguistic variation while not adding complexity to the theory of UG. Parsimony and simplicity are the overarching methodological principles that constrain syntactic theorising. This is why the analysis utilises elements of grammatical theory which have been posited on independent grounds and is not based on special null lexical items and special licensing conditions.

Several analytical options have been explored in the literature aiming to account for various types of structures with missing objects in different languages. These options include the types of analyses listed below, where I also provide

arguments why I do not adopt them in the present work.¹

1.1.1 *Structures with missing objects are unergative*

This approach, illustrated with (1) below, applies to non-anaphoric/indefinite objects (see, e.g., Bresnan 1978; Fodor & Fodor 1980; Jackendoff 1990).

- (1) I drank_[INTR].

Treating structures of this type as unergative accounts for the obligatory narrow scope of the object. In particular, even though the quantifier *something* and indefinite noun phrases can sometimes take wide scope with respect to quantifiers merged higher in the structure, indefinite missing objects are restricted to narrow-scope readings, as shown in (2) from Fodor & Fodor (1980:759) and in (3) from Williams (2015:105).

- (2) a. Everybody ate something.
b. Everybody ate \emptyset .
- (3) a. Every boy stole a book from exactly three girls.
b. Exactly three students baked \emptyset this morning.

¹Most of the proposals listed in sections 1.1.1–1.1.9 have been put forward to account for data from languages other than English and the examples in (1)–(31) are used only for the purpose of illustration.

In (2), only the (a) example allows the wide-scope reading of *something*, while (2b) does not entail that there was some specific thing *x* such that everyone ate *x*. Similarly, (3a) has the interpretation on which the indefinite *exactly three girls* scopes over the quantifier *every boy*, but (3b) cannot be interpreted to mean that there is some specific thing *x* such that *x* was baked by exactly three students.

Even though the scopal facts have been used to support the intransitive approach to the structure with missing objects (see esp. Bresnan 1978; Fodor & Fodor 1980), the data are also amenable to a different interpretation. In particular, as pointed out in Carlson (1977:15–21), overt bare plurals in English can only take narrow scope, differing in this way from both singular and plural indefinites (see also Dayal 2011 for a discussion):

- (4) Miles wants to meet a/some/sm policeman.

CAN MEAN: $(\exists x)(\text{Policeman}(x) \ \& \ \text{Miles want}(\text{Miles meet } x))$

CAN MEAN: Miles want $((\exists x)(\text{Policeman}(x) \ \& \ \text{Miles meet } x))$

- (5) Miles wants to meet policemen.

CANNOT MEAN: $(\exists x)(\text{Policemen}(x) \ \& \ \text{Miles want}(\text{Miles meet } x))$

CAN MEAN: Miles want $((\exists x)(\text{Policemen}(x) \ \& \ \text{Miles meet } x))$

Parallel facts hold of other contexts, such as negated statements, as illustrated in

(6), quoted here after Dayal (2011:1089).

- (6) Miles didn't see policemen/a policeman/some policemen.

Mass nouns share this property with bare plurals (Carlson 1977:462–464), as shown in (7), for which my informants can access only the narrow-scope reading of *whisky*.²

- (7) Miles didn't drink/always drinks whisky.

This interpretive property of bare plurals and mass nouns cannot plausibly be taken to imply that whenever a bare plural or a mass noun is used as an object, the verb is in fact intransitive. Thus, even though an intransitive analysis is sufficient to capture the scopal facts related to missing objects, another option to pursue is to assume that the unpronounced internal argument shares a certain property with bare plurals and mass nouns and it is this property which is responsible for the scopal behaviour of all three kinds of nominal elements.

An additional point of relevance is that the unergative analysis requires either lexical ambiguity (transitive and intransitive lexemes) or an (in)transitivisation operation whose output is a lexeme with reduced valence or increased valence,

²Thanks go to Jeffrey Green, William Matchin, and Laurel Perkins for providing me with the judgments regarding this example.

depending on whether the transitive or the intransitive variant is considered basic. Additional mechanisms should be added to the theory only if the available mechanisms cannot derive the relevant data. The aim of chapter 2 is to show that indefinite object drop can receive an adequate account if structures with object drop are both semantically and syntactically transitive.

1.1.2 Missing objects are null variables bound by a null topic

The example in (8), based on Huang (1982, 1984), illustrates the approach which takes the missing object to be a variable (see also Raposo 1986 for a modification).

- (8) [Top \emptyset_i] I drank \emptyset_i .

This analysis accounts for the interpretation of definite objects and for their island sensitivity in languages such as European Portuguese (Raposo 1986). However, object drop in English, Polish, and Hungarian is not sensitive to islands, as (9)–(13) demonstrate.³

- (9) [That Ann didn't call \emptyset today] is rather weird.

³Thanks go to Gergő Turi for providing me with the Hungarian data.

(10) *Complex NP island: wh-extraction unacceptable*

*Co znasz [naukowca, który wynalazł eø]?
what-ACC know-2SG scientist who invented what-ACC
'What do you know the scientist who invented?' [Polish]

(11) *Complex NP island: missing object acceptable*

A: Sama zebrałaś te jagody w lesie?
alone picked-2SG.F these blueberries-ACC in forest
'Have you picked these blueberries in the forest on your own?'

B: Nie, spotkałam na targu [faceta, który mi (je)
no met-1SG.F on market guy who me-DAT them
sprzedał].
sold-3SG.M
'No, I met a guy who sold them to me at the market.' [Polish]

(12) *Complex NP island: wh-extraction unacceptable*

*Mit ismered [a tudóst, aki feltalálta mit]?
what-ACC know-2SG.DEF the scientist who invented what-ACC
'What do you know the scientist who invented?' [Hungarian]

(13) *Complex NP island: missing object acceptable*

A: Találkoztál már a Rubik-kocka feltalálójával?
met-2SG already the Rubik's.cube inventor-INSTR
'Have you ever met the inventor of the Rubik's cube?'

B: Nem, de ismerek [valakit, aki tegnap
no but know-1SG.INDEF someone who yesterday
látta (őt)].
saw-3SG.DEF him
'No, but I know someone, who saw him yesterday.' [Hungarian]

This suggests that an analysis based on a (GB-theoretic) variable/movement is inadequate for accounting for the data of greatest interest here.

1.1.3 Missing objects are null pronouns linked to a projection in the left periphery

Sigurðsson (2011) proposes an approach in accordance with which missing objects can be null pronouns linked to the topic/speaker/hearer projection in the left periphery of CP under Agree if no overt element intervenes. An illustration is provided in (14), where {CL_n} stands for C/edge linkers, for example, the speaker, hearer, and topic heads.

- (14) a. *V2 Germanic; overt elements present in the C domain*
[CP...{CL_n}...ø_i-drank...[TP t_i...
b. *Mandarin; no overt elements present in the C domain*
[CP...{CL_n}...[TP...[vP ø...

This analysis has been developed specifically to account for topic drop in languages such as Icelandic, where topical elements, including objects, can be null on condition that there is no overt element in Spec,C, making this position available to the null element (see (14a)). Object drop in English, Polish, and Hungarian is not constrained in this way (e.g. *When did you call ø?*). Another way for a

language to have definite missing arguments on Sigurðsson's proposal is to lack lexical C elements. Sigurðsson takes this to be the case in Mandarin. In this case the null argument does not need to move to the C domain to successfully match {CLn}, as (14b) illustrates. Having lexical C items (e.g. *that/ze/hogy*), the three languages discussed here do not fulfil this requirement either.

1.1.4 *Missing objects are pro*

The example in (15) shows a missing object represented as *pro* (cf., e.g., Rizzi 1986; Farkas 1987; Cummins & Roberge 2005).

(15) I drank *pro*.

As *pro* has the features [\pm anaphoric] and [\pm pronominal] in its matrix, this analysis is unavailable outside GB, as discussed in Sigurðsson (2011). Additionally, it is unclear what identification conditions on *pro* could derive the facts of interest here. For example, within the system proposed in Rizzi (1986), *pro* can be identified by rich inflection or can be assigned the index *arb*. In such a case it is necessarily interpreted as arbitrary and as human. The former is not an option in languages lacking object-verb agreement. The latter cannot account for cases of definite object drop and for indefinite objects which are not interpreted as human.

Furthermore, adopting the *pro*-based approach would be problematic in the

light of the fact that missing objects discussed here are not exactly parallel to overt pronouns in terms of interpretation. For example, definite missing objects seem to differ from pronouns with respect to the Principle B effect, as (16), adapted from Cote (1996:126–127), illustrates.

- (16) A: Did Mary get in trouble at school yesterday?
- B: Yes, I saw her today and she said that it was terrible. She said that usually her teacher talks to her about problems with other students but that that evening...
- a. *he called her_i about her_i.
- b. he called ø_i about her_i.

Similarly, Pedersen (2011:167) notes that in examples such as (17) focus can ameliorate Principle B violation for the missing object completely, but not for the overt pronoun.

- (17) Everyone seems to be calling John to congratulate him on his new baby.
- a. ?Mary called him, Sue called him, and I think that even HE called him.
- b. Mary called ø, Sue called ø, and I think that even HE called ø.

Missing objects in English are thus more flexible than pronouns as far as the interpretive mechanisms are concerned. This has also been observed for sentences with the verb *win*. Whereas the overt pronominal object is interpreted with reference to a salient entity even when it is not suitable in a given context, a missing object invites some effort on the part of the addressee to arrive at a suitable interpretation. Williams (2012:137) illustrates this observation with the following context, where (18a) is likely to trigger a response such as (18b), but where (18c) is more likely to be followed by (18d):

- (18) a. I went to the faculty meeting and won it.
 b. How do you win a meeting?!
 c. I went to the faculty meeting and won \emptyset .
 d. Do you play some sort of game at your meetings?

The corpus example in (19), featuring three missing objects, illustrates this effect for Polish.⁴

- (19) Przez chwilę rozglądam się w poszukiwaniu kogoś,
 over moment look.around-1SG SE in searching someone-GEN
 kto gada przez telefon. Jakbym znalazł \emptyset , to
 who talks over phone if-COND.1SG found PRT

⁴The Polish corpus data gathered for the purpose of this study come from the manually-annotated million-word subcorpus of the National Corpus of Polish (NKJP; Przepiórkowski, Bańko, Górski & Lewandowska-Tomaszczyk 2012).

chybabym zarekwirował ø. Ale nie widzę ø, więc
 probably-COND.1SG commandeer but not see-1SG so
 wpadam na pomysł, by zresetować swój telefon.
 fall-1SG on idea to reset self's phone
 'I'm looking around for a moment in search for someone who's speak-
 ing over a phone. If I found someone, I would probably commandeer
 it. But I don't see anyone, so I come up with the idea to reset my
 phone.'

[NKJP]

In this sequence the first and the third missing object is interpreted as someone with a phone based on preceding discourse, but the second missing object is interpreted as a phone. This shows that anaphoric null objects do not need to be interpreted with reference to an established topic and need not continue to have the same interpretation when appearing in a sequence.⁵ In this respect, missing objects are again more flexible in terms of interpretation than overt pronominals. The sentence sequence in (20), where the missing objects are substituted with pronominal clitics, is not well formed. The second pronominal clitic, that is the object of the verb *commandeer*, needs to be interpreted here in the same way as the preceding clitic, that is as a person with a phone, an unlikely scenario.

⁵This suggests that the mechanisms proposed for the interpretation of null arguments within the cartographic approach, for example, in Frascarelli (2007) and Sigurðsson (2011), which rely on a matching relation between the null argument and a topic in the left periphery of the clause, cannot account for the present data. See also Pinto (2013) for a discussion of some Italian data with null subjects which seem problematic for Frascarelli's approach.

- (20) Przez chwilę rozglądam się w poszukiwaniu kogoś,
 over moment look.around-1SG SE in searching someone-GEN
 kto gada przez telefon. Jakbym go znalazł, to
 who talks over phone if-COND.1SG him-CL found PRT
 chybabym #go zarekwiował. Ale go nie widzę,
 probably-COND.1SG him-CL commandeer but him-CL not see-1SG
 więc wpadam na pomysł, by zresetować swój telefon.
 so fall-1SG on idea to reset self's phone
 'I am looking around for a moment in search for someone who speaks
 on a phone. If I found someone, I would probably commandeer him.
 But I don't see anyone, so I have the idea to reset my phone.' [Polish]

Since the only difference between *pro* and overt pronouns predicted within the GB-theoretic model is in realisation at the level of the sound system, it is unclear how the interpretive differences could be accounted for within the approach taking missing objects to be represented as *pro*.⁶

⁶A classic example of interpretive differences between *pro* and overt pronouns comes from Montalbetti (1984:26):

- (i) a. Nadie_i cree que él_j es inteligente.
 'Nobody_i believes that he_j is intelligent'
 b. Nadie_i cree que *pro*_j es inteligente. [Spanish]

Whereas (ia) is unacceptable when $i=j$, in (ib) this interpretation is available. However, in this case, reference to overtness in its own right does not seem sufficient to explain the data, as stressing an overt pronoun can make the bound variable interpretation available (Montalbetti 1984:128, footnote 9). To the best of my knowledge, these data are still to be accounted for.

1.1.5 *Missing objects are deleted full NPs/DPs*

This type of analysis, illustrated in (21), has been adopted, among others, in Oku (1998); Saito (2007); Şener & Takahashi (2010); Duguine (2014).

- (21) I drank [~~NP the~~ whisky].

Even though there might be contexts where an analysis along these lines is plausible, merging a full argument in the structure in all cases of null arguments only to delete it does not seem to be an optimal solution in terms of the economy of derivations. It seems particularly unlikely that this analysis could account for unspecified object drop, as ellipsis seems to require an antecedent to be licensed, as shown in Hankamer & Sag (1976). Furthermore, in Hungarian third-person plural definite objects cannot be dropped, in contrast to third-person singular objects, as (22)–(23), adapted from Farkas & de Swart (2003:135–137), shows.

- (22) a. János_i vizsgált egy beteget_j.
János examined a patient-ACC
'János examined a patient.'
- b. *pro*_i Túlsúlyosnak találta ø_j.
too.overweight-DAT found
'He found him overweight.'
- [Hungarian]

- (23) a. János_i vizsgált valami beteget_j.
 János examined some patients-ACC
 ‘János examined some patients.’
- b. *pro*_i Túlsúlyosnak találta őket/ **ø*_j.
 too.overweight-DAT found them-ACC
 ‘He found them overweight.’ [Hungarian]

On the approach taking the missing object to be a deleted DP, it is unclear why the deletion operation should be sensitive to the number and person features of the DP which it targets.

1.1.6 *Missing objects are inside deleted VPs in verb-standing VP ellipsis*

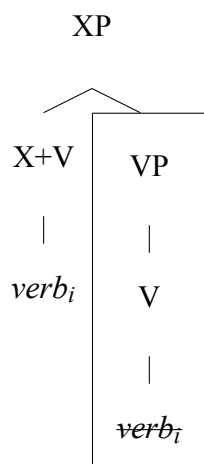
Analyses of this type, illustrated in (24), have been proposed with reference to various languages, for example, in Doron (1990); Huang (1991); McCloskey (1991); Otani & Whitman (1991); Cyrino & Matos (2002); Goldberg (2005); Cyrino & Lopes (2012); Lipták (2012, 2013); Gribanova (2013a,b).

- (24) I drank [_{VP} drank the whisky].

Verb-stranding VP ellipsis can in principle be available when the verb moves to higher functional heads in the extended verbal projection, as schematised in (25).⁷

⁷The elided part of the representation is placed in a box here.

- (25) [XP X + V_{verbi} [VP V_{verbi}]]



This approach has been inspired by some analogies between structures in which the object is null but the lexical verb is overt and VP ellipsis in English. For example, Huang (1991:64) suggests that the function performed by the repeated verb in the verb-stranding structure in Mandarin is similar to the function of *do*-support in English. Both serve to express tense/aspect/agreement in the elliptical clause:

- (26) John kanjian-le tade mama, Mary ye kanjian-le.
 John see-PERF his mother Mary also see-PERF
 ‘John saw his mother, and Mary did, too.’ [Mandarin]

Even though analysing missing objects via the mechanism of verb-stranding VP ellipsis is not viable for English, where the lexical verb is not taken to move

beyond VP (see Chomsky 1957; Emonds 1976), certain contexts lacking an overt object have been analysed in this way in Hungarian and Polish.⁸ These contexts involve the focusing of polarity, which triggers the movement of the verb beyond VP (e.g. to the polarity-related head Σ (Laka 1990)).⁹ These contexts include replies to polar (*Yes/No*) questions, verbal reactions to commands, contexts in which an assertion is confirmed or reversed, and sentences involving polar contrast.¹⁰ I illustrate the first context in (27) from Lipták (2013:73) for Hungarian

⁸One exception with respect to English is constituted by the possessive *have* in the British variety, as illustrated in (i) from Thoms (2010:6). In American English, the possessive *have* does not move to T and verb-stranding VP ellipsis is not available, as (ii) shows.

- (i) a. I haven't any money left.
b. Rab has a copy of *Lolita*, and Morag has, too. [British English]
- (ii) a. *I haven't any money left.
b. *Rab has a copy of *Lolita*, and Morag has, too. [American English]

⁹For discussions of verb-stranding VP ellipsis in polarity-related contexts in Capeverdean see Costa, Martins & Pratas (2012), for Hungarian see Lipták (2012, 2013), for European Portuguese, Brazilian Portuguese, Spanish, Catalan, and Galician see Martins (2006, 2007, 2013), and for Polish see Ruda (2013a,b, 2014c).

¹⁰Additionally, verb-doubling contexts as in (i) have been analysed in terms of verb-stranding VP ellipsis, for example, coupled with some mechanism making possible the pronunciation of two copies of the verb (for discussions, see Abels 2001; Nunes 2004; Landau 2006; Martins 2006, 2007, 2013; Vicente 2007; Aboh & Dyakonova 2009; Bondaruk 2009, 2012; Trinh 2009; Cheng & Vicente 2013; Ruda 2013b).

- (i) *Emphatic affirmation*
- A: Nauczyciel nie odczyta twojego pisma.
teacher-NOM not decipher-3SG your handwriting-GEN
'The teacher won't decipher your handwriting.'
- B: Odczyta \emptyset , odczyta \emptyset .
decipher-3SG decipher-3SG
'He definitely will.'
- [Polish]

and in (28) for Polish.

- (27) A: János meg hívta a szomszédokat?
János PV invited the neighbours-ACC
'Did János invite the neighbours?'
- B: Igen, meg hívta ø.
yes PV invited
'Yes, he did.'
- [Hungarian]
- (28) A: Jan zaprosił sąsiadów?
Jan invited neighbours-ACC
'Did Jan invite the neighbours?'
- B: Tak, zaprosił ø.
yes invited
'Yes, he did.'
- [Polish]

As the focus of the analytical part of this work is on contexts with genuine object drop, I do not discuss verb-stranding VP ellipsis in great detail here. What is important for the present purpose is that only some structures which can descriptively be classified as constructions with missing objects are analysable as VP

(ii) *V(P) topicalisation*

- A: Wysłałeś to pismo?
sent-2SG.F this document-ACC
'Did you send the document?'
- B: Wysłać ø, wysłałam ø, ale czy dojdzie na czas, to nie mam pojęcia.
send-INF sent-1SG.F but if arrive-3SG on time PRT not have-1SG idea
'As for sending it, I did send it, but I don't have a clue if it arrives on time.'
- [Polish]

ellipsis in Hungarian and Polish.¹¹ The reason for this is that object drop in these languages is available in contexts which are not predicted to license VP ellipsis, such as contexts where the lexical material in the antecedent and the would-be ellipsis site differs (including, e.g., different verbs) and contexts in which there is no possible linguistic antecedent for the elliptical phrase, as examples throughout this work show. What is more, VP ellipsis is not predicted to be sensitive to the properties of the object such as the value of the number feature. In (27) the elliptical object is plural, but this is impossible in neutral contexts in Hungarian (see (23) above). The contexts in which only singular objects can be dropped in Hungarian are clear indicators that a different mechanism of deriving object drop in this language is needed in addition to VP ellipsis. I thus analyse contexts without focused polarity in Hungarian and Polish here in terms of genuine object drop.¹²

1.1.7 Missing objects are the feature complex $\{[D], [\varphi]\}$ or $\{[\varphi]\}$

Landau (2010) distinguishes between strong implicit arguments, represented as $\{[D], [\varphi]\}$, and weak implicit argument, represented as $\{[\varphi]\}$, where $\{[\varphi]\}$ is the set of the features of person and number (see (29)).

¹¹See also Raposo (1986), who suggests that European Portuguese has both verb-stranding VP ellipsis and definite object drop.

¹²Some more discussion focusing on VP ellipsis analyses of the relevant structures in the two languages is offered in Lipták (2012, 2013) and Ruda (2013a,b, 2014c).

(29) I drank {[D], [φ]}/{[φ]}.

Only {[D], [φ]} has the ability to bind reflexives and function as the subject of predication, but both can be controllers and binders for pronouns and R-expressions. However, this association of the relevant phenomena with the presence of the D feature does not seem to be well motivated and is problematic from the point of view of languages in which there is no evidence for the presence of the D feature/head, as I discuss in more detail in section 1.4. Furthermore, Landau (2010) proposes that null direct objects have to be strong implicit arguments ({[D], [φ]}) based on two stipulations: (a) transitive *v* has to check its accusative case feature; (b) the presence of case on a noun phrase implicates the presence of D. Admitting the possibility that in some languages null direct objects can be weak implicit argument ({[φ]}), he suggests that (a) is parametric, and that the relevant languages have a transitive *v* lacking the case feature. This step is problematic even within Landau's set of assumptions, as it is unclear why {[φ]} should be able to function as an internal argument, but not as the subject of predication. Moreover, Landau's proposal is challenged by data from languages such as Italian, where arbitrary missing objects are available in both generic and episodic contexts, but can participate in control only in the former environment, as I show in section 2.4 of chapter 2.

The proposal offered here shares some features with Landau's in that it takes some null objects to be DPs and some others to lack D, but it does not take for granted a universal association between the presence and absence of D and the types of relations which an argument can enter. The present hypothesis that a nominal argument can lack the case feature is also shared with the proposal put forward in Landau (2010) (see also Ruda 2014b; Dvořák 2015).

1.1.8 Missing objects are null bare nouns

Treating missing objects as projections of null Ns, as illustrated in (30), has been advocated, for example, by Panagiotidis (2003); Tsimpli & Papadopoulou (2006); Pérez-Leroux et al. (2008, 2013); Barbosa (2017).

(30) I drank [_{NP} \emptyset].

This approach poses the question what the null bare nouns is, especially within the categoriser-based approach to the construction of lexical categories (Embick & Noyer 2007; Embick & Marantz 2008). The null noun could be either a null categoriser or a combination of a categoriser and a root.¹³ Panagiotidis (2003) takes the noun to be both null and lacking conceptual content. Adapting this ap-

¹³Postulating that the null noun is a bare root does not seem viable, since roots, being category-less elements, should not be able to satisfy subcategorisation requirements.

proach means that no root is present in the structure, since the function of roots is to encode conceptual content. Furthermore, Panagiotidis identifies his empty nouns as “combinations of formal features” (Panagiotidis 2003:415), where an elementary empty noun possibly consists solely of the nominal categorial feature (Panagiotidis 2003:418). As this is a definitional description of nominal categorisers (in contrast to roots, assumed to lack formal features), the analysis offered in this work is consistent with the way in which Panagiotidis proposes to approach the question of the representation of null arguments.

1.1.9 Missing objects are represented by the nominal categorial feature

The analysis illustrated in (31), where ‘e’ stands for an empty position, has been proposed by Aoun & Li (2008).

(31) I drank [e_[+D]]

According to Aoun & Li (2008), the positions of missing objects contain categorial features, but “no item from the lexicon is present in the object position” (Aoun & Li 2008:258). However, if categorial features are not included in the lexicon, the question of where they are encoded and how they can be merged and/or selected to Initial Numeration arises. The analysis offered here differs from Aoun & Li’s in that it treats categorial features, qua categorising heads, as

lexical items (which potentially can bundle with additional features on a single head).

As hinted above, the approach developed here employs the nominal categorising head and thus can be treated as a natural development of the last two types of proposals. The analysis offered in the following chapters aims to specify how exactly different types of missing objects are represented and interpreted and what type of an approach can account for the cross-linguistic similarities and variation observed in this domain.

1.2 Lexical encoding of object drop

The fact that nearly synonymous verbs behave differently with respect to licensing object drop has been reiterated in the literature as an argument for specifying drop-related properties in verbal lexical entries (see Fillmore 1986 for an early proposal of this type; see Gillon 2012 for a more recent one). This seems to be the case with both indefinite and definite missing objects. The most convincing examples supporting lexical specification in the latter case relate to the behaviour of verbs of caring for specific body parts, as illustrated in (89)–(90) from Levin (1993:34). Some other types of examples are discussed, for example, by Fillmore (1986).

- (32) a. I flossed my teeth.
 b. I flossed \emptyset .
- (33) a. Celia braided her hair.
 b. *Celia braided \emptyset .

As observed in Levin (1993), object drop is available with verbs such as *brush* (*teeth*), *floss* (*teeth*), *shave* (*beard, legs*), and *wash* (*hands, face*), but not with verbs such as *bob* (*hair*), *brush* (*hair*), *file* (*nails*), and *towel* (*face, hands*). As no generalisation making it possible to distinguish between these two groups seems forthcoming, I follow the literature here and take definite object drop in English to be regulated by lexical specifications of particular verbs. The situation is different in Polish and Hungarian. In Polish definite object drop is constrained by information-structural factors, whereas in Hungarian the person and number features of the object are of key relevance.¹⁴

The sentences in (34) from Rice (1988:203) exemplify the data used to support the lexical encoding approach to indefinite missing objects (see also section 5.2.2 of chapter 5 and section 2.3 of chapter 2).

- (34) a. Samuel Pepys wrote \emptyset daily.

¹⁴See especially sections 4.3.1 and 4.3.2 of chapter 4 in part 2 for a detailed description of the data.

- b. *Samuel Pepys penned \emptyset /inscribed \emptyset /drafted \emptyset daily.

Recently Gillon (2012) has argued for encoding indefinite object drop in verbal lexical entries by suggesting that this is the only way to account for the fact that near synonyms behave differently in this respect (e.g. *read* vs. *peruse*). However, the relevant verbs do not have exactly the same meaning. It always seems to be the case that object drop is available with the basic verb denoting a type of activity (cf. also Rice 1988). For example, the verb *peruse* is more semantically loaded in comparison with the neutral *read*, in that the former has an additional manner specification.¹⁵ A similar observation holds of the remaining contrasting near synonyms quoted in the literature (e.g. (34)). Introducing information about object drop into lexical entries can derive the facts, but it misses this regularity.¹⁶

The following generalisation can be suggested to capture the data in languages with lexically restricted object drop:

¹⁵The verb *peruse* is defined in the Collins Dictionary as “read or examine with care; study; browse or read through in a leisurely way” [<http://www.collinsdictionary.com/dictionary/english/peruse>].

¹⁶Resultative formation seems to follow the same pattern, as indicated by the following examples from Boas (2003:113, 114), quoted here after Croft (2012:390):

- (i) a. Stefan ate his food up.
- b. Stefan ate his plate clean.
- c. Stefan chewed his food up.
- d. *Stefan chewed his plate clean.

(35) *Manner specification generalisation* [parametrisable]

If a verb makes object drop available, its near synonym with a more specific manner component tends to block it.

The degree to which this generalisation holds may be subject to some variation between speakers and between verbs (e.g. object drop decreases in acceptability when the verb *eat* is compared with *nibble/chew* and further with *munch/devour*; see also section 5.2.2 in chapter 5). This is further confirmed by native-speaker judgments of the following examples, where the first cases in each example are original corpus sentences and the second cases contain substitutions for the verbs *eat* and *drink*.¹⁷ All three speakers who provided me with the judgments have accepted all corpus sentences and their judgments of the substitutions are reflected in A–C.

- Non-anaphoric object drop

- (36) a. The children are eating \emptyset , and Miss Blackwell's on her way
somewheres. [Brown]
- b. The children are munching \emptyset /gobbling \emptyset , and Miss Blackwell's
on her way somewheres.

¹⁷Thanks go to Jeffrey Green, William Matchin, and Laurel Perkins for providing me with the judgments.

A: ?munching ø/*gobbling ø

B: *munching ø/*gobbling ø

C: ?munching ø/*gobbling ø

- (37) a. He caused a lot of talk when he also chose the breakfast hour to have the barber come in and trim his hair while he ate ø.[Brown]
- b. He caused a lot of talk when he also chose the breakfast hour to have the barber come in and trim his hair while he chewed ø/gobbled ø.

A: chewed ø/*gobbled ø

B: chewed ø/?gobbled ø

C: ?chewed ø/*gobbled ø

- (38) a. He claimed to be visiting the waterfront saloon at the crossroads to play cards and drink ø with his cronies, but Kate had not smelled brandy on him since Mrs. Lattimer's funeral. [Brown]
- b. He claimed to be visiting the waterfront saloon at the crossroads to play cards and swig ø with his cronies, but Kate had not smelled brandy on him since Mrs. Lattimer's funeral.

A: *swig ø

B: *swig ø

C: ?swig ø

- (39) a. A few months ago it was a fairly typical landlord who in the dead of night lugged me up a mountainside to drink ø from a spring famous in the neighborhood for its clarity and flavor. [Brown]
- b. A few months ago it was a fairly typical landlord who in the dead of night lugged me up a mountainside to sip ø/guzzle ø from a spring famous in the neighborhood for its clarity and flavor.

A: sip ø/?guzzle ø

B: sip ø/?guzzle ø

C: sip ø/?guzzle ø

- Anaphoric object drop

- (40) a. Lord Byron poured himself another glass of wine and held it up to the candle flame admiring the rich color. He drank ø slowly with due appreciation. It was an excellent vintage. [Brown]
- b. Lord Byron poured himself another glass of wine and held it up to the candle flame admiring the rich color. He sipped ø slowly with due appreciation. It was an excellent vintage.

A: sip ø

B: sip ø

C: sip ø

- (41) a. Miraculously, the bottle was still in my hand, foam still geysering over my (luckily) waterproof watch. No sooner had I started drinking than the driver started zigzagging the truck. The beer foamed furiously. I drank ø furiously. [Brown]
- b. Miraculously, the bottle was still in my hand, foam still geysering over my (luckily) waterproof watch. No sooner had I started drinking than the driver started zigzagging the truck. The beer foamed furiously. I guzzled ø furiously.

A: *guzzled ø

B: ?guzzled ø

C: *guzzled ø

The distinction between semantically neutral and more complex verbs, first pointed out in Rice (1988), is thus supported by the data, even though the judgments are variable, suggesting that for some speakers some types of contexts can alleviate the degrading effects of rich manner specification on object drop. In addition, the general acceptability of sentences with missing objects with the verb *sip* suggests that some lexical items are easier to accommodate in the structure with missing

objects despite their manner specification.

There might also be some degree of cross-linguistic variation in the acceptability of translational equivalents in this respect. As noted in Németh T. (2008:47) and confirmed by my informants, both variants in the sentences in (42) can be used in an answer to the question *What is Sándor doing?*¹⁸

- (42) a. Sándor eszik/ zabál ∅.
 Sándor eats gobbles
 ‘Sándor is eating/gobbling.’

 b. Sándor iszik/ vedel ∅.
 Sándor drinks swigs
 ‘Sándor is drinking/swiging.’ [Hungarian]

The Polish verbs *pożerać* ‘gobble’ and *żłopać* ‘swig’ are not acceptable with missing objects in this context, even though a different translational equivalent of *gobble*, *żreć*, does not seem excluded.

That the generalisation in (35) holds of pairs of near synonyms rather than relates directly to rich manner specification is indicated by the fact that verbs such as *iron* and *sweep*, which express the manner of action but which lack more neutral pairs, make object drop possible despite being quite specific in meaning.

As lexical entries by hypothesis contain unpredictable information, the existence of a relevant generalisation makes the lexical specification approach theo-

¹⁸Thanks go to Éva Dékány and Veronika Hegedűs for this judgment.

retically unattractive in this case. Interestingly, the effect of rich manner specification on grammatical options available to more neutral verbs has also been observed for some extraction and *that*-deletion data in Erterschik-Shir (1977). In particular, extraction out of a *that*-clause complement and *that*-deletion are (fully) acceptable with verbs such as *say*, *tell*, *report*, and *announce*, but not with verbs of manner of speaking (e.g. *murmur*, *mumble*, *lisp*). The sentences in (43) from Erterschik-Shir (1977:103) exemplify the latter pattern. Extraction has been tested by Erterschik-Shir (1977) with sentences of the type *What did you V ((to) them) that he had done?*

- (43) a. He said John did it.
b. *He mumbled John did it.

According to Erterschik-Shir (1977), what distinguishes the two verb types is semantic complexity.¹⁹ With the more complex verbs (i.e. *mumble*), the embedded clause is interpreted as presupposed.²⁰

¹⁹One of the tests to distinguish verbs which are semantic primitives from the more complex ones (attributed to Haj Ross) is illustrated in (i) from Erterschik-Shir (1977:20) (the complex verb must precede the semantically primitive one).

- (i) a. To mumble is to say.
b. *To say is to mumble.

²⁰Erterschik-Shir (1977:27) argues for the following hypothesis: “extraction can occur only out of clauses or phrases which can be considered dominant in some context,” where a “clause or phrase is semantically dominant if it is not presupposed and does not have contextual reference”

These data show that there is another area of the grammar where the addition of manner specification to a semantically primitive verb plays a role. If Erterschik-Shir (1977) is right in treating the manner-of-speaking data in terms of pragmatics, this indicates that the effect observed with verbs of manner of writing, etc. and object drop is likewise attributable to pragmatics. In this connection, according to Rice (1988), the influence of detailed manner specification on object omission might be related to the additional degree of specificity, due to which the default interpretation associated with the object is disfavoured. I follow this line of reasoning and take the generalisation in (35) to be a pragmatic effect.

(Erterschik-Shir 1977:22). Among the tests used to distinguish between the dominant and non-dominant interpretation of the complement is the *lie*-test, showing that the complement is easily interpreted as dominant with *say*, odd as dominant with *mumble*, and impossible as dominant with *editorialize* (Erterschik-Shir 1977:18, 14, 16):

- (i) Bill said: "Fred said that Mary is a fool."
 - a. , which is a lie—he didn't.
 - b. , which is a lie—she isn't.

- (ii) Bill said: "Fred mumbled that Mary is a fool."
 - a. , which is a lie—he didn't.
 - b. ??, which is a lie—she isn't.

- (iii) Bill said: "It is editorialized in today's *Times* that Kissinger is a vegetarian."
 - a. , which is a lie—it isn't.
 - b. *, which is a lie—he isn't.

The gradient judgments here parallel the effect of manner specification on object drop, different verbs sometimes differing in how acceptable they are to speakers in the structure with object drop. This strengthens the parallel between the effect of manner on different grammatical phenomena.

1.3 Present analysis: conclusions from the data

The theoretical proposal developed here is guided by the observations provided directly below. Here I discuss only these aspects of the data which are of direct relevance to the proposal. I offer a more detailed discussion of the empirical picture of object drop in English, Polish, and Hungarian in part 2.

Observation: the basic pattern of indefinite object drop is the same in English, Polish, and Hungarian, as illustrated in (44).

- (44) a. I spent the afternoon baking \emptyset .
- b. A nagymama hétvégeken mindig süt \emptyset .
the grandma at.weekends always bakes
'Grandma always bakes at weekends.' [Hungarian]
- c. Całe popołudnie piekłam \emptyset .
entire afternoon baked-1SG.F
'I baked the entire afternoon.' [Polish]

Conclusion: In the absence of evidence to the contrary, I take this pattern to involve the same representation and interpretive mechanisms in all three languages.

Observation: The interpretation of non-anaphoric objects can be influenced by various components of the sentence, the extra-linguistic situation, and world knowledge (e.g. the object in (45), adapted from Bobrowski (1981:100–102), can be interpreted as bribes, drugs, or bait respectively). Furthermore, specialised interpretations arise also with intransitive verbs, as illustrated with the examples in (46), which pertain to running for sport rather than to running in general.²¹

- (45) a. Kierownik bierze \emptyset .
 manager takes
 ‘The manager takes bribes/drugs.’
- b. Ryby nie biorą \emptyset w taką pogodę.
 fish not take in this weather
 ‘Fish don’t take the bait in such weather.’ [Polish]
- (46) a. Did you run this morning?
- b. Biegałaś dziś rano?
 ran-2SG.F today morning
 ‘Did you run this morning?’ [Polish]
- c. Anyu, futottál ma reggel?
 mum ran-2SG today morning
 ‘Mum, did you run this morning?’ [Hungarian]

Conclusion: Specialised types of interpretations which non-anaphoric missing objects receive can be attributed to the inferencing procedures at

²¹The Hungarian example in (46c) comes from an internet search.

the C-I interface. I thus treat them here as belonging to the domain of pragmatics and world knowledge. A different possibility, that is encoding the available interpretations in the lexicon, is less desirable theoretically, as it requires a significant expansion of the lexicon (see also section 4.2.1 of chapter 4). It should thus be considered only if future research shows that the pragmatic inferencing procedures cannot account for the data.

Observation: Obligatory narrow scope is not specific to indefinite missing objects (e.g. (47)), but it is observed also with some types of overt objects.

- (47) a. Everybody ate something.
b. Everybody ate \emptyset .
- (48) a. Miles didn't see/is looking for policemen.
b. Miles didn't drink/always drinks whisky.

Conclusion: The scopal property of missing objects does not necessarily constitute an argument in favour of the intransitive analysis of the relevant verbs, but can follow from some properties of the unpronounced internal argument shared with bare plurals and mass nouns.

Observation: The set of licensing and blocking factors for definite object drop differs between different languages, in contrast to indefinite object drop.

Conclusion: Even though indefinite object drop utilises features of the grammar shared by different languages, developing an analysis of definite object drop requires taking more fine-grained differences between their grammars into account.

Observation: Definite missing objects can be interpreted as bound variables in English (see section 4.3 and 4.5 of chapter 4 for discussion).

- (49) Every man is worried that his wife will call \emptyset while his mistress is visiting \emptyset .

Conclusion: Verbs in structures of this type are transitive (the internal argument variable has to be available to be bound in semantics).

Observation: In English and Polish definite missing objects are more flexible in terms of interpretation than overt pronouns (see, e.g., (50)).²²

²²The situation is different in Hungarian, as I discuss in section 3.3.3 of chapter 3.

- (50) a. I went to the faculty meeting and won it.
 b. How do you win a meeting?!
 c. I went to the faculty meeting and won \emptyset .
 d. Do you play some sort of game at your meetings?
- (51) Przez chwilę rozglądam się w poszukiwaniu kogoś,
 over moment look.around-1SG SE in searching someone-GEN
 kto gada przez telefon. Jakbym znalazł \emptyset , to
 who talks over phone if-COND.1SG found PRT
 chybabym (#go) zarekwiował. Ale nie widzę \emptyset ,
 probably-COND.1SG him-CL commandeer but not see-1SG
 więc wpadam na pomysł, by zresetować swój telefon.
 so fall-1SG on idea to reset self's phone
 'I'm looking around for a moment in search for someone who's speak-
 ing over a phone. If I found someone, I would probably commandeer
 it/#him. But I don't see anyone, so I come up with the idea to reset
 my phone.'
- [NKJP]

Conclusion: The difference between overt pronouns and definite null objects suggests a representational difference.

In the next section, I overview briefly the aspects of grammatical theory which I employ in the approach presented in the following chapters, coupled with the conclusions from the data summarised in this section.

1.4 Present analysis: basic assumptions

The development of the theory of the syntactic representation of noun phrases has lead to the compositional approach, on which traditional NPs contain a number of separate projections encoding the non-intrinsic, grammatical properties of nouns, such as number, as discussed, for example, in Alexiadou, Haegeman & Stavrou (2007). Also grammatical categories have been hypothesised to be determined in the narrow syntax with different sets of functional heads (Embick & Noyer 2007; Embick & Marantz 2008). These developments in syntactic theory since the research within GB raise the question about the more fine-grained structure of null arguments, as the space of possibilities is expanded by the number of the nominal heads, each of which can in principle be absent from the representation of an argument. Guided by this logic, in what follows, I suggest that missing objects are minimally represented as the nominalising head *n* and maximally as structures containing all postulated (interpretable) nominal heads, that is [DP D [PersP Pers [NumP Num [_{nP} *n*]]]].²³

On this approach, a structurally minimal missing object is thus similar to bare

²³Analysing null arguments as null pronouns has a long tradition in generative theorising (see, esp., Chomsky 1981, 1982; Rizzi 1982, 1986). Elliptical arguments/NPs have been analysed in terms of *n* in Ruda (2014b) (object drop in the recipe register), Ruda (2014a) (impersonal subjects in the so-called *-no/to* construction in Polish), Dvořák (2015) (generic null objects in Czech), Ruda (2016) (NP ellipsis with NP-internal remnants), Barbosa (2017) (null subjects), and Ruda (forthcoming) (definite missing objects in English).

NP arguments familiar from discussions of languages such as Japanese. As (52) from Tomioka (2003:328) illustrates, a bare number-unmarked noun can be an argument and as such can receive different interpretations along the definite/indefinite (plus indefinite specific/indefinite non-specific) distinction and along the singular/plural distinction.

- (52) Ken-wa ronbun-o yon-da.
Ken-TOP paper-ACC read-PAST
‘Ken read a paper/papers/the paper/the papers.’ [Japanese]

Here, I adopt the view that the representation of natural language arguments can lack the number head/feature and the D head.

The latter hypothesis has sparked some controversy in the literature (for related discussions, see, e.g., Corver 1990; Longobardi 1994; Chierchia 1998; Progovac 1998; Willim 2000; Rutkowski 2002; Bošković 2008, 2012; Jiang 2012; Fanselow & Féry 2013; Pereltsvaig 2013). From the empirical perspective, some of the phenomena used in the literature to support the hypothesis that languages can lack the DP layer include the (un)availability of two genitive-marked arguments in NPs (Willim 2000), the (un)availability of extraction of complements from noun phrases, Japanese-type scrambling, superiority effects, the obligatoriness of number morphology (Bošković 2008, 2012), and the behaviour of nomi-

nals in classifier languages (Jiang 2012). From the theoretical perspective, within systems where levels such as D' and DP (in traditional terms) are projections of lexical items, including the minimalist system with its Bare Phrase Structure approach to projection, D is a label used for the sake of convenience to refer to items such as the article *the*. As in (at least some of the) languages lacking articles there is no evidence which could lead the learner to postulate a null D head (see, e.g., Willim 2000), D in the structure of arguments would presumably have to be included in UG, as a syntactic head is not a likely candidate for a third-factor deduction. This is not necessary on the alternative view, on which the postulation of D by the language learner is triggered by the input when the language being acquired has articles, allowing UG to contain only the elements that are not learnable and that are not related to the third factor in language design (Chomsky 2005).²⁴

The availability of different representations of missing arguments in different languages must be inferable from the primary linguistic data, in combination with elements made available in UG. This is why the analysis proposed here is guided

²⁴Interestingly, even the more basic hypothesis that D ever is the head of noun phrases (i.e. the DP Hypothesis) has been challenged on theoretical and empirical grounds, for example, in Bruening (2009), who argues that the head of the noun phrase universally is *n* and that articles, demonstratives, adjectives, etc. occupy Spec,*n*P positions. The analysis offered in this work could be restated in these terms.

If future research shows that natural language arguments require D, the proposal offered here will need to be reconsidered from this point of view. See section 3.3.4 of chapter 3 for some more discussion.

by the view that the initial state of the grammar includes n , whose use as a missing argument is constrained by various language-specific factors.

Chapter 2

Indefinite missing objects

In this chapter, I explore the approach to deriving structures with indefinite missing objects which takes these structures to involve a projection of the object in the syntactic component. The main hypothesis that I put forward here in the light of the discussion in the previous chapter is that the object is represented as the nominal categorising head n which is not merged with a lexical root. This solution ensures the satisfaction of c-selectional requirements of the verb without additional assumptions and is corroborated by some observations made with respect to the potential of indefinite missing arguments to license sluicing.

Following some remarks concerning the relevance of sluicing data to the issue of transitivity of structures with indefinite object drop in section 2.1, I discuss the analysis in detail in section 2.2. In section 2.2.1, I focus on the problem of

the lack of phonemic realisation of the object represented syntactically and I discuss the semantic interpretation of the object in section 2.2.2. I suggest here that the lack of realisation of the object at the level of the sound system follows from the feature content of the *n* head and its association with phonemic material in a language. I propose that the *n* head is an $\langle e, t \rangle$ -type element and that its interpretation in the contexts with indefinite missing objects parallels the interpretation of mass nouns. I point to the operation Restrict (Chung & Ladusaw 2004) as one possible option to employ. In section 2.2.3, I briefly discuss the relation between indefinite missing objects and incorporated structures, suggesting that equating the two does not seem to be a viable option. In section 2.2.4, I consider the issue of the syntactic activity of the object. I show that English and Hungarian arbitrary missing objects cannot participate in control, unlike arbitrary missing objects in Polish.

In section 2.3, the discussion shifts to the relation between indefinite object drop and the manner and result components of verb meaning. I argue here that the hypotheses that unspecified object drop is licensed with manner verbs and that it is blocked with result verbs are both empirically inadequate.

Based on data from Brazilian Portuguese, Czech, Hungarian, Italian, Korean, Mandarin, and Polish, in section 2.4.1 I briefly show that the availability of control in structures with arbitrary missing objects presents a more complex problem

than what could be expected on the assumption of a simple correlation between the presence of the object in the syntax and its ability to control.

In section 2.4.2, I illustrate some further aspects of language variation in the domain of indefinite object drop. In particular, rather than dropping an unspecified object with verbs such as *read* (i.e. *read* \emptyset), languages such as Mandarin use a (semi-)pleonastic nominal object (e.g. *kan-shu* ‘read-book’). I discuss some initial data from Japanese, Korean, and Mandarin, showing that the empirical picture of the contrast between missing objects and (semi-)pleonastic nominals is not as clear-cut as some previous literature suggests. This indicates a need for a finer-grained investigation taking into account the dimension of variation between verbs in a single language.

2.1 A transitive analysis of indefinite object drop

As (1) from AnderBois (2012:45) shows, indefinite missing objects license sluicing.¹

- (1) Fred baked \emptyset , and Lucinda’s going to find out what.

The fact that clauses with missing objects can license sluicing raises questions

¹The ability to license sluicing has been used as a test to determine whether the missing object is definite or indefinite. See section 4.1 of chapter 4 for some more discussion.

about the parallelism conditions required for this type of ellipsis to be acceptable. On the assumption that the missing object is represented syntactically the sluicing data pose no additional difficulties, as the antecedent and the sluiced clause are parallel both in the syntax and in the semantics.² On the approach taking the missing object not to be represented syntactically or not to be represented syntactically and semantically, analyses of sluicing need to account for the lack of syntactic (and semantic) parallelism in these structures. This type of analysis might of course be required regardless of the treatment of data with missing objects (see Merchant 1999), but some effects observed with missing arguments in double object structures seem to speak against this view. As noticed in Gillon (2012:321–322), in structures with implicit arguments the choice of the antecedent in sluicing determines the choice of the interrogative expression:

- (2) a. Alvin served [_{NP} the sandwich] (to someone).
 b. Alvin served [_{NP} Bill] (something).

²The sluicing data discussed here are relevant on the assumption that they cannot be considered cases of sprouting, where the antecedent clause plausibly does not contain a syntactic position correlated with the fronted *wh*-phrase in the elliptical clause, as illustrated with the adjunction structure in (i) from Ross (1969:252).

- (i) He is writing something, but you can't imagine where/why/how (fast).

That structures involving adjuncts might differ from structures with implicit arguments in relevant respects is indicated by the data in (2)–(3) in the main text. I thank Jeffrey Lidz and Alexander Williams for drawing my attention to this issue.

- (3) a. Bill served the sandwich to someone, but no one knows [S [PP to whom]].
- b. Bill served the sandwich, but no one knows [S [PP to whom]].
- c. *Bill served the sandwich, but no one knows [S [NP whom]].

The data in (3) suggest that some type of structural parallelism between the antecedent and the sluiced clause is required for sluicing to be acceptable even with unrealised arguments, as, semantically, all variants in (3) involve structures with three arguments. This supports the treatment of clauses with indefinite missing objects as transitive, unless a theory of sluicing which can incorporate the data in (3) and the ability of intransitive clauses to license sluicing in a transitive structure can be developed. Accordingly, in this chapter I offer an analysis of structures with indefinite missing objects which takes the objects to be represented in the syntax.

2.2 Indefinite missing objects as *n*

To provide a maximally uniform syntax for transitive verbs and for different types of structures with missing objects, I suggest that internal arguments are represented both semantically and syntactically regardless whether they are overt or null. In the syntax, indefinite missing objects have the most minimal representa-

tion possible, that is they are represented by the nominalising head *n*. Since the object does not impose numerosity restrictions on its interpretation and can be interpreted similarly to mass nouns such as *stuff*, as illustrated in (4) from Fillmore (1986:106), the proposed representation which does not include the Num(ber) head seems sufficient to account for its interpretation.³ This minimal representation is therefore preferable to less economical representations involving additional applications of Merge.

- (4) I spent three days cooking \emptyset .

The sentence in (4) is thus represented as shown in (5).

- (5) I spent three days [_{VP} V-cooking [*n*- \emptyset]].

Admittedly, the problem of the number feature of the object is a complex one.⁴ As discussed in section 1.1.1 of chapter 1, indefinite missing objects share scopal properties with both mass nouns and bare plurals. Bare singulars do not seem to be a plausible option, as they are unavailable in English and they impose restrictions on the numerosity of the referent of the noun phrase in Polish (see

³I come back to this issue in more detail in section 2.2.2.

⁴See Williams (2012) for a treatment of null complement anaphora as a number-neutral argument and Martí (2015), who analyses indefinite null objects as incorporated null bare number-unmarked nouns. In contrast, Mittwoch (2005) suggests that objects of this type can be represented as null bare plurals and, similarly, Erteschik-Shir (2007) suggests that the object is plural.

(6b)), differing from missing objects.

There are at least three arguments in favour of treating indefinite missing objects as unspecified for number rather than as plural. The first one, already mentioned, is that assimilating missing objects with mass nouns allows for a more minimal structural representation of the objects, whereas the plural specification of the object would require the Merge of the Num head. The former option is compatible also with the observation that, cross-linguistically, mass nouns are a more basic option, as they seem to be available in all languages (Chierchia 1994).

The second argument relates to the interpretive properties of these structures. In particular, as illustrated in (6) from Grochowski (1972:166) for Polish, the number feature of the object can constrain interpretation of the sentence either to only habitual reading (see (6a)) or only episodic reading (see (6b)). The missing object is compatible with both readings, as demonstrated in (7), suggesting that no condition on the numerosity of the referent of the object is imposed by the structure.

- (6) a. Jan pali papierosy.
Jan smokes cigarettes
'Jan smokes cigarettes'
- b. Jan pali papierosa.
Jan smokes cigarette
'Jan is smoking a cigarette.'
- [Polish]

- (7) Jan pali \emptyset .
 Jan smokes
 ‘Jan smokes cigarettes./Jan is smoking a cigarette.’ [Polish]

Additionally, introducing the plural-number feature in the representation would raise questions about what licenses the lack of its morphophonological realisation, an issue to which I turn in the following section. I thus conclude that no number projection or feature is present in the structure of indefinite missing objects.

2.2.1 *Silence of n*

The discussion of the silence of the object represented as n is related to the hypotheses about the feature content of n and the way in which it is realised by the morphophonological component in different languages. The morphological composition of lexical nouns in English and Hungarian suggests that in these languages the n head in general need not be overt:

- (8) a. $[\text{NumP Num}_{\text{SG}-\emptyset} [\text{}_{n\text{P}} n-\emptyset [\sqrt{\text{HORSE}}]]] \rightarrow \text{horse}$ [English]
 b. $[\text{NumP Num}_{\text{SG}-\emptyset} [\text{}_{n\text{P}} n-\emptyset [\sqrt{\text{LÓ}}]]] \rightarrow \text{ló}$ [Hungarian]

The lack of morphophonological realisation of an object represented as n in these languages thus follows from the lexical specification of n , which need not be

associated with phonemic features. The same *n* head which composes the nouns in (8) can be merged as an object on its own, that is without first being merged with a lexical root. When this happens, a structure with a missing object results.

An important question pertains to the case feature of the missing object, especially that in Hungarian accusative case is realised with an overt marker (e.g. *ló-t* ‘horse-ACC’), which does not surface in contexts with missing objects. Some empirical observations suggest that case is not included in the representation of missing objects of the type considered here.⁵ Firstly, structures with missing objects cannot participate in the passive formation:

⁵Dvořák (2015:87) provides the example in (i), modelled on Rizzi’s (1986) examples, to support an analysis on which generic missing objects in Czech do not have case:

- (i) a. Na tyhle prášky pozor, dělají člověka otupělým/
of these pills beware make human-SG.M.ACC dull-SG.M.INSTR
%otupělého.
dull-SG.M.ACC
‘Beware of these pills, they make one dull.’
b. Na tyhle prášky pozor, dělají \emptyset otupělým/ *otupělého.
of these pills beware make dull-SG.M.INSTR dull-SG.M.ACC
‘Beware of these pills, they make one dull.’ [Czech]

In contrast to the structure with the noun *člověka* ‘human-SG.M.ACC’, where most speakers accept agreement in case between the predicative adjective and the noun, when the subject of this predication is null, only instrumental case is available. Unfortunately, as is also clear in Rizzi’s discussion of similar contexts, this structure does not in fact contain a null object, but rather a null subject of the small clause (verbs such as *make* take the small clause as their sole object, rather than taking both a nominal object and a small clause (the meaning of the sentences is not that pills make one and one becomes dull; the only element related to pills by the verb *make* is the predication that one is dull)). This example thus provides information about the case feature of the subject of the small clause and can be taken to be relevant to studies of null objects only on the assumption that the position of the subject of small clauses and the position of the null object must be occupied by the same element. Equivalent sentences in Polish are compatible only with instrumental case on the adjective, regardless whether the subject of the small clause is null or overt.

- (9) a. Wendy drinks \emptyset .
 b. * \emptyset is drunk by Wendy.

If becoming the subject in a passive clause is conditioned by the availability of a noun phrase to have its case feature valued as nominative (at least in the languages which are the focus here, cf., e.g., *Did she give you a book?/Were you given a book?* and *Did she give a book to you?/*Were/was to you given a book?*), data such as (9) are explained if the missing object lacks the case feature.

The pattern in (10), quoted here from Alexiadou, Schäfer & Spathas (2013:5–9), can also be analysed as a consequence of the lack of case in the projection of the missing object.

- (10) a. John out-ate (*pizza) Mary (*pizza).
 b. Mary drank (*the water) the teapot dry.

Out-prefixation and resultative structures are unacceptable with two overt objects, but when the selected object is null, the non-selected one becomes acceptable. On the assumption that structural accusative case can be assigned only to one noun phrase in a clause and that the missing object lacks the case feature, the non-selected object can have its case feature valued instead. This is true also when such structures are passivised, as shown in (11) from a random internet

search.

- (11) a. But, she was outeaten by Joey ‘Jaws’ Chestnut, who ate 68 hot-dogs in the same 10 minutes [...]
b. [...] the bar was drunk dry on opening night [...]

In both (10) and (11) the semantics includes the selected object (e.g. John ate something edible in (10a)), a fact which is accounted for on the analysis which postulates the presence of this object in the structure, as illustrated in (12).⁶

- (12) a. John [_{VP} out-ate *n-ø* Mary].
b. Mary [_{VP} drank *n-ø* [_{SMALL CLAUSE} the teapot dry]].

The hypothesis that the object lacks case also explains why the object can be null in Hungarian without additional assumptions. In particular, even though in English the morphological shape of the noun does not change with varying case environments (e.g. *The horse is wild* vs. *I’ve seen the horse*), as an agglutinative language, Hungarian marks varying case features with transparent agglutinative suffixes attached to the noun (e.g. *ló-t* ‘horse-ACC’ vs. *ló-nak* ‘horse-DAT’). If the missing object had its case feature valued as accusative, an additional mech-

⁶The exact syntactic structure of sentences of this type remains to be analysed, among others, as far as the position of the non-subcategorised object and the position at which the element *out* originates in the *out*-prefixation construction are concerned.

anisms resulting in the lack of realisation of the accusative morpheme *-t* would need to be introduced.⁷ However, this is not necessary if the object lacks case.

For the purpose of the discussion in this work, I assume that the case feature is introduced on a K(ase) head (see Lamontagne & Travis 1987).⁸ The lack of the case feature in the structure of the object can now be modelled as the absence of the K head in the representation of this argument, which also follows as a consequence of the hypothesis that the missing argument has a minimal structural representation (i.e. it is represented only as *n*).

The lack of K and Num also derives the silence of an object represented as *n* in Polish. Polish differs from English and Hungarian in that its gender system is grammatical. Nominal roots and stems are followed by portmanteaux suffixes encoding gender, number, and case. I illustrate this in Table 1 and in the examples in (13).

	SG.NOM	SG.ACC	PL.NOM	PL.ACC
M1, ‘son’:	syn-ø	syn-a	syn-owie	syn-ów
F, ‘wife’:	żon-a	żon-ę	żon-y	żon-y

Table 2.1: Examples of nominal gender/number/Case suffixes in Polish

⁷This could be stated as a last-resort deletion operation removing the suffix in the absence of an appropriate host which it could attach to, or as a morphological realisation rule dictating zero-realisation of case in this environment.

⁸Nothing in the analysis to be offered here hinges on this and the case feature might equally well be taken here to be introduced as a feature on one of the other nominal heads.

- (13) a. Twój syn-ø/ twoja żon-a
 your-M.SG.NOM son-M1.SG.NOM your-F.SG.NOM wife-F.SG.NOM
 dzwoni.
 calls
 ‘Your son/wife is calling.’
- b. Spotkałam twojego syn-a/ twoją
 met-1SG.F your-M.SG.ACC son-M1.SG.ACC your-F.SG.ACC
 żon-ę.
 wife-F.SG.ACC
 ‘I’ve met your son/wife.’ [Polish]

Apart from nominative singular nouns, for example, in the masculine personal class (M1), nominal suffixes are overt in Polish. From the theoretical point of view, the suffixes could be taken to be morphological realisations of a complex *n*-Num-K head, resulting from head movement within the noun phrase. This approach, developed for Polish in Willim (2012) and building on the analysis of French in Lowenstamm (2008), takes the *n* head to contain gender, a feature implicated in noun classification in systems with grammatical gender. The suggestion that the gender/number/case suffixes realise the *n*-Num-K complex (or only *n*, if all three features are encoded on *n*) follows naturally from the association of *n* with gender (see Willim 2012 for further discussion).⁹

As the forms in the nominal paradigm are defined for gender/number/case

⁹In some instances, gender can be encoded on *n* also in English, if nouns such as *lioness* can be analysed as composed with the root $\sqrt{\text{LION}}$ and $n_{[G:F]}$, realised as *-ess* in morphology and, similarly, compounds such as *she-goat* can be analysed as involving $n_{[G:F]}$ realised as *she*. In the discussion of pronouns in section 3.2 of chapter 3, I take the pronoun *she* to realise $n_{[G:F]}$ embedded in a DP structure.

combinations, a question arises what happens when *n* reaches the morphophonological system caseless and numberless. If the present hypothesis about the representation of missing objects is correct, the morphophonological system of Polish has to contain a rule interpreting *n* as null in this context (rather than treating the structure as illegitimate). I take this to be the case here, as it makes it possible to provide a uniform treatment of indefinite missing objects in languages with different morphological systems, such as English ((mostly) analytic), Hungarian (agglutinative), and Polish (inflectional).¹⁰

2.2.2 *Meaning of n*

A detailed investigation of the semantics of nominal categorising heads is beyond the scope of this work. However, the present proposal concerning the representation of missing objects requires that the denotation of *n* be such that it can combine with the denotation of a lexical root and that it can be interpretable in the absence of the root. I therefore suggest that the most basic denotation of *n* is as shown in (14), where the self-identity condition is trivially satisfied.¹¹

¹⁰As discussed in É. Kiss (2002:29), non-referential bare noun arguments in Hungarian obligatorily move out of VP to a pre-verbal A-bar position in focusless sentences. In the relevant contexts, missing objects represented as *n* could also undergo this type of movement in Hungarian.

¹¹Possible alternatives to the self-identity condition require further detailed consideration. The denotation proposed here has been inspired by the analysis of the semantics of null complement anaphora in Williams (2012) (e.g. *Ron won ø*: $Won(Ron, [\iota y(y = y)])$), where the complement is interpreted as definite via the application of ι .

$$(14) \quad \left[\left[n \right] \right]^A = \lambda y. \top \equiv y = y$$

Lexical roots can plausibly be taken to have denotations of the type as in (15), which on the current proposal means that the *n* head combines with the root by predicate modification (Heim & Kratzer 1998), resulting in *n*Ps with denotations such as $\lambda y. \top \equiv y = y \ \& \ \text{ROOT}(y)$, as shown in (16).

$$(15) \quad \left[\left[\sqrt{\text{ROOT}} \right] \right]^A = \lambda y. \top \equiv \text{ROOT}(y)$$

$$(16) \quad \begin{array}{c} nP \\ \lambda y. \top \equiv y = y \ \& \ \text{ROOT}(y) \\ \swarrow \quad \searrow \\ n \quad \quad \sqrt{\text{ROOT}} \\ \lambda y. \top \equiv y = y \quad \lambda y. \top \equiv \text{ROOT}(y) \end{array}$$

Furthermore, as discussed in the previous section, the *n* head can in some cases contain the gender feature, which can also contribute to interpretation (e.g. in nouns such as *lioness* in English (see footnote 9) and nouns denoting humans and certain animals in Polish). In such a case, the basic denotation of the *n* head is enriched by the denotation of the gender feature:

$$(17) \quad \left[\left[n_{[G:F]} \right] \right]^A = \lambda y. \top \equiv y = y \ \& \ \text{FEMALE}(y)$$

A null object represented as n thus has the denotation $\lambda y. \top \equiv y = y$, or, if it includes an interpretable gender feature, the denotation of this feature is also included in the denotation of the object. Being of type $\langle e, t \rangle$, such an object is of course not of the right type to saturate the internal argument position of the verb. The choice of a solution depends on one's broader approach to the semantics of nominal expressions and should ideally parallel the mechanism which is used to interpret mass nouns and bare plurals, as these three types of expressions behave in parallel in terms of scope, that is they can only take narrow scope, as shown in section 1.1.1 of chapter 1. Committing the analysis to one particular semantic approach seems unnecessary for the present purpose, since whatever possible analysis is adopted for the interpretation of mass nouns should be applicable to missing objects on the current proposal.

For illustration, within the system of interpretation of indefinites proposed in Chung & Ladusaw (2004), the missing argument can combine with the verb by Restrict, that is a mode of composition which does not saturate the predicate, but which makes it possible for objects of type $\langle e, t \rangle$ to restrict the predicate with the property introduced by the object without saturating it.¹² I illustrate this for

¹²The empirical domain of Chung and Ladusaw's (2004) study focuses on indefinites in Maori and incorporation in Chamorro, but they suggest that Restrict could also be used for interpretation of bare plurals in English (p. 70–71).

That indefinite missing objects can be interpreted by tools developed in Chung & Ladusaw (2004) has been suggested independently in Martí (2015), who analyses this construction as involving incorporation of a null noun to the verb.

the sentence *Anna is reading* in (18)–(20), modelled on Chung and Ladusaw’s representations.

Even though Restrict does not result in the saturation of the predicate, it has the effect of demoting the affected argument from the top of the lambda prefix to a position right above the event argument. This is needed to ensure that the next higher argument in the syntax can saturate the external argument, in accordance with the view that the order in which arguments provided by syntax are composed with the predicate is determined by the lambda prefix.

$$(18) \quad \text{Restrict}(\lambda y \lambda x \lambda e [\text{read}'(y)(x)(e)], [y = y]) \\ = \lambda x \lambda y \lambda e [\text{read}'(y)(x)(e) \wedge [y = y](y)]$$

The eater argument variable is saturated by combining with the subject *Anna* (*a*) by function application (FA):

$$(19) \quad \text{FA}(\lambda x \lambda y \lambda e [\text{read}'(y)(x)(e) \wedge [y = y](y)], a) \\ = \lambda y \lambda e [\text{read}'(y)(a)(e) \wedge [y = y](y)]$$

In the final step, two applications of existential closure (EC) bind the remaining

I thank Alexander Williams for drawing my attention to Chung and Ladusaw’s work and for a discussion of the aspects of my proposal related to semantics and pragmatics.

internal argument and event variables:¹³

$$(20) \quad \text{EC}(\text{EC}(\lambda y \lambda e [\text{read}'(y)(a)(e) \wedge [y = y](y)])) \\ = \exists e \exists y [\text{read}'(y)(a)(e) \wedge [y = y](y)]$$

The existential closure of the internal argument variable is enforced by the principle in (21), where the event level is understood as the stage in the derivation where the event argument is reached (Chung & Ladusaw 2004:11):

- (21) Predicates must have their participant arguments (semantically) saturated at the event level.

Since the internal argument is existentially closed at the event level, employing this system accounts for the obligatory narrow scope of the argument with respect to all elements which scope above this level, such as operators binding the event variable, negation, and quantified nominals.¹⁴

I suggest that the interpretation of an existentially-closed object is further guided by pragmatic considerations, so that the object in the corpus example in

¹³A missing object represented as *n*, like the impersonal subject in the SE construction (see Chierchia 1995), is an indefinite that is existentially closed in an episodic context, but can be bound by a generic operator or by adverbs of quantification in a generic context, acquiring a quasi-universal interpretation after existential disclosure (see section 4.2.4 of chapter 4 for some relevant examples).

¹⁴In fact, obligatory narrow scope is treated by Chung & Ladusaw (2004) as a diagnostic for the interpretation of an indefinite via Restrict.

(22a) is most plausibly interpreted as alcohol, the object in (22b) as water, and the object in (22c) as the wine relevant in the given context (see, e.g., Wilson 2004 and Scott 2006 for relevant proposals).¹⁵

- (22) a. He claimed to be visiting the waterfront saloon at the crossroads
to play cards and drink ø with his cronies, but Kate had not
smelled brandy on him since Mrs. Lattimer's funeral.
- b. A few months ago it was a fairly typical landlord who in the
dead of night lugged me up a mountainside to drink ø from a
spring famous in the neighborhood for its clarity and flavor.
- c. Lord Byron poured himself another glass of wine and held it up
to the candle flame admiring the rich color. He drank ø slowly
with due appreciation. It was an excellent vintage. [Brown]

¹⁵That contexts such as (22c) are best analysed as involving pragmatic inference rather than definite argument omission is suggested by the fact that verbs which drop definite objects do not require such strong contextual support (e.g. *Anna has just called (us)*; see also Martí 2015; Williams 2015).

The data from the million-word Brown University Standard Corpus of Present-Day American English (Francis & Kučera 1979) were extracted for the purpose of this study with the tools available within the Natural Language Toolkit (NLTK) platform (<http://nltk.org/>; see Bird, Klein & Loper 2009).

2.2.3 *Indefinite missing objects and incorporation*

Some discussions suggest that structures with indefinite missing objects should be analysed as incorporation structures (see, e.g., Croft 2012; Pérez-Leroux et al. 2013; Martí 2015). The interpretive similarities between incorporated nominals and missing objects include their indefiniteness and number neutrality, as well as their obligatory narrow scope. The example in (23) from Martí (2015:456), where the incorporated noun *snoek* ‘pike’ can only take narrow scope, demonstrates this.

- (23) Hja sille net te snoek-fangen
they will not to pike-catch
‘They are not going to catch any pikes.’ [Frisian]

On the current proposal these structures are similar in that they can both be treated as interpreted via Restrict and, if (at least some) incorporated nominals can be taken to lack number specification and hence be represented as *n*Ps, they share the syntactic representation, including the lack of the number projection. However, as the scopal property is shared also with bare plurals and mass nouns in English and can be accounted for by principles which are not directly related to incorporation (see (21)), it seems that assuming that an additional process of incorporation is at play in structures with missing objects is superfluous. What

is more, if incorporation were involved in the formation of structures with indefinite missing objects in English (see esp. Martí 2015 for an analysis of this type), accounting for the acquisition of these structures in a language where overt nouns do not incorporate would posit a serious challenge, as there seems to be no evidence which could lead the child to postulate this process.

Furthermore, some empirical evidence suggesting that the two types of structures should not be equated and that indefinite missing objects are not simply incorporated null nouns is provided by Hungarian. In particular, Hungarian has (a type of) incorporation, in which a number-unmarked accusative bare noun precedes the verb, as illustrated in (24) from Kiefer (1994:444).¹⁶

- (24) Pisti levelet ír.
Pisti letter-ACC writes
'Pisti is writing a letter.'
[Hungarian]

¹⁶The translation provided follows that in Kiefer (1994:444), even though in text he suggests that a more accurate translation of the example is ‘be engaged in letter writing’. The text in this structure is number-neutral semantically.

As noted in Bende-Farkas (2001), this is not the full incorporation of the West-Greenlandic type and the incorporated nominal can be separated from the verb, for example, when in the contrastive topic or quantifier position (see (i) from Bende-Farkas 2001:69).

- (i) [Fát]_{CONTRASTIVE TOPIC} tegnap nem vágott János.
wood-ACC yesterday not chopped János
'János chopped up no wood yesterday.'
(but he may have done or chopped up something else) [Hungarian]

For more discussion, see Kiefer (1990, 1994); Bende-Farkas (2001); Farkas & de Swart (2003).

If the argument that indefinite missing objects do not have the case feature is on the right track (see section 2.2.1), incorporated nominals differ from missing objects in being case-marked.

Secondly, indefinite missing objects are available in the presence of preverbs with at least some verbs in Hungarian (see (25); see section 5.3.2 of chapter 5 for some more discussion).

- (25) Az apa megfőzött \emptyset (és utána focizni
the father PV-cooked-3SG.INDEF and then play.football
ment).
went-3SG.INDEF
‘Dad has finished cooking and then went to play football.’[Hungarian]

On the other hand, Kiefer (1990, 1994) shows that incorporated nouns and preverbs are in complementary distribution (see (26) from Kiefer 1994:450) and takes it to imply that the bare noun and the preverb *meg* belong to the same class of elements.¹⁷

¹⁷Farkas & de Swart (2003:93) suggest that bare nominals and preverbs are not mutually exclusive, but when they appear together, the preverb has to follow the verb (see (i)). Indefinite missing objects do not have this effect.

- (i) Mari lámpá(ka)t szerelt fel a plafonra.
Mari lamp-(PL.)ACC set up-PV the ceiling.on
‘Mari set up a lamp/lamps on the ceiling.’ [Hungarian]

The difference in judgments provided by Kiefer (1994) and Farkas & de Swart (2003) might be due to the use of different preverbs, but this requires further investigation.

- (26) *levelet megírtam/ levelet írtam meg/ megírtam levelet
 letter-ACC PV-wrote letter-ACC wrote PV PV-wrote letter

2.2.4 Syntactic activity of the missing object

As discussed in Rizzi (1986:503–507), Italian and English differ in whether arbitrary missing objects can participate in control and anaphoric binding and whether they are compatible with small clauses (the translational equivalents in (27)–(29) are unacceptable):

- (27) *Control*

Questo conduce ø a [PRO concludere quanto segue].

‘*This leads to conclude what follows.’ [Italian]

- (28) *Anaphoric binding*

La buona musica riconcilia ø con se stessi.

‘*Good music reconciles with oneself.’ [Italian]

- (29) *Adjunct small clause*

Un dottore serio visita ø nudi.

‘*A serious doctor visits nude-PL.’ [Italian]

Missing objects of this type can participate in control in Polish (see (30)), but

not in Hungarian (see (31)).¹⁸

- (30) Niska temperatura nie zachęca \emptyset do [PRO odwiedzania parków
low temperature not encourages to visiting parks
zimą].
winter-INSTR
'Low temperature doesn't encourage people to visit parks in winter.'
[Polish]

- (31) Az alacsony hőmérséklet nem vonz \emptyset [PRO a parkba
the low temperature not attract the park.into
téli].
winter.on
'Low temperature doesn't encourage me/you/us/you_{PL} to visit parks
in winter.'
NOT: 'Low temperature doesn't encourage people to visit parks in
winter.'
[Hungarian]

Since anaphors in Polish are strictly subject/external-argument-bound, the next of Rizzi's tests, that is the ability of the missing object to bind an anaphor, is inapplicable to Polish. In Hungarian an anaphor can be bound by an overt generic object (see (32a)). A third-person anaphor is incompatible with a generic

¹⁸As Hungarian makes definite (singular) object drop widely available, sentences such as (31) are acceptable on the reading where a definite object is dropped, but not on the generic/arbitrary reading.

Special thanks to Éva Dékány and Veronika Hegedűs for their help with the translation and judgments of the Hungarian examples presented in this section.

missing object. The acceptable example in (32b), where the verb bears definite conjugation marking, enforces reference to a specific person. Indefinite conjugation marking on the verb results in an unacceptable sentence (see (32c)). When the anaphor is marked for second person, the generic reading seems available (see (32d)). This is an instance of a generic reading of the second-person pronoun.¹⁹ Within the present analysis, the examples in (32) show that an object represented as *n* cannot participate in anaphoric binding in Hungarian.

- (32) a. A jó zene kibékíti az embert
the good music reconcile-3SG.DEF the man-ACC

¹⁹The conditions under which a second-person object can be interpreted as arbitrary in Hungarian require further investigation. According to my informants, this reading is unavailable in (ia), where the object has to be interpreted as the hearer. The arbitrary reading requires an overt object (see (ib)).

- (i) a. Tábornok-ként sosem kényszerítelek \emptyset _[2] háborús bűnök
general-as never force-1S.SG.2O war crimes
elkövetés-é-re.
away.committing-POSS-onto
'As a general, I never force you to commit war crimes.'
b. Tábornok-ként sosem kényszerítek senkit háborús bűnök
general-as never force-1SG nobody-ACC war crimes
elkövetés-é-re.
away.committing-POSS-onto
'As a general, I never force anyone to commit war crimes.' [Hungarian]

For comparison, Polish can drop the object in this context:

- (ii) Jako generał nigdy nie zmuszam \emptyset do popełniania zbrodni wojennych.
as general never not force-1SG to committing crimes-GEN war-ADJ
'As a general, I never force anyone to commit war crimes.' [Polish]

ön-mag-á-val.
 one-self-3SG-with
 ‘Good music reconciles one with oneself.’

- b. A jó zene kibékíti ø ön-mag-á-val.
 the good music reconcile-3SG.DEF one-self-3SG-with
 ‘Good music reconciles her/him with herself/himself.’
- c. *A jó zene kibékít ø ön-mag-á-val.
 the good music reconcile-3SG.INDEF one-self-3SG-with
 ‘Good music reconciles with oneself.’
- d. A jó zene kibékít ø ön-mag-ad-dal.
 the good music reconcile-3SG.INDEF one-self-2SG-with
 ‘Good music reconciles you with yourself.’ [Hungarian]

Adjunct small clauses do not yield clear results for Polish. Sentences modelled on Rizzi’s (1986) examples make the relevant interpretation difficult to access:²⁰

- (33) a. Dobry lekarz bada pacjentów nago.
 good doctor examines patients nude-ADV
 ‘A good doctor examines patients while he is nude/?while they are nude.’
- b. Dobry lekarz bada ø nago.
 good doctor examines nude-ADV
 ‘A good doctor examines patients while he is nude/?*while they

²⁰Substituting the adverb *nago* ‘nude’ with a corresponding adjective results in degraded acceptability in structures with overt objects such as (33a) and is interpreted as an elliptical NP or substantivisation in structures such as (33b) (i.e. ‘...examines (the) naked (ones)’). See Dvořák (2015) for a similar observation with respect to Czech, where the generic missing object can participate in anaphoric binding and control.

are nude.’

[Polish]

The same holds in Hungarian, where the subject-oriented interpretation of the adjunct is prominent, but the object-oriented reading cannot be accessed:²¹

- (34) a. Komoly orvos-ként meztelen vizsgálom a
 serious doctor-as nude examine-1SG.DEF the
 beteget.
 patient-PL.ACC
 ‘As a serious doctor, I examine patients nude.’
- b. Komoly orvos-ként meztelen vizsgálok ø.
 serious doctor-as nude examine-1SG.INDEF
 ‘As a serious doctor, I examine nude.’ [Hungarian]

Within the present proposal, there is exactly one representational difference between the missing object in Polish, where control is available, and in English and Hungarian, where it is not. Namely, *n* contains gender in Polish. If establishing the relation of control can be taken to depend on a nominal being specified for at least one ϕ feature, the data can be accommodated within the current system.²²

²¹The object-oriented reading is accessible in (i), but, according to my informants, this sentence seems to involve the generic reading of a null second-person pronoun.

- (i) Egy komoly orvos meztelen vizsgál ø.
 a serious doctor naked examines
 ‘A serious doctor examines you while he is nude/while you are nude.’ [Hungarian]

²²Interestingly, Italian, French, and Czech, in which arbitrary missing objects can participate in control (see Rizzi 1986; Authier 1989; Dvořák 2015 respectively), are also systems with grammatical gender. See section 2.4 below for some more discussion of control-related variation.

This does not seem implausible, for example, within the approach to binding developed in Kratzer (2009), where the ϕ -feature sets of PRO and the missing object would need to unify (via mediation of verbal functional heads). As the ϕ -feature set of the object *n* is null in English and Hungarian, unification cannot affect the content of the ϕ -feature set of PRO, resulting in the failure of control.

Considering the unavailability of anaphoric binding and modification by a small clause, control structures seem to be the only candidate for diagnosing the value of the gender feature of missing objects in Polish. As masculine is the unmarked option on nouns denoting humans, it is the first choice, as shown in (35a). The masculine value of the gender feature as well as the value of the number feature is reflected in the adjectival morphology of the intensifier *samego* ‘alone-M.SG.ACC’/*samą* ‘alone-F.SG.ACC’, which modifies the anaphor bound by PRO.²³ The value of feminine gender is reflected in contexts where reference is to female individuals, as shown in (35b).

- (35) a. Ta ulotka zachęca \emptyset do [PRO dbania o siebie
 this flyer encourages to taking.care about self
 samego].
 alone-M.SG.ACC
 ‘This flyer encourages people to take care of themselves.’

²³ A similar observation is provided in Dvořák (2015) for Czech.

These data can be used as a test for ϕ -feature values of the missing object on the assumption that PRO includes only the features which are borne by the object, rather than contributing features/values of its own.

- b. Ta ulotka o mammografii zachęca \emptyset do [PRO
 this flyer about mammography encourages to
 dbania o siebie samą].
 taking.care about self alone-F.SG.ACC
 ‘This flyer about mammography encourages women to take care
 of themselves.’ [Polish]

Out of context, the number feature is singular. Plural number is possible when the missing object refers to a contextually salient group of people, in which case the structure involves definite object drop (see chapter 3 for an analysis):

- (36) ?Ta ulotka zachęca (nas) do [PRO dbania o siebie
 this flyer encourages us to taking.care about self
 samych].
 alone-M.PL.ACC
 ‘This flyer encourages us to take care of ourselves.’ [Polish]

Mass nouns also trigger singular agreement (e.g. *ryż jest gotowy* ‘rice is ready-M.SG’), which can be taken to arise by default.

Wrapping up, the tests available in the respective languages show that the arbitrary object, taken here to be represented as *n*, can participate in control in Polish, but not in English and Hungarian. It is not a possible binder either in English or in Hungarian. Data involving small clauses are unclear, with the object-oriented reading either being grammatically unavailable or being overwritten by a much more prominent subject-oriented reading. Rather than attributing the facts

observed in English and Hungarian to the lack of the projection of the object in the syntactic component (see Rizzi 1986), I suggest that the data result from the lack of the specification of the object *n* for ϕ features in these languages. The specification of *n* in Polish for gender makes it available for participation in control.

2.3 The manner and result components of verb meaning

An influential approach to the ontological categories of roots distinguishes between the manner and result components of verb meaning (see also section 5.2.2 of chapter 5). According to this approach, unspecified object drop is a characteristic feature of manner roots and it is blocked with result roots (see Rappaport Hovav & Levin 1998; Levin 1999; Rappaport Hovav & Levin 2010; Beavers & Koontz-Garboden 2012). However, the part of this approach related to object drop faces some serious challenges. For example, even though the verb *write*, which is a manner verb, makes object drop possible, verbs expressing the manner of writing do not, as illustrated in (37) from Rice (1988:203). Similar patterns are observed with verbs of manner of reading, eating, and drinking. This is unexpected on the analysis predicting that manner verbs should make object drop possible.

- (37) a. Samuel Pepys wrote \emptyset daily.
 b. *Samuel Pepys penned \emptyset /inscribed \emptyset /drafted \emptyset daily.

Furthermore, closer inspection reveals that the problem is actually reverse with the verbs *eat* and *drink*. In particular, these verbs cannot be considered as manner verbs. Unspecified object drop aside, some other diagnostics for detecting the manner and result components of verb meaning indicate that manner verbs require animate subjects, as shown in (38) and (39) from Beavers & Koontz-Garboden (2012:344), and that result verbs are incompatible with the denial of result, as illustrated in (40) and (41) from Beavers & Koontz-Garboden (2012:337) and discussed also in Beavers (2011).

- (38) The hammer broke/shattered the vase. [*break/shatter* are not manner Vs]

- (39) #The stiff brush scrubbed/wiped the floor. [*scrub/wipe* are manner Vs]

- (40) #Shane just broke the vase, but nothing is different about it.

[*break* is a result V]

- (41) Tracy just swept the floor, but nothing is different about it.

[*sweep* is not a result V]

As indicated in (42)–(43), the verb *eat* passes both kinds of tests, similarly to the

verb *drink*.

- (42) *Manner: animate subject*

#The spoon ate the cake.

- (43) *Result: the denial of result*

#Celia ate the cake, but nothing is different about it.

Even though the manner component is clearly present in the manner-of-eating and manner-of-drinking verbs, the verbs *eat* and *drink* seem neutral with respect to manner. That manner is indeed underspecified with *eat* is indicated by examples such as (44), gathered in a random internet search and concerning providing nutrition through a feeding tube, a process which can be done through the nose or by inserting the tube directly into the stomach.

- (44) a. When you eat through plastic tube, when you are paralyzed from neck down, then your family will gather around your hospital bed, to see the new you.
- b. What can you eat with a feeding tube?
- c. Brides-to-be are jumping on a new diet train that is seeing women eat through nose tubes to shed weight.

- d. Jessica Schnaider, a 41-year-old Floridian bride-to-be, spent eight days eating through a tube in her nose in order to drop those pesky last few pounds before going gown shopping in March.

The diagnostics for detecting the meaning components certainly need to be interpreted with caution. The reason why the verbs *eat* and *drink* pass the Agent-related manner test might not be that they lexically encode the manner component, but rather that, in line with the analysis in Jackendoff (1990), the Agent also provides the Path/Goal for movement of the thing eaten (Theme). The (slightly simplified) conceptual structure of *drink* and *eat* from Jackendoff (1990:53, 253) is shown in (45).²⁴

- (45) a. [Event CAUSE ([Thing] [Event GO ([Thing LIQUID] [Path TO (Place IN ([Thing MOUTH OF ([Thing])))]))]]
 b. [CAUSE ([Thing] [GO ([Thing] [TO [IN [MOUTH-OF[α]]]])])]]

The incompatibility of these verbs with instrument subjects, as shown in (42), receives an explanation, in that, for example, a spoon cannot provide a Path/Goal,

²⁴These representations might require modification, as indicated by (44), where the food does not pass through the mouth and by the fact that taking something into the mouth does not necessarily result in it being eaten. What is important for the present purpose is that *eat* and *drink* are treated as causative/result verbs. The Goal is conceptually the Agent, which implies that a change in the object necessarily triggers a change in the Agent.

as at the end of the eating event, the thing eaten is not inside the spoon. This means that the intuition that *eat* and *drink* do not encode manner is not challenged by the data.²⁵ This is in line with Jackendoff's analysis, on which *eat* and *drink* are causative, change of location, result verbs. As result verbs, *eat* and *drink* are thus problematic for the analysis offered in Rappaport Hovav & Levin (1998, 2010), because result verbs, whose event structure template consist of two subevents ([[x ACT] CAUSE [y BECOME <RESULT-STATE>]]), should not make object drop possible (see section 5.2.2 of chapter 5).

Summing up, the behaviour of verbs of manner of writing, among others, and the behaviour of the verbs *eat* and *drink* suggest that the division of verbs into ones which encode manner and ones which encode result is insufficient for capturing the patterns of object drop. If the claims about the correlations between the meaning components and object drop made in the literature were right, verbs of manner of writing should make object drop freely available, whereas the

²⁵As noted above, Levin (2013) categorises *eat* as a manner verb. However, she suggests that result verbs are most convincingly distinguished from manner verbs if the argument which undergoes the change must be interpreted as being different at the end of the event. As the thing eaten is necessarily different at the end of the eating event (as well as the agent of eating), I take this characterisation of result verbs to support the conclusion reached here.

In addition to the two-way distinction between manner and result roots, Beavers & Koontz-Garboden (2012) argue for the existence of another ontological category, namely manner+result roots, encoding both components simultaneously, based mostly on the behaviour of manner-of-killing verbs (e.g. *crucify*, *guillotine*). Rappaport Hovav & Levin (1998) also note (fn. 4) that verbs such as *cut* specify both manner and result, even though they assume complementarity between the two components. Verbs of manner of eating and drinking seem also to encode both manner and result. See Husband (2011) for some additional discussion of manner+result verbs.

verbs *eat* and *drink* should block object drop, contrary to fact. The regularities which emerge from the data seem to indicate instead that rich specification of manner blocks unspecified object drop, or at least decreases its acceptability in cases where the more basic verb makes object drop possible (see section 1.2 of chapter 1 for a formulation of this observation in terms of a *Manner specification generalisation*). Rich manner specification has a role to play in object drop when the neutral verb is a manner verb (e.g. *write* vs. *inscribe*) and when it is a result verb (e.g. *eat* vs. *munch*). In addition, when there does not seem to be any more neutral equivalent of a verb, rich manner does not block object drop, at least for manner verbs (e.g. *iron*).

One other interesting distinction uncovered by the data presented above relates to verbs encoding only result. More specifically, if the verbs *eat* and *drink* are result verbs, there is also a distinction within the result class in that some result verbs make unspecified object drop generally available (*eat/drink*), whereas others make object drop available only in special licensing contexts (e.g. *I've never killed ø before*; see chapter 5). The difference between *eat* and *drink* on the one hand and *kill* on the other can be hypothesised to be due to the fact that in the former case, the Agent provides the Path/Goal for movement of the Theme/Patient at the same time, triggering result construal.²⁶ As the result relates not only to the

²⁶A similar pattern holds of reflexives. For example, in sentences such as (i), Tom is not only the Agent, but he (his skin) also provides a Path/Goal.

object argument in this case, but also to the subject (e.g. the eating event can be over either when the food is gone or when the Agent’s stomach is full), the specification of the Agent is enough for the event to be conceptualised as potentially delimited.

2.4 Summary and extensions

The empirical observations which have been the focus of the second part of this chapter (section 2.3) concern the blocking of object drop by the addition of manner specification to a more neutral verb meaning and to the suggestion that result verbs do not make object drop possible unless the Agent provides the Path/Goal at the same time, triggering result construal. I have taken these effects to be rooted in the semantic and pragmatic components of human cognition. Developing a detailed account of why the relevant contexts do not license a null *n* object needs to be addressed in future research.

The main hypothesis put forward in this chapter is that indefinite missing objects can be represented in the syntactic component as the nominalising head *n*, whose basic denotation is $\lambda y. \top \equiv y = y$. Such an object is interpreted in par-

-
- (i) Tom shaved.

Alexiadou et al. (2013) likewise note a link between verbs such as *eat* and reflexives, but their analysis relies on the correctness of Levin and Rappaport Hovav’s approach.

allel with bare mass nouns, possibly by the application of the operation Restrict (Chung & Ladusaw 2004). Missing objects of this type do not bear the case feature, but the *n* head can bear the gender feature, which can have an effect on the distribution and interpretation of missing objects, as the examples in (35) above demonstrate. I have hypothesised that the presence of gender in the projection of a missing object is responsible for the object being syntactically active (e.g. for its ability to participate in control).

2.4.1 *Extensions: arbitrary missing objects and control*

It is worth noting that the issue of the availability of control in sentences with arbitrary missing objects is even more intriguing than the previous literature suggests (see, e.g. Rizzi 1986; Landau 2010).²⁷ For example, as noted above, Hungarian patterns with English in that it clearly makes arbitrary missing objects available (see (46)–(47)), but such objects are unavailable as controllers, regardless whether they appear in generic or in episodic contexts (see (48) and (49) respectively).

- (46) A jelzés lavina-veszély-re figyelmeztet ø.
 the sign avalanche-danger-onto warns
 ‘This sign warns against avalanches.’ [Hungarian]

²⁷Special thanks to Jan Casalicchio, Federica Cognola, Éva Dékány, Veronika Hegedűs, Nick Huang, Gesoel Mendes, Dongwoo Park, and Radek Šimík for providing me with the data discussed in this section and for sharing their observations about them.

- (47) Tegnap a meteorológusok erős szélre figyelmeztettek ø.
 yesterday the meteorologists strong wind warned-3PL
 ‘Yesterday, meteorologists cautioned against strong winds.’

[Hungarian]

- (48) Az alacsony hőmérséklet nem vonz ø a parkba télen.
 the low temperature not attract the park-into winter-on
 ‘Low temperature doesn’t encourage me/you/us/you_{PL} to visit parks
 in winter.’

NOT: ‘Low temperature doesn’t encourage people to visit parks in
 winter.’

[Hungarian]

- (49) Sajnos a hőmérséklet hétvégi esés-e nem
 unfortunately the temperature weekend falling-POSS not
 vonzott ø a parkba.
 attracted-3SG the park-into
 ‘The temperature drop at the weekend didn’t attract me/you/us/you_{PL}
 to the park.’

NOT: ‘The temperature drop at the weekend didn’t attract people to
 the park.’

[Hungarian]

Similar situation holds in Brazilian Portuguese. Even though my informants judge the examples in (50)–(51) as acceptable, control seems incompatible with arbitrary missing objects regardless whether the context is generic (see (52)) or episodic (see (53)).²⁸

²⁸In section 2.2.4 I have suggested that the unavailability of control in structures with arbitrary

(50) Essa placa alerta ø sobre avalanches.
 this sign cautions regarding avalanches
 ‘This sign cautions against avalanches.’ [Brazilian Portuguese]

(51) Ontem, os meteorologistas alertaram ø sobre fortes ventos.
 yesterday the meteorologists cautioned regarding strong winds.
 ‘Yesterday meteorologists cautioned against strong winds.’
 [Brazilian Portuguese]

(52) ??*Chuva normalmente não encoraja ø a visitar amigos.
 rain usually not encourages to visit friends
 ‘Rain usually doesn’t encourage people to visit friends.’
 [Brazilian Portuguese]

(53) ??*A queda na temperatura no fim de semana não encorajou
 the drop in.the temperature in.the end of week not encouraged

missing objects in English and Hungarian could result from the lack of grammatical gender in these languages. The unavailability of control in Brazilian Portuguese in the relevant contexts suggests that additional factors are involved. The relevant factor in this case can be related to the availability of a bare noun to be interpreted as arbitrary. This seems to be a complex problem in Brazilian Portuguese, as suggested by the contrasts in judgments of the following examples.

(i) Essa placa alerta (as) pessoas sobre avalanches.
 this sign cautions the people regarding avalanches
 ‘This sign cautions people against avalanches.’ [Brazilian Portuguese]

(ii) Um general pode obrigar ??(as) pessoas/ alguém a cometer(em) um crime de
 a general can force the people someone to commit-PL a crime of
 guerra
 war
 ‘A general can force people/one to commit a war crime.’ [Brazilian Portuguese]

(iii) Ontem, os meteorologistas alertaram ??(as) pessoas sobre fortes ventos.
 yesterday the meteorologists cautioned the people regarding strong winds.
 ‘Yesterday meteorologists cautioned people against strong winds.’
 [Brazilian Portuguese]

ø a visitar amigos
 to visit friends
 ‘The temperature drop at the weekend didn’t encourage people to
 visit friends.’ [Brazilian Portuguese]

Korean likewise does not make control possible despite making arbitrary
 missing objects of this type available:

- (54) i pyosi-nun [tayphwung-ul kyeongko-ha-nun] kes-i-ta.
 this sign-TOP typhoon-ACC caution-LV-ADN thing-COP-DECL
 ‘This sign cautions against typhoons.’ [Korean]
- (55) ecey ku hakca-nun khun tayphwung-ul kyeongko-ha-ess-ta.
 yesterday the scholar-TOP big typhoon-ACC caution-LV-PAST-DECL
 ‘Yesterday, the scholars cautioned against a big typhoon.’ [Korean]
- (56) ku hakca-nun *(salamtul-eykey) cip-ey iss-eyahan-da-ko
 the scholar-TOP people-DAT house-at stay-must-DECL-C
 kyeongko-ha-ess-ta.
 caution-LV-PAST-DECL
 ‘The scholars cautioned people to stay at home.’ [Korean]
- (57) ku hakca-nun *(salamtul-eykey) cip-ey iss-eyahan-da-ko
 the solar-TOP people-DAT house-at stay-must-DECL-C
 hangsang kyeongko-ha-ess-ta.
 always caution-LV-PAST-DECL
 ‘Scholars always cautioned people to stay at home.’ [Korean]
- (58) kyewul-uy nacun onto-nun *(salamtul-ul) cip pakk-ulo
 winter-GEN low temperature-TOP people-ACC house outside-to
 naka-ci mot-ha-key ha-n-ta.
 go-out NEG-LV-CAUSE LV-PRES-DECL

‘Low temperatures in winter causes people not to go outside.’ [Korean]

- (59) cwumal-uy chwuwn nalssi-nun *(salamtul-ul) cip
 weekend-GEN cold weather-TOP people-ACC house
 pakk-ulo naka-ci mot-ha-key ha-ess-ta.
 outside-to go-out NEG-LV-CAUSE LV-PAST-DECL
 ‘Cold weather at weekend caused people not to go outside.’ [Korean]

Furthermore, even though Italian makes control available in generic contexts (see (60)), based on examples such as (61), Rizzi (1986:504) makes the general claim that Italian makes arbitrary object drop available only in generic contexts.

- (60) Questo conduce \emptyset a concludere quanto segue.
 ‘*This leads to conclude what follows.’ [Italian]

- (61) *?Alla fine della vacanza il bel tempo ha invogliato \emptyset a restare.
 ‘At the end of the vacation the nice weather has induced to stay.’
 [Italian]

However, my informants find (62) completely acceptable.

- (62) Ieri i metereologi hanno avvisato \emptyset del pericolo di
 yesterday the meteorologistis have cautioned of.the danger of
 valanghe.
 avalanche
 ‘Yesterday meteorologists cautioned against the danger of an avalanche.’

[Italian]

What seems to be the case is that arbitrary objects can in general be dropped in Italian. It is only their ability to appear in control structures which is restricted. The contrast between the generic context in (63a) and the episodic context in (63b) illustrates this.

- (63) a. Il calo delle temperature non incoraggia ø a passare del
the drop of.the temperature not encourages to spend the
tempo fuori casa.
time outside house
'The drop in temperature doesn't encourage people to spend
time outside.'
- b. *Il calo delle temperature nel weekend non ha
the drop of.the temperature in.the weekend not has
incoraggiato ø a passare tempo fuori casa.
encourage to spend time outside house
'The drop in temperature at weekend didn't encourage people
to spend time outside.'
- [Italian]

Interestingly, the specific context in (64) makes control available.

- (64) Da stanotte le temperature sono scese drasticamente, e non
from tonight the temperature are dropped dramatically and not
c'è molta gente ai mercatini oggi. Il brusco calo delle
there.is many people at.the markets today the sharp drop of.the

temperature di stanotte non incoraggia ø a rimanere all'aperto.
 temperature at tonight not encourage to stay outdoors
 'Temperature dropped dramatically tonight and there's not a lot of
 people at the markets today. The sharp drop in temperature tonight
 does not encourage people to stay outdoors.' [Italian]

A different type of constraint is observed in Mandarin, where the initial examples in (65)–(67) suggest that arbitrary object drop is completely blocked, even with structures without control.²⁹

- (65) zhe shi tixing *(renmen) xiaoxin xuebeng de gaoshipai.
 this be remind people be.careful avalanche MOD sign
 'This is a sign that cautions against avalanches.' [Mandarin]

- (66) shang zhoumo tianqi zhuan liang, kexi mei xiying
 last weekend weather became cool but NEG.PERF attract
 *(renmen) dao gongyuan youwan.
 people to park visit
 'The weather became cool last weekend but that didn't attract people
 to visit the park.' [Mandarin]

- (67) jiangling neng poshi *(buxia) fanxia zhanzheng zui.
 general can force subordinate commit war crime
 'A general can force his subordinates to commit war crimes.'

[Mandarin]

²⁹This is consistent with data from other types of indefinite object drop in Mandarin, where object drop is also unavailable in structures such as *Lisi ate* (see section 2.4.2 below for some more discussion).

However, as illustrated in (68), at least the verb *xialing* ‘order’ makes arbitrary objects available in a context similar to (67).

- (68) ?jiangling you quan xialing ø fanxia zhanzheng zui.
 general have power order commit war crime
 ‘A general has the authority to order his subordinates to commit war crimes.’ [Mandarin]

In the more specific context in (69), the sentence is completely acceptable.

- (69) jiangling xialing ø qiangbi youjiduiyuan.
 general order execute-by-shooting guerrilla
 ‘The generals ordered to shoot the guerrillas.’ [Mandarin]

All the patterns above contrast further with Polish, where control is easily available with arbitrary missing objects, even in episodic contexts (see (70b)).

- (70) a. Meteorolodzy ostrzegali ø wczoraj przed silnym wiatrem.
 meteorologists warned yesterday before strong wind
 ‘Yesterday, meteorologists cautioned against strong wind.’
 b. Spadek temperatury w weekend nie zachęcał ø,
 drop temperature-GEN in weekend not encouraged
 żeby spędzać czas na zewnątrz.
 that-SUBJ spend time on outside
 ‘The drop in temperature at weekend didn’t encourage people to spend time outside.’ [Polish]

Furthermore, even though, providing the example in (71), Dvořák (2015:79) suggests that Czech makes arbitrary missing objects unavailable in episodic contexts, the judgments presented there seem to be an artefact of the specific interpretation of the object favoured by this particular example. My informant finds the episodic sentences in (72) completely acceptable. The sentence in (72b) shows that, just like in Polish, control is also available in Czech in episodic contexts with missing objects.

- (71) a. Dobrý policajt chrání ø/ lidi před fyzickým
 good policeman protects-IMPERF people from physical
 i psychickým terorem.
 and psychological terror
 ‘A good policeman protects one/people from both physical and
 psychological terror.’
- b. Právě teď tam jeden policajt chrání *ø/ lidi před
 right now there one policeman protects people from
 partou teroristů.
 group terrorists
 ‘There is a policeman protecting *one/some people from a group
 of terrorists right now.’ [Czech]
- (72) a. Meteorologové včera varovali ø před silnými větry.
 meteorologists yesterday warned before strong winds
 ‘Yesterday, meteorologists cautioned against strong winds.’
- b. Víkendový pokles teplot k návštěvě parku
 weekend-ADJ drop temperatures to visiting park

bohužel nenalákal ø.
unfortunately not.attracted
'The temperature drop at the weekend didn't attract people to
visit the park, unfortunately.'
[Czech]

The patterns presented above show that, when considered from the cross-linguistic perspective, the availability of control in structures with arbitrary missing objects is a complex issue, ranging from completely unacceptable (English, Hungarian, Brazilian Portuguese, Korean) to being influenced by factors such as genericity and the availability of a specific context (Italian) or by lexical variation (Mandarin), to being generally available (Polish, Czech). Determining which elements of the grammar are responsible for the observed patterns is an interesting research question which needs to be answered not only for the sake of research on missing objects, but also for the sake of the development of theoretical analyses of control. This is a research project which cannot be undertaken here, but the complexity of the data in its own right suggests that caution is advisable when interpreting the lack of availability of control as evidence against the syntactic projection of an argument. This contrasts with the success of diagnosing a syntactically projected missing object that is syntactically alive and can control into an infinitival complement.

2.4.2 Extensions: read \emptyset versus kan-shu ‘read-book’

Expressing unspecified objects as null is one of two cross-linguistically attested patterns.³⁰ The other pattern, observed in languages such as Mandarin, requires an overt (semi-)pleonastic object to express this meaning. To illustrate, even though *shu* ‘book’ and *fan* ‘rice’ have descriptive content when used in other structures, when an unspecified object is intended, they do not constrain the interpretation of the theme argument with their regular denotation. The object in (73) from Lee (2014:17) need not necessarily be interpreted as books. It can also be interpreted, for example, as magazines. Similarly, the object in (74) from Cheng & Sybesma (1998:81) refers to any kind of food.³¹

³⁰Special thanks to Nick Huang, Shota Momma, and Dongwoo Park for their translations and judgments of the Mandarin, Japanese, and Korean data presented in this section.

³¹It seems that there might be some inter-speaker variation with respect to the extent to which *fan* ‘rice’ in (74) can be bleached of its conceptual content. According to my informant, the noun *dongxi* ‘thing’ would be more appropriate when the general meaning of food is intended, as shown in (i). The same does not seem to be true of *kan* ‘read’, where *dongxi* ‘thing’ seems less natural. Following Cheng & Sybesma (1998), I omit tone marking in the Mandarin examples here.

- (i) wo bu ai chi-dongxi.
 I not like eat-thing
 ‘I don’t like to eat.’ [Mandarin]

Interestingly, structures of this type are not completely parallel to the English-type data at least in terms of the inferential processes guiding their interpretation. This is shown by the fact that, for example, the sentence in (ii) does not trigger the reading on which Hemingway drank alcohol, unlike its English equivalent. To express the meaning which is associated by convention with the missing object in English, reference to alcohol has to be made explicit, as in (iii).

(73) John zai jia kan-shu
 John at home read-book
 ‘John reads at home.’ [Mandarin]

(74) wo bu ai chi-*(fan)
 I not like eat-rice
 ‘I don’t like to eat.’ [Mandarin]

When nothing appears in the object position, the object has to be construed as anaphoric (Cheng & Sybesma 1998:83):

(75) Zhang San chi-le
 Zhang San ate-PERF
 ‘Zhang San ate it.’ [Mandarin]

Based on data of this type, Cheng & Sybesma (1998:89) suggest the condition in (76) below, where *pro* stands for a definite argument.

(76) If an object position allows for *pro*, then that position cannot be occu-

(ii) Haimingwei (zuotian) he-le dongxi.
 Hemingway yesterday drink-PERF thing
 ‘Hemingway drank something (yesterday).’ [Mandarin]

(iii) Haimingwei (zuotian) he-le jiu.
 Hemingway yesterday drink-PERF alcohol
 ‘Hemingway drank (alcohol) yesterday.’ [Mandarin]

As noted in Cheng & Sybesma (1998), also translational equivalents of intransitive verbs such as *yawn* and *walk* in Mandarin are composed of a verb and an object (*da-haqian* ‘hit/do-yawn’ (‘yawn’), *zou-lu* ‘walk-road’ (‘walk’)).

pied by non-referential empty objects. Such non-referential objects are expressed by an overt dummy nominal.

This condition relates the appearance of the overt (semi-)pleonastic nominal in contexts where an unspecified object is intended in languages such as Mandarin to the presence of definite object drop. However, data from Polish and Hungarian discussed throughout this work show that this generalisation does not hold, as these languages make available both definite and unspecified object drop with the same verb.³²

Moreover, the lack of parallelism between languages such as English and Mandarin does not affect all (notional) arguments. As revealed by (77)–(78), taken from Lu, Zhang & Bisang (2015:748–749), the constituent *100-yuan* ‘100 dollars’ can be omitted with the verb *qiang* ‘rob’, but not with the verb *tou* ‘steal’. These data pattern with English.

- (77) a. Lisi qiang-le Zhangsan 100-yuan qian.
Lisi rob-PERF Zhangsan 100-dollar money
‘Lisi robbed Zhangsan of 100 dollars.’

³²Lee (2014) notes that also Malayalam seems to contradict this generalisation.

Generally speaking, Lee (2014) proposes an analysis on which the object in all cases is represented syntactically as a nominal element and attributes the difference between languages of the English and the Mandarin type to Spell-Out rules, according to which the object is zero-realised in English, but its pronunciation in Mandarin is conditioned by the verb. Even though more empirical research seems necessary before theoretical approaches can be developed, this treatment of the data is consistent with the proposal put forward here, where a bare *n* would be realised as *shu* ‘book’ when in the complement of *kan* ‘read’.

- b. Lisi qiang-le Zhangsan.
 Lisi rob-PERF Zhangsan
 ‘Lisi robbed Zhangsan.’ [Mandarin]

- (78) a. Lisi tou-le Zhangsan 100-yuan qian.
 Lisi steal-PERF Zhangsan 100-dollar money
 ‘Lisi stole 100 dollars from Zhangsan.’
 b. *Lisi tou-le Zhangsan.
 Lisi steal-PERF Zhangsan
 ‘Lisi stole from Zhangsan.’ [Mandarin]

Furthermore, even though according to Cheng & Sybesma (1998) and Lee (2014) Cantonese, Korean, Thai, and Mundang, among others, pattern with Mandarin in blocking unspecified object drop, the situation does not seem to be as clear-cut, at least in Korean. According to my informant, there is a clear difference in judgment of the verbs *ssu* ‘write’ and *mek* ‘eat’ in (79).

- (79) a. *nay-ka ku-lul pol-ttaymata, ku-nun ssu-ko iss-ess-e.
 I-NOM he-ACC see-whenever he-TOP write-C PROG-PAST-DECL
 ‘Whenever I saw him, he was writing.’
 b. ??nay-ka ku-lul pol-ttaymata, ku-nun mek-ko iss-ess-e.
 I-NOM he-ACC see-whenever, he-TOP eat-C PROG-PAST-DECL
 ‘Whenever I saw him, he was eating.’ [Korean]

The availability of object drop with *mek* ‘eat’ is further influenced by context:

- (80) a. na-nun mek-nun kes-ul cohaha-n-da.
 I-TOP eat-ADN NOMINLIZER-ACC like-PRES-DECL
 'I like to eat.'
- b. na-nun *(mwue-lul) mek-ess-ta.
 I-TOP something-ACC eat-PAST-DECL
 'I ate (something).' [Korean]

In addition, the verb *chengso* 'clean', which is a borrowing from Mandarin, behaves differently from the native Korean verb *chiwu* 'clean':

- (81) a. Bill-un (pang-ul) chengso-ha-ess-ta.
 Bill-TOP room-ACC clean-LV-PAST-DECL
 'Bill cleaned (his room).'
- b. Bill-un *(pang-ul) chiwu-ess-ta.
 Bill-TOP room-ACC clean-PAST-DECL
 'Bill cleaned the room.' [Korean]

Japanese seems to behave similarly to Korean. According to my informant, the acceptability of sentences with unspecified object drop depends on the choice of the verb. In (82), the missing object of the verb *tabetaku* 'eat' is unspecified and the sentence is perfectly acceptable. On the other hand, unspecified object drop is only marginally acceptable with the verb *yomu* 'read' and it is completely unavailable with the verb *yaku* 'bake', as demonstrated in (83) and (84). Substituting the verbs *yomu* 'read' and *yaku* 'bake' in (83)–(84) with *tabetaku* 'eat' makes the sentences acceptable. These sentences also become acceptable when

the context establishes that the domain of possible referents of the objects is restricted, for example, to books or cakes, even if they remain unspecified.

- (82) watashi-wa tabetaku arimasen.
 I-TOP eat like-NEG
 ‘I don’t like to eat.’[Japanese]

- (83) ??*John-wa itsumo ie-de yomu.
 John-TOP always at-home read
 ‘John always reads at home.’[Japanese]

- (84) a. ??*watashi-wa gogo-jyu yonde sugoshimasita.
 I-TOP afternoon.entire-ACC read spent
 ‘I spent the entire afternoon reading.’

 b. *watashi-wa gogo-jyu yaite sugoshimasita.
 I-TOP afternoon.entire-ACC bake spent
 ‘I spent the entire afternoon baking.’[Japanese]

The data presented here clearly provide some evidence that the suggested complementarity between definite and unspecified object drop (see (76)) is not a general property of natural language grammar. The core factors regulating the (un)availability of unspecified object drop in the relevant languages and its relation to definite object drop, if any, need to be reconsidered. For this to be possible, more fine-grained distinctions need to be taken into account in empirical research to determine the exact conditions under which unspecified objects can remain unpronounced in languages such as Mandarin, Korean, and Japanese. In

Chapter 3

Definite missing objects

In the spirit of the account offered in the preceding chapter, I suggest here that definite missing objects are present in the syntactic component and that their projection minimally consists of the nominal categorising head n . Whether n can function as a definite object on its own depends on the availability of the iota operation (ι , that is the operation of type shifting a predicate to an individual) in a given language or in a given syntactic context. In addition to the availability of ι , the distribution of definite missing objects is guided by, among others, the way in which heads composing pronouns in a language are interpreted at the syntax-morphology (SM) interface. The system developed here makes it possible to capture the observation that definite object drop is restricted lexically in English by suggesting that only some verbs make it possible for their complement to be

shifted with ι . As a language which makes extensive use of bare noun arguments, Polish is not restricted in the same way. Hungarian does not make the application of ι available at all, which is why its nominal arguments need to include further nominal heads to be interpreted as definite.

Section 3.1 presents the main theoretical claims made here. In section 3.2, I offer an analysis of the representations of personal pronouns in English, Polish, and Hungarian. These representations form a basis for developing some details of the analysis of definite missing objects, especially in Hungarian. I take pronouns in all languages discussed here to be KPs, but argue that their internal structure differs to some extent. English pronouns are represented as $[_{KP} K [_{DP} D_{[Pers]} [_{NumP} Num [n]]]]$, Polish pronouns are represented as $[_{KP} K [_{PersP} Pers [_{NumP} Num [n]]]]$, and Hungarian pronouns are $[_{KP} K [_{DP} D [_{PersP} Pers [_{NumP} Num [n]]]]]$ structures. Developing this analysis, I discuss how it can account for the intriguing morphological forms of Hungarian personal pronouns.

The analysis of definite missing objects is given in section 3.3. In section 3.3.1, I analyse definite missing objects in English, proposing that they are represented as n and interpreted with ι , whose application is restricted to objects of particular verbs. I offer a parallel analysis of Polish in section 3.3.2, the difference being that the application of ι is not restricted lexically in this language, as evidenced by its wide use of bare nominal arguments interpreted as definites.

The availability of definite missing objects in Polish is constrained by the competition from overt pronominals. Definite missing objects in Hungarian are the focus of section 3.3.3, where I concentrate on an investigation of the source of the unacceptability of dropping (third-person) plural definite objects. Discussing the relevance of the verbal conjugational system of Hungarian to object drop, I argue against the established approach based on the notion of (semantic) recoverability of the number feature and I suggest instead that the relevant blocking factor is morphological: there is no available host in the structure with object drop to which the nominal plural-number affix could attach. First/second-person plural objects can be dropped in Hungarian. I suggest that this follows from the structural representation of first/second-person pronominal projections, which differs from the representation of third-person pronouns in that the Num head moves to Pers.

In section 3.3.4, I briefly discuss a different approach on which all definite missing objects are represented as DPs. I conclude that this alternative is theoretically unattractive.

3.1 Definite missing objects as partial pronominal structures

Viewed from the perspective of the comparison between definite missing objects and overt pronouns, the analysis proposed here breaks with the tradition taking null and overt pronouns to have the same structure that goes back as far as at least Perlmutter (1971). Instead, I take missing objects to lack case (the K head), similarly to indefinite missing objects analysed in the preceding chapter. On the decompositional approach to the structure of (pro)nominal phrases assumed here, the distribution of null and overt pronominals is regulated by the morphological properties of the exponents of the heads composing them and by the Spell-Out rules of the relevant languages.

The structural representation of definite missing objects offered here groups together English and Polish, to the exclusion of Hungarian. This is reflected in the way in which the structures are interpreted at the conceptual-intentional (C-I) interface. Whereas definite missing objects in English and Polish manifest some interpretive differences compared with overt pronouns in these languages and are taken here to be interpreted via the application of ι , definite missing objects in Hungarian are interpreted in parallel with overt pronouns and are analysed here in the same way. The ι operation employed in English and Polish is not associated with any syntactic head, but missing objects in Hungarian are DP structures. I

present the summary of the proposal in Table 3.1.

	<i>English</i>	<i>Polish</i>	<i>Hungarian</i>
<i>Syntactic representation</i>	n	n	$[_{DP} D [_{PersP} Pers [_{NumP} Num [n]]]]$
<i>Definite interpretation via</i>	ι	ι	D

Table 3.1: Definite missing objects in English, Polish, and Hungarian

For comparison, I analyse overt pronouns in the three languages as follows:

- (1) a. *Overt pronouns in English:* $[_{KP} K [_{DP} D[_{Pers}] [_{NumP} Num [n]]]]$
b. *Overt pronouns in Polish:* $[_{KP} K [_{PersP} Pers [_{NumP} Num [n]]]]$
c. *Overt pronouns in Hungarian:*

$$[_{KP} K [_{DP} D [_{PersP} Pers [_{NumP} Num [n]]]]]$$

For the sake of concreteness, in section 3.2 I present some details concerning the syntactic structure of personal pronouns in English, Polish, and Hungarian which I assume in the present discussion.¹ I follow this with a discussion of the present proposal concerning definite missing objects in English, Polish, and Hungarian in section 3.3.

¹Alternative representations of pronouns, proposed, for example, by Déchaine & Wiltschko (2002); Harley & Ritter (2002); Neeleman & Szendrői (2007) are also compatible with the proposal concerning null objects developed here.

I treat third person as a feature present in the representations rather than as the absence of person, even though nothing here hinges on this (see Lyons 1999; Harley & Ritter 2002; Nevins 2007 for discussions).

3.2 The structure of pronouns in English, Polish, and Hungarian

Table 3.2 presents the basic forms of pronouns in English, Polish, and Hungarian.²

	<i>English</i>	<i>Polish</i>	<i>Hungarian</i>
1SG	me	mnie	engem(et)
2SG	you	cię	téged(et)
3SG	her/him/it	ją _F /go _M /je _N	őt
1PL	us	nas	minket
2PL	you	was	titeket
3PL	them	je _{F/N} /ich _M	őket

Table 3.2: Accusative pronominal forms in English, Polish, and Hungarian

In this context, the theoretical utility of n , which I take here to compose lexical noun phrases and constitute the minimal representation of missing arguments, can be further extended to pronominal structures. More specifically, I take the nominalising head n to be the lowest head in the projection of pronouns.³ The n

²Table 3.2 presents the weak forms of Polish pronouns. The paradigm includes also the strong forms *ciebie* ‘you_{SG}’ and *jego* ‘him’ and variants starting with n -, which are used following a preposition (e.g. *na nią/niego/nie* ‘on her/him/it’). Establishing a proper analysis of these forms does not have a bearing on the discussion here. It seems that a possible difference between the strong forms and the forms in Table 3.2 could be in the presence of the root in the complement of n .

In Hungarian the accusative suffix *-et* is optional with the first/second-person singular forms (Kenesei, Vago & Fenyvesi 1998). There are alternative forms in the first and second person plural: *bennünket* ‘us’ and *benneteket* ‘you_{PL,ACC}’. They seem to be composed of the inessive forms *benn-ünk* ‘in us’ and *benn-etek* ‘in you’, to which the accusative ending attaches. I do not discuss these variants here any further, but they can plausibly be analysed as differing from the variants *minket* ‘us’ and *titeket* ‘you_{PL,ACC}’ in the presence of the root.

³The null NP representing null arguments in Panagiotidis (2003) and Barbosa (2017) is also taken by them to be the lowest projection in the structure of pronouns.

head contains the gender feature in Polish and in English (at least in third person). As Hungarian does not make gender distinctions at all, *n* in Hungarian does not contain gender. Pronouns in the three languages considered here contain also the Num head and the structure is closed off by the KP projection.

The three languages differ as far as the Pers and D heads are concerned. Following, among others, Corver (1990) and Willim (2000), as discussed in section 1.4 of chapter 1, I take Polish to lack D in its lexicon and hence, D is lacking in the structure of pronouns in Polish. Both English and Hungarian have overt articles, hence they have D. I thus take personal pronouns in English and in Hungarian to include the DP projection (cf. Postal 1969 and subsequent work by Ritter 1995, among others). For English, there is no evidence suggesting that there is a separate Pers head in nominal projections, which is why I take the person feature to be included in the D head in this language.

Pronouns in English and Polish are fusional. The morphological structure of pronouns in Hungarian is complex, as in the first and second person accusative the pronouns include two morphemes encoding the person and number features. I show this in Table 3.3, which also presents the nominative forms for comparison.

I take the additional person/number marker to be a reflection of a set of unvalued person and number features on the D head in Hungarian, undergoing an agreement operation with the valued features of person and number on the Pers

<i>Singular</i>		<i>Plural</i>	
<i>Nominative</i>	<i>Accusative</i>	<i>Nominative</i>	<i>Accusative</i>
1 én	eng-em(-et)	mi	mi-nk-et
I	I-1SG(-ACC)	we	we-1PL-ACC
2 te	tég-ed(-et)	ti	ti-tek-et
you _{SG}	you _{SG} -2SG(-ACC)	you _{PL}	you _{PL} -2PL-ACC
3 ő	ő-t	ők	ők-et
she/he	she/he-ACC	she/he-PL	she/he-PL-ACC

Table 3.3: The segmentation of NOM and ACC personal pronouns in Hungarian

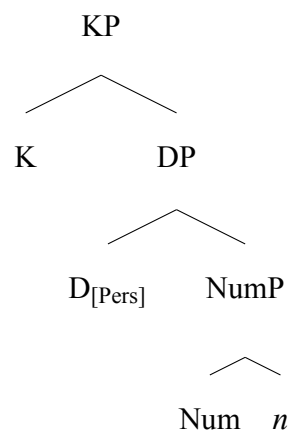
and Num heads (e.g. via Agree).⁴

⁴Recently Höhn (2016) has employed phrases such as *we linguists* in various languages with articles as a diagnostic for the structure of pronouns. He suggests that in languages which pattern with English in excluding the article from such phrases, the pronoun realises D, which encodes both definiteness and person ([_{DP} D [_{NumP} Num [_{nP} N/eN]]]). In languages such as Greek, where the pronoun is followed first by the article and only then by the noun (e.g. *emeis oi glossologoi* ‘we the_{PL} linguists’), Person takes a DP complement ([_{PersP} Pers [_{DP} D [_{NumP} Num [_{nP} N/eN]]]]) and the pronoun realises Person (which agrees with Num for the number feature). Broadly speaking, this approach is compatible with the present one in that it argues that languages can differ in whether they encode the person and definiteness features on a single head or on two distinct heads. However, Höhn (2016) classifies Hungarian together with English as a language lacking a separate Pers head, contra the present analysis. This is due to the fact that Hungarian is parallel to English in disallowing the definite article in structures of the *we linguists* type ((**a*) *mi* (**a*) *diákok* ‘(the) we (the) students’). However, it is hard to see how this analysis could account for the full range of the Hungarian data.

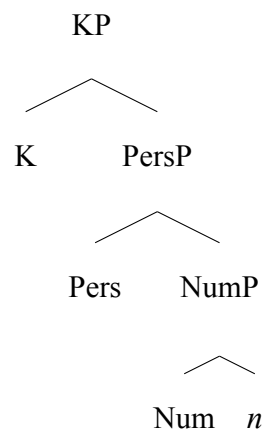
One problematic factor is the presence of two sets of person/number markers in the accusative case, which would somehow need to be accommodated within the structure [_{DP} D [_{NumP} Num [_{nP} N/eN]]]. Furthermore, according to my informant, in the accusative context the form *mi-nk-et diák-ok-at* ‘we-1PL-ACC student-PL-ACC’ (‘us students’) is used, where, just as when it functions on its own, the pronoun is marked for person/number twice and bears case marking (special thanks to Máté Vince for this piece of data). The article, which uncontroversially is D, is never marked with the accusative morpheme (**a-t diák-ok* ‘the-ACC student-ACC’). A subset of Hungarian demonstratives agrees with the head noun in number and case (e.g. *ez-et a diák-ok* ‘this-ACC the student-ACC’), but assimilating pronouns with these demonstratives leaves the presence of the article in the latter but not the former case unexplained. Non-agreeing demonstratives do not co-occur with the article (unless separated by additional material, e.g. (**az*) *eme javaslat* ‘(the) this proposal’ vs. (**a*) [*tegnap előadott*] *eme javaslat* ‘(the) yesterday presented this proposal’ (‘this proposal presented yesterday’); see Dékány 2011 and references cited therein for discussions), but they also do not bear case markers. Whatever the right analysis of this structure will turn out to be, it seems unlikely that the lack of the article in phrases such as *mi diákok* ‘we students’ can be treated as evidence for the [_{DP} D [_{NumP} Num [_{nP} N/eN]]] structure of pronouns, the pronoun

I illustrate the structures which I propose here for the first-person plural pronouns in (2)–(4).

- (2) *The structure of us* [English]



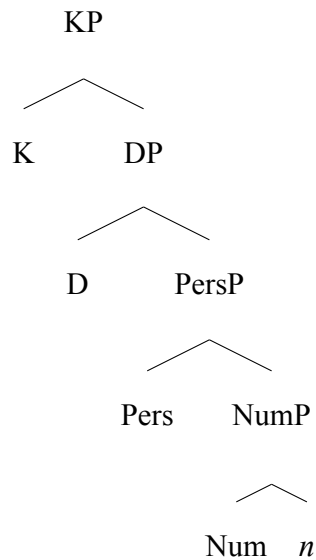
- (3) *The structure of nas ‘us’* [Polish]



in these phrases likely projecting a phrase of its own.

(4) *The structure of* minket ‘us’

[Hungarian]



As I have noted in section 2.2.1 of chapter 2, on the assumption that the pronouns *she* and *he* in forms such as *she-goat* can be taken to realise the *n* head bearing feminine or masculine gender, such an *n* head can be taken to be present in the structure of third-person pronouns by analogy. As both number (*she* vs. *they*) and case (*she* vs. *her*), have an effect on the way in which the structure including $n_{[G:F/M]}$ is ultimately realised, *n* can be taken to move to the successive heads in pronouns. Pronominal forms in English can thus be taken to realise the complex head $n_{[G:F/M/N]}-Num_{[SG/PL]}-D_{[Pers]}-K$. Similarly, head movement can be assumed for Polish, where all pronominal forms are also fusional.⁵

⁵Déchaine & Wiltschko (2002) propose that there is a structural difference between the first/second-person and the third person pronouns in English. They analyse the former as DPs, but the latter as ϕ Ps. Adopting this proposal would not have a bearing on the analysis of missing objects suggested here, but the motivation for such a split does not seem very strong. The crucial

In addition to the cross-linguistic structural differences, there is a clear morphological difference between first/second-person and third-person pronouns in Hungarian (see Table 3.3). In particular, whereas first/second-person pronouns contain two sets of fusional person/number markers in the accusative case (*mi-nk-et* ‘we-1PL-ACC’), third-person pronouns are clearly agglutinative, with three distinct morphemes encoding person, number, and case (*ő-k-et* ‘she/he-PL-ACC’).⁶ This difference can be accounted for in the following way. In third-person pronouns in Hungarian, Pers moves to D and the Pers-D complex is interpreted at the level of morphology as *ő* ‘she/he’. In first/second-person pronouns, the Num head moves to Pers, forming a complex Num-Pers head, interpreted at the level of morphology as the suffixes *-em*, *-ed*, *-nk*, and *-tek* for first and second person singular and first and second person plural respectively. The D head, bearing unvalued person and number features, which are valued, for example, by Agree

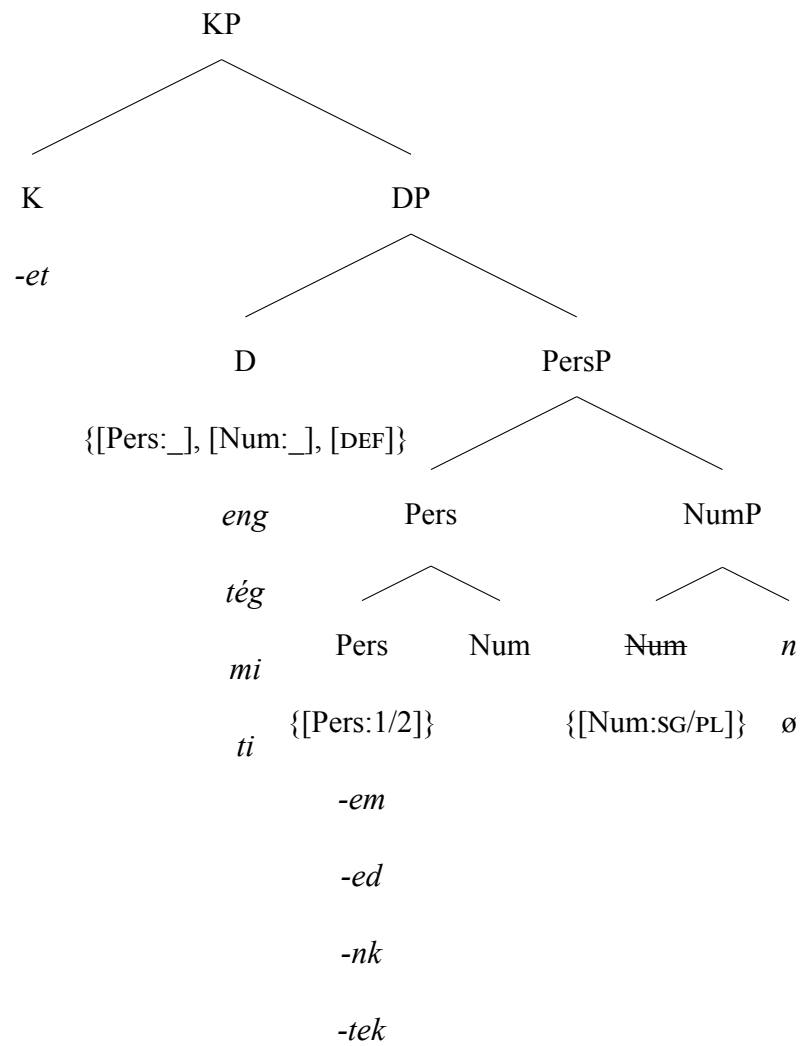
argument from the familiar contrast between the acceptability of phrases such as *we/you linguists* and **they linguists* does not carry over to singular number, where the pronoun+noun structure is unacceptable regardless of person and, further, the contrast is in fact not explained by the analysis in Déchaine & Wiltschko (2002), as in both cases the noun *linguists* is an NP complement of ϕ , with D becoming relevant only later in the derivation.

On the current approach, where the *n* head composes both lexical nouns and contributes gender included in the structure of third-person pronouns, the contrast between *we/you linguists* and **they linguists* can be captured if *we/you* realise the D-K complex, making it possible for *linguists* to realise the $\sqrt{\text{LINGUIST-}n\text{-Num}}$ complex, but *they* realises the *n*-Num-D-K complex, whose *n*-Num part is already occupied by the root. The unacceptability of **I/you_{SG} linguist* still awaits an explanation. One possibility is to consider it as a semantic effect arising from an attempt at modifying the speaker/hearer directly, evaded in the plural, where what is modified is a group including the speaker/hearer.

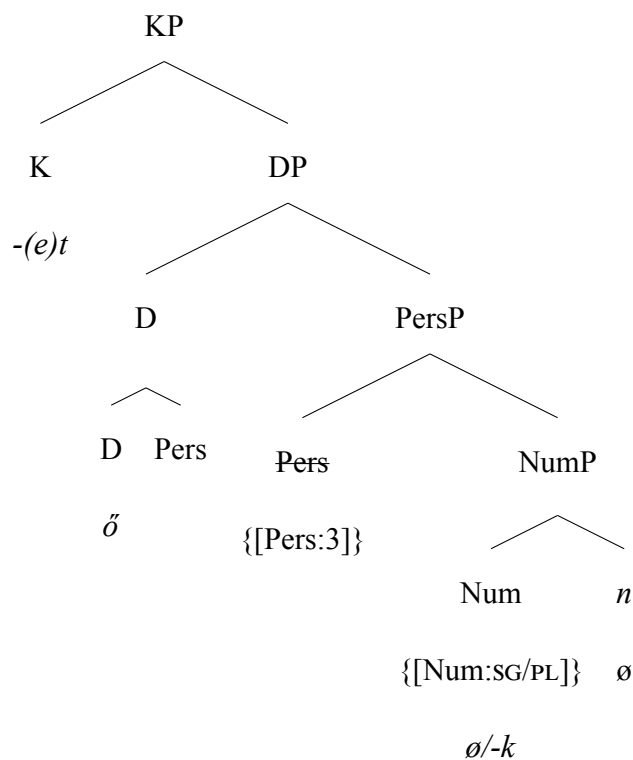
⁶These number and case markers are the same as the ones surfacing on lexical nouns (e.g. *szőlő-k-et* ‘grape-PL-ACC’).

with the valued occurrences of these features lower in the structure, is realised by the markers *eng*, *tég*, *ti*, and *mi*. I schematise this in (5) and (6).

- (5) *The structure of eng-em(-et) 'me', tég-ed(-et) 'you_{SG}', mi-nk-et 'us', and ti-tek-et 'you_{PL}'* [Hungarian]



- (6) *The structure of ő-t ‘her/him’ and ő-k-et ‘them’* [Hungarian]



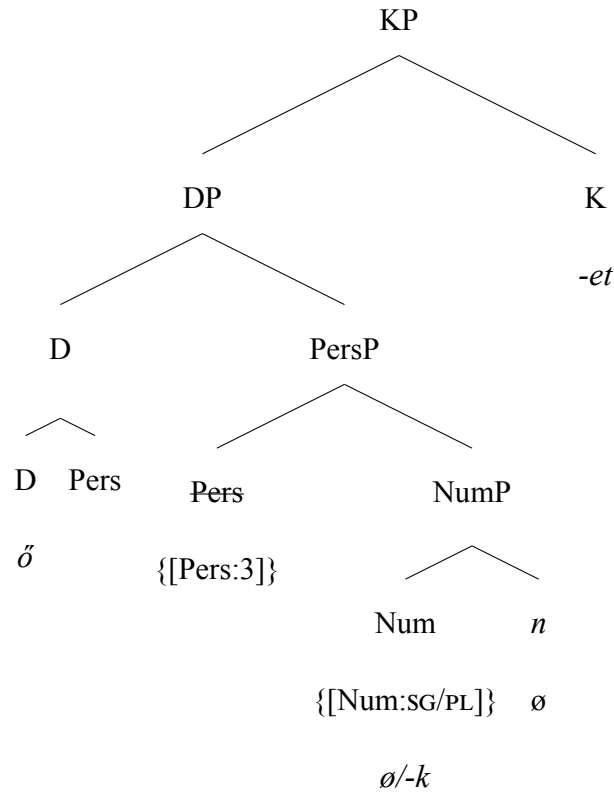
The case marker, both in pronouns and in lexical noun phrases, is linearised as the final morpheme. I suggest that this is an effect of the linearisation rule in (7) in the spirit of Arregi & Nevins (2012). The output of this rule is illustrated for the third-person plural pronoun in (8).

- (7) *K Linearisation* [Hungarian]

In a binary branching node *x* with daughters *y* and *z*, where *z* is *K*, *y* precedes *z*.

(8) *Output of K Linearisation for ő-k-et ‘them’*

[Hungarian]



Whenever the pronominal structures presented above are merged in argument positions, they are overt and the languages interpret them at the SM interface in accordance with their pronominal paradigms. To derive missing argument structures, either a representational difference between overt pronouns and missing arguments needs to be posited, or additional operations need to be involved (e.g. deletion). Even though both strategies may in principle be needed to account for the properties of definite missing objects in different languages, in what follows I show that the former option is adequate to account for the data from the languages

which are the focus here.

3.3 Definite missing objects: syntactic representation, silence, and interpretation

In chapter 2, I have hypothesised that the object position is occupied by the *n* head in structures with indefinite missing objects. In English and Hungarian the *n* head need not be associated with phonemic features. In Polish, a system with grammatical gender, *n* contains the gender feature, which is realised as a fusional gender/number/case morpheme in overt structures.⁷ What makes it possible for *n* to be zero-realised in Polish in contexts with missing objects is the lack of the K and Num heads in the structure, the language lacking instructions for overt realisation of *n* containing gender in the absence of information about number and case. This approach makes it possible to account for the null Spell-Out of objects represented as *n* in the three languages discussed here.

On the side of the C-I interface, I have argued in the previous chapter that indefinite missing objects represented as *n* are interpreted with the same mechanism which is used for the interpretation of mass nouns, such as the operation Restrict. I have postulated that the basic denotation of the *n* head is $\lambda y. \top \equiv y = y$.

⁷This morpheme is zero-realised in some cases, as in the genitive plural form of *kobiet-a* ‘woman-F.SG.NOM’, that is *kobiet-ø* ‘woman-F.PL.GEN’.

This means that whether an object represented as *n* can be interpreted as definite depends on whether there is a semantic mechanism in a language which makes definite interpretation of an $\langle e, t \rangle$ -type expression possible. If not, the structure of a definite object has to be larger, including *D*, which on standard assumptions is a lexical item performing the function of shifting a predicate to an individual. The analyses of English, Polish, and Hungarian presented respectively in the three sections which follow take definite missing objects in the first two languages to involve the former option. On the other hand, Hungarian data seem to be compatible only with the latter possibility.

3.3.1 *Definite missing objects in English*

The availability of definite missing objects in English is determined lexically (see chapter 1 and chapter 5). The way in which the referent of the object is identified is largely dependent on discourse factors, as (9)–(11) from Cote (1996:155–156) illustrate.

- (9) I haven't seen many people since I moved to the suburbs. John visited $\emptyset_{[me]}$ yesterday (but he was the first in a long time).
- (10) Don't tell me you never see anybody. John visited $\emptyset_{[you]}$ yesterday.
- (11) I ran into John's mother at the supermarket today. She seemed to be

in a good mood. (I guess) John visited $\emptyset_{[her]}$ yesterday.

In addition, the interpretation of the object is in this case more flexible than what is observed with overt pronouns, as I show in (12), where (12a) is likely to trigger a response such as (12b), but where (12c) is more likely to be followed by (12d) (see Williams 2012:137; see also section 4.3 of chapter 4).

- (12) a. I went to the faculty meeting and won it.
 b. How do you win a meeting?!
- c. I went to the faculty meeting and won \emptyset .
 d. Do you play some sort of game at your meetings?

I propose to encode this difference between pronouns and missing objects by taking the structural representation of the object to be truncated with respect to the representation of the overt pronoun. More specifically, definite missing objects are represented in the grammar of English as n , that is they are representationally identical to indefinite missing objects (cf. chapter 2). This accounts for the silence of the object, n being null independently. The pronominal object in (12a) can thus be represented as in (13a), whereas the null object in (12c) is represented as in (13b).

- (13) a. I went to the faculty meeting and won

[KP K_[ACC] [DP D_[Pers:3] [NumP Num_[SG] *n*]]].

- b. I went to the faculty meeting and won [*n*].

As the proposed denotation of the *n* head is $\lambda y. \top \equiv y = y$, definite interpretation of the object needs to be achieved by the application of ι , shifting the denotation of the object to type $\langle e \rangle$.⁸ This derives a semantic representation which has in fact been proposed for the null object of the verb *win* in Williams (2012), as shown in (14).

- (14) Ron won \emptyset : *Won*(Ron, [$\iota y(y = y)$])

If this is correct, the problem of the type of lexical information which distinguishes verbs which can be used with definite missing objects from the ones which cannot can be viewed as a matter of interpretations available to $\langle e, t \rangle$ -type objects. In particular, lexical entries of verbs such as *win* and *visit* specify that their complement can undergo type shifting with ι in the semantics. Verbs which do not make definite missing objects available lack this property, enforcing that their complement projects a DP structure to be interpreted as definite.⁹

⁸Barbosa (2017) analyses subject *pro*-drop in partial *pro*-drop and discourse *pro*-drop languages by suggesting that the subject position is occupied by a null NP/*n*P. This null NP/*n*P is also taken to be interpreted via the application of ι .

⁹The structural representation and interpretation of the missing object effectively makes it

The suggestion that a property pertaining to interpretation of a nominal argument is encoded on the verb follows the strand of research postulating nominal features on verbal functional heads, such as the D-/nominal-feature on *v* and T in Chomsky (1995), triggering movement when strong, and the D-feature on I in Holmberg (2005), introducing definiteness. However, on the present account information encoded in the verbal entry is not directly related to movement and/or definite readings and does not constrain the interpretation of overt objects. Rather, it encodes the availability of an additional interpretive mechanisms, that is ι . Some further support for this analysis is presented in section 6.2 of the concluding chapter, where missing objects are discussed in relation to problems of language acquisition.

Wrapping up, definite object drop in English can be accounted for on the assumption that the object position is occupied by an *n*, interpreted by the application of ι . The merge of an *n* in the object position yields a well-formed result

a Japanese-style argument as far as syntax is concerned, lacking both D and Num (recall the example in (i), repeated from (52) in chapter 1, where the number-unmarked bare noun can receive the definite interpretation, among others).

- (i) Ken-wa ronbun-o yon-da.
 Ken-TOP paper-ACC read-PAST
 ‘Ken read a paper/papers/the paper/the papers.’ [Japanese]

Lexical noun phrases (NumPs) such as *competitions* cannot undergo shifting with ι even when in the complement of verbs such as *win* (e.g. *Ron won competitions*), since they can be merged with the overt definite article to be interpreted as definite (*the*). The availability of this derivation blocks covert type shifting with ι in accordance with Chierchia’s (1998) conception of type shifting as last-resort operations (the Blocking Principle).

at both interfaces only when the verb is lexically specified as making the option of assigning interpretation to its complement via ι available. In this way both the definiteness of the object and its greater interpretive flexibility in comparison with pronouns are accounted for.

3.3.2 *Definite missing objects in Polish*

From the point of view of the C-I interface, Polish is equipped to make definite interpretation of an object n available. It makes extensive use of bare noun arguments, which can be interpreted as definite, with guidance from the features of the surrounding text (see (15)), or some wider context, including the speaker's and hearer's shared knowledge (see (16)), and situational context (see (17); see Turkowska 1981:51).¹⁰

- (15) Oprócz mnie na peronie był tylko młody chłopak w
 apart.from me on platform was only young guy in
 wiatrówce. W miarę, jak opóźnienie pociągu się zwiększało,
 windcheater in measure as delay train-GEN SE increased
chłopak coraz bardziej się denerwował.
 guy increasingly more SE got.anxious
 'Apart from me, there was only a young guy in a windcheater on
 the platform. As the delay of the train was increasing, **the guy** was
 getting more and more anxious. '

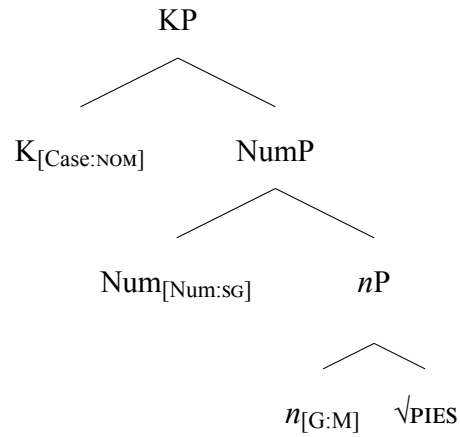
[Polish]

¹⁰For more discussion about the referential properties of nouns in Polish, see, for example, Topolińska (1977, 1984); Grzegorzczkowska (1978).

- (16) Dziękuję za **list**.
 thanks for letter
 ‘Thanks for **your/the letter**.’ [Polish]
- (17) Wszedł do **pokoju** i z oburzeniem stwierdził, że **pies**
 entered to room and with indignation noticed that dog
 wyleguje się na **łóżku**.
 lies SE on bed
 ‘He entered **the room** and noticed with indignation that **the dog** is
 lying on **the bed**.’ [Polish]

The relevant interpretations of bare nouns in contexts such as these can be taken to be achieved via the application of ι in the semantics. I thus take noun phrases such as *pies* in (17) to be represented as shown in (18), that is as composed with the lexical root, the nominalising head, which bears the gender feature, and the Num and K heads. Lacking (a null) D projection, this yields an expression of type $\langle e, t \rangle$, which is an appropriate type of input for ι .

- (18) *The structure of the noun phrase pies ‘dog’*



Just as in English, definite missing objects in Polish are more flexible than overt pronominals in terms of interpretation:

- (19) a. Poszłam na bal i go wygrałam.
 went-1SG.F on ball and him won-1SG.F
 ‘I went to the/a ball and won it.’
 b. Poszłam na bal i wygrałam ø.
 went-1SG.F on ball and won-1SG.F
 ‘I went to the/a ball and won.’ [Polish]

In (19a) the pronominal is interpreted as coreferential with *bal* ‘ball’. The missing object in (19b) invites the interpretation according to which a game or a competition of some sort took place during the ball. The similarity between the interpretive properties of definite missing objects in English and in Polish suggest that the same analysis should be applicable to Polish. In particular, the missing

object is represented as n and is interpreted via ι . Lacking the Num and K projections, the object is null, just as in the indefinite contexts. As Polish makes the application of ι freely available, definite missing objects are not constrained lexically in Polish.

The analysis is now faced with the question about the nature of restrictions on the use of definite missing objects in Polish. As discussed more fully in section 4.3.1 of chapter 4, definite missing objects in Polish can usually be substituted with overt pronominals, but the opposite is not true, as there are a number of environments where null objects are unacceptable in Polish (see (20) from McShane 1999:64).

- (20) Zjadłam trzy pierogi. Sama je/ *ø zrobiłam.
ate-1SG three dumplings-ACC alone them-ACC made-1SG
'I ate three dumplings. I made them myself.'
[Polish]

It seems that the only types of contexts in which the missing object cannot be replaced with a pronominal is when the pronominal has to be interpreted as coreferential with a noun phrase in the preceding context (see (19)). This contrast follows from the greater interpretive flexibility of missing objects in comparison with overt pronouns. This can be taken to result from a structural difference and, in particular, from the absence of the Pers head in the structure of definite miss-

ing objects, on the hypothesis that the person feature in Polish enforces reference to an antecedent in the preceding linguistic context or to an extra-linguistic one. The sentence in (20) thus constitutes a prototypical context for the use of an overt pronominal in Polish.

The reason why overt pronominals are frequently preferable to missing objects and are sometimes the only available option in Polish may be related to an observation made in McShane (1999). In particular, in her comparative study of accusative direct object drop in Czech, Polish, and Russian, McShane (1999) notes that the acceptability of object drop in the three languages correlates inversely with the development of the pronominal (clitic) system. Czech is the least permissive of the three languages as far as object drop is concerned and has the most developed clitic system. Russian is the most permissive in object drop and has the least developed clitic system and Polish is in between with respect to both these features of the grammar. It thus seems that the availability of weak/clitic pronouns influences the degree of acceptability of definite missing objects. The reason for this might be the preference for encoding interpretation directly in syntactic computation by including the Pers and Num heads, rather than resorting to inferential processes, involved in arriving at the relevant interpretation of an object represented as *n*.¹¹

¹¹The facts might be amenable to an analysis involving an economy metric in the spirit of Reuland (2001).

3.3.3 *Definite missing objects in Hungarian*

The data in (21)–(22), adapted from Farkas & de Swart (2003:135–137), illustrate the basic pattern of definite object drop in Hungarian. In particular, only singular objects can be dropped (though see section 3.3.3.3 below).

- (21) a. János_i vizsgált egy beteget_j.
 János examined a patient-ACC
 ‘János examined a patient.’
- b. *pro*_i Túlsúlyosnak találta *pro*_j.
 too.overweight-DAT found
 ‘He found him overweight.’ [Hungarian]
- (22) a. János_i vizsgált valami beteget_j.
 János examined some patients-ACC
 ‘János examined some patients.’
- b. *pro*_i Túlsúlyosnak találta őket/ **pro*_j.
 too.overweight-DAT found them-ACC
 ‘He found them overweight.’ [Hungarian]

Farkas (1987) observes that definite null objects are not restricted lexically in Hungarian and shows that they can act as controllers (see (23) from Farkas 1987:193) and are not reflexive anaphors (see (24) from Farkas 1987:193). This leads her to analyse them as instances of *pro*.

- (23) János megtanította \emptyset uszni.
 János taught swim-INF
 ‘János taught her/him to swim.’ [Hungarian]

- (24) János_i megmondta Marinak_j, hogy Gabi_k utálja $\emptyset_{i,j,*k,l}$.
 János told Mari-DAT that Gabi hates
 ‘János told Mari that Gabi hates her/him.’ [Hungarian]

Furthermore, Lipták (2013:82) shows that null objects of this type can only have a strict reading in Hungarian, similarly to overt pronouns:¹²

- (25) Mari látta az anyját. Péter köszöntötte (őt).
 Mari saw the mother-3SG.POSS.ACC Péter greeted her/him

¹²The so-called strict/sloppy reading ambiguity effect, illustrated here in (i), quoted after Kim (1999:255), is an issue which has received a significant amount of attention in the literature on the identity of missing objects.

- (i) Peter likes his picture, and Joan does [_{VP} e] too.
 a. Joan likes her (= Joan’s) picture. [sloppy identity]
 b. Joan likes his (= Peter’s) picture. [strict identity]

Pronominal dependencies in the elliptical clause in (i) can be resolved in two ways, with the understood possessive referring either to the subject of the elliptical clause or to the subject of the antecedent clause. The availability of the sloppy reading has been taken to be indicative of ellipsis of a larger structure also in analyses of missing object constructions (e.g. VP ellipsis of the V-stranding type or full NP/DP ellipsis). As a diagnostic for VP ellipsis, the strict/sloppy reading ambiguity effect has been used both to argue in favour of the VP-ellipsis analysis of data with missing objects in different languages (see Huang 1991; Otani & Whitman 1991; Cyrino & Lopes 2012) as well as against it (see Hoji 1998; Bailyn 2011). In addition, some recent analyses propose to derive the strict/sloppy reading ambiguity from NP/DP ellipsis rather than the ellipsis of the entire VP (see, e.g., Şener & Takahashi 2010; Duguine 2014; cf. also Erteschik-Shir, Ibnbari & Taube 2013 for a different approach). The strength of the argument from the strict/sloppy reading ambiguity is weakened by the observation that sloppy readings are sometimes available outside the domain of ellipsis (see, e.g., Tancredi 1992 and Runić 2013). This does not affect the argument that the lack of the availability of the sloppy reading points towards a pronominal analysis.

‘Mari saw her mother. Péter greeted her.’ (= Mari’s mother)

[Hungarian]

That definite missing objects in Hungarian are interpreted as rigidly as overt pronouns is further supported by their behaviour in the context where the missing object in English and Polish reveals interpretive flexibility. In particular, according to my informants, the missing object in (26) has to be interpreted as the meeting.¹³

¹³The pattern of object drop which does not enforce co-reference of the object with the meeting is as in (i). However, this is an instance of indefinite object drop, as revealed by verbal morphology when the subject is second person (see (ii); in first person the marking on the verb is syncretic between the definite and indefinite conjugation; see section 3.3.3.1 for more discussion of the conjugational patterns).

- (i) El-ment-em a kari ülés-re és nyert-em \emptyset .
away-went-1SG the faculty meeting-onto and won-1SG
‘I went to the faculty meeting and won.’ [Hungarian]

- (ii) El-ment-él a kari ülés-re és nyert-él/ *nyert-ed \emptyset .
away-went-2SG the faculty meeting-onto and won-2SG.INDEF won-2SG.DEF
‘You went to the faculty meeting and won.’ [Hungarian]

This shows that Hungarian is similar to English and Polish in that it makes both definite and indefinite object drop available with the verb *won* (cf. (iii), repeated from (154) in section 4.5 of chapter 4).

- (iii) Fred definitely won \emptyset , but I’m not sure which bet.

Special thanks to Éva Dékány and Veronika Hegedűs for the judgments of the Hungarian examples.

- (26) El-men-t-em a kari ülés-re és meg-nyert-em ø.
 away-went-1SG the faculty meeting-onto and PV-won-1SG
 ‘I went to the faculty meeting and won it.’ [Hungarian]

I take the data to show that, unlike in English and Polish, the structural representation of definite missing objects and overt pronouns is similar in Hungarian.

I suggest that both of them contain the *n*, Num, Pers, and D heads. An additional piece of data suggesting that definite missing objects in Hungarian cannot be represented as *n* is provided by some properties of Hungarian verbal conjugation, discussed in the following section.

3.3.3.1 *Missing objects and verbal conjugation*

Briefly speaking, Hungarian has two conjugational paradigms, the choice between which is conditioned by the features of the object (and the subject). I provide the present tense conjugational paradigms in Table 3.4 for illustration and exemplify them in (27) from Bartos (1999:97).¹⁴

¹⁴I provide the paradigms here after Kiefer (2003). The choice of the linking vowels in the paradigms, indicated by the capital letters, is determined by rules of vowel harmony. The capital letter *V* stands for the distinction made between back and front and rounded and unrounded vowels. Hence, the *-Vk* suffix can be realised as *-ok*, *-ek*, or *-ök*. In the case of the capital letters *A* and *U*, there are only the back and the front vowel variants.

Various allomorphs distinguish between the two paradigms by means of additional vocalic melody (*-(j)a/-j/-i/-e*; see, e.g. É. Kiss 2005). Apart from the agreement markings for the first and second person singular in the indefinite and the definite conjugation (i.e. *-Vk* and *-(A)sz*, *-Vl* vs. *-Vm* and *-Vd*), which do not stand in the agglutinative relation to one another, the definite conjugation markers can be analysed as combinations of subject markers found in the indefinite paradigm and an additional morpheme (see den Dikken 2006). The distinct conjugational marking *-lak* is used when the subject is first person singular and the object is second person.

<i>Indefinite conjugation</i>		<i>Definite conjugation</i>	
SG	PL	SG	PL
1 -Vk	-Unk	-Vm	-jUk
2 -(A)sz, -Vl	-(V)tVk	-Vd	-játok, -itek
3 -ø	-(A)nAk	-ja, -i	-ják, -ik
<i>First person singular subject and second person object: -lAk</i>			

Table 3.4: Present tense indefinite and definite conjugation

- (27) a. Várok/ *várom egy buszt.
wait-1SG.INDEF wait-1SG.DEF a bus-ACC
‘I’m waiting for a bus.’
- b. Várom/ *várok a buszt.
wait-1SG.DEF wait-1SG.INDEF the bus-ACC
‘I’m waiting for the bus.’ [Hungarian]

The selection of a particular inflectional ending on the verb is determined by the ϕ -features of the subject (person and number, Hungarian lacking grammaticalised gender) and by the specification of the object, if present. The exact feature(s) of the object which trigger the use of the definite conjugation (e.g. definiteness, specificity, person agreement) are a subject of heated debates (see, among others, Dalmi 1998; Bartos 1999; É. Kiss 2005, 2013; Coppock & Wechsler 2012; Coppock 2013; Rocquet 2013; Bárányi 2015). Settling this debate is not of direct relevance to the present discussion and cannot be attempted here. However, two aspects of the definite conjugation are important for analyses of object drop in Hungarian.

Firstly, definite missing objects trigger the use of the same conjugational patterns as overt pronouns (i.e. both are used with the definite conjugation, modulo the effects attributed to the Inverse Agreement Constraint in É. Kiss 2005, 2013).¹⁵ On the other hand, bare noun objects are used with the indefinite paradigm, as shown in (28).

- (28) Pisti levelet ír.
Pisti letter-ACC writes-INDEF
'Pisti is writing a letter.'
[Hungarian]

This supports the conclusion reached above that definite missing objects in Hungarian are representationally similar to overt pronouns (and lexical DP structures, which likewise trigger the use of the definite conjugation when headed by the definite article) rather than to bare noun phrases, that is they are not represented as *n*.

Another relevant aspect of the conjugation is that the number feature of the

¹⁵The Inverse Agreement Constraint and animacy hierarchy proposed for Hungarian are as follows:

- (i) *Inverse Agreement Constraint (for Hungarian)* [É. Kiss 2013:8]
An object agreeing with a verb must be lower in the animacy hierarchy than the subject agreeing with the same verb, unless both the subject and the object represent the lowest level of the animacy hierarchy.
- (ii) *Version of the animacy hierarchy in Hungarian* [É. Kiss 2013:8]
1SG > 1PL/2 > 3

object does not affect verbal morphology, as shown in (29) from Bartos (1999:98).

- (29) Maci Laci várja őt/ őket.
Yogi Bear wait-3SG.DEF her/him them
'Yogi Bear is waiting for her/him/them.'
[Hungarian]

This piece of data has been taken to show that the definite conjugation is the crucial factor licensing object drop in Hungarian. É. Kiss (2012) suggests even that the licensing of null objects is the primary function of the definite conjugation in Modern Hungarian.¹⁶ The unavailability of plural object drop has been attributed to the fact that the plural-number feature cannot be recovered from the shape of verbal inflection (see esp. Farkas & de Swart 2003; É. Kiss 2012). In particular, Farkas & de Swart (2003) adopt the approach according to which ϕ -features of null pronouns must be recoverable from verbal morphology.¹⁷ They attribute the unacceptability of plural null objects to the fact that the morphological shape of verb forms in Hungarian does not make it possible for the plural-number feature to be recovered for null objects (see (29)). Since Farkas & de Swart (2003) take singular nominals to lack the number feature altogether, singular null objects are

¹⁶In the course of the diachronic development of the language, this has not always been the case. É. Kiss (2012) observes that even though the definite conjugation is attested in the earliest written sources, null objects are only sporadically found in Old Hungarian (before AD 1526) and have become widely used only in Modern Hungarian (after 1772), and especially in the twentieth century.

¹⁷ See Chomsky (1981, 1982); Rizzi (1982, 1986) for some early discussions and, for example, Roberts (2010) for a more recent one.

acceptable (there is no need for their number to be recovered, singular pronouns and DPs not being marked for number at all on their analysis). However, there are some empirical problems with this proposal.

Firstly, in structures such as (30a) the modal auxiliary *kell* ‘need’ does not conjugate and the infinitive *újítanom* ‘extend’ bears only subject agreement marking. Even though no piece of verbal morphology provides any information about the null object, not even about the presence of an object in the structure, singular object drop is available. What is more, just as in structures with conjugated lexical verbs, plural object drop is blocked (see (30b)).¹⁸

- (30) a. Lejárt a jogosítványom, így meg kell
 expired-3SG the driving.license-1SG.POSS so PV need
 újítanom \emptyset .
 extend-INF.1SG
 ‘My driving license expired, so I need to extend it.’
- b. Lejártak a jogosítványaink, így meg kell
 expired-3PL the driving.licenses-1PL.POSS so PV need
 újítanunk *(őket).
 extend-INF.1PL them
 ‘Our driving licenses expired, so we need to extend them.’

[Hungarian]

The same is true of structures with lexical verbs which take infinitival comple-

¹⁸Thanks go to Mátyás Gerőcs and Lilla Pintér for the judgments.

ments but which do not have the definite paradigm. In short, in Hungarian the morphology of finite matrix verbs is sensitive to the features of the object of their infinitival complements. Accordingly, when the object is headed by the definite article, the matrix verb bears the definite conjugation marking, as in (31a), but when the object is headed by the indefinite article, the verb bears the indefinite conjugation marking, as in (31b) (Bartos 1999:112).

- (31) a. Géza szeretné megcsókolni a gyönyörű lányt.
 Géza would.like-3SG.DEF kiss-INF the beautiful girl-ACC
 ‘Géza would like to kiss the beautiful girl.’
- b. Maci Laci szeretne elfelejteni egy rossz
 Yogi Bear would.like-3SG.INDEF forget-INF a bad
 embert.
 person-ACC
 ‘Yogi Bear would like to forget a bad person.’ [Hungarian]

However, some verbs taking infinitival complements lack the definite paradigm (e.g. *fél* ‘fear’). Still, even though the presence of the object is not reflected in verbal morphology, definite object drop is available in this context, just as in structures with the modal auxiliary *kell*. For example, whereas object drop in (32a) is accompanied by definite marking on the verb *akar* ‘want’, in (32b) object drop is available despite the indefinite marking on the verb *fél* ‘fear’.¹⁹

¹⁹I would like to thank Professor István Kenesei for drawing my attention to examples of this type.

- (32) a. Péter megérkezett, bár nem akart-ad meghívni ø.
 Péter arrived though not wanted-2SG.DEF invite-INF
 ‘Péter has arrived, though you didn’t want to invite him.’
- b. Péter megérkezett, bár félt-él/ *félt-ed
 Péter arrived though feared-2SG.INDEF feared-2SG.DEF
 meghívni ø.
 invite-INF
 ‘Péter has arrived, though you were afraid to invite him.’

[Hungarian]

Secondly, in structures with a third-person subject and indefinite conjugation (required when the subject is third person and the object is first/second person), null objects are acceptable and can be interpreted as either first or second person without this being reflected in verbal morphology, as (33) shows. If object drop in Hungarian were dependent on the recoverability of ϕ features, it is unclear why there should be no need for the person feature to be recoverable from verbal morphology, if the number feature needs to be.

- (33) (Ő) lát-ø (engem)/ (téged).
 she/he see-3SG.INDEF me you_{SG}
 ‘She/he sees me/you_{SG}.’

[Hungarian]

Thirdly, first/second-person plural objects can be dropped in a right context, even if the result is somewhat degraded in comparison with singular object drop, as illustrated in (34) from Keresztes (2013:56) (see section 3.3.3.3 for further

discussion of these data). Again, it is unclear why the plural-number feature should not have to be recoverable with first/second-person objects if it needs to be with third-person objects.

- (34) a. (Mi) elbújtunk előledek, (ti) mégis megtaláltatok
 we hid-1PL from.you_{PL} you_{PL} still found-2PL.INDEF
 %(minket).
 us
 ‘We hid from you, still you found us.’
- b. (Ti) elbújtatok előlünk, (mi) mégis megtaláltunk
 you_{PL} hid-2PL from.us we still found-1PL.INDEF
 %(titeket).
 you_{PL}
 ‘You hid from us, still we found you.’ [Hungarian]

Taking into consideration the above data speaking against the proposal relating definite object drop in Hungarian to the notion of the recoverability of the number feature, I suggest an alternative analysis in the following sections. Section 3.3.3.2 discusses third-person objects, focusing on the blocking effect observed with plural objects and section 3.3.3.3 shows how the analysis can be extended to account for the data with first and second person.

3.3.3.2 [PL] marker as the blocking factor

The basic pattern of definite object drop in Hungarian which needs to be accounted for is that, in the third person, only singular objects can be dropped:

- (35) a. János_i vizsgált egy beteget_j.
 János examined a patient-ACC
 ‘János examined a patient.’
- b. *pro*_i Túlsúlyosnak találta *pro*_j.
 too.overweight-DAT found
 ‘He found him overweight.’ [Hungarian]
- (36) a. János_i vizsgált valami beteget_j.
 János examined some patients-ACC
 ‘János examined some patients.’
- b. *pro*_i Túlsúlyosnak találta őket/ **pro*_j.
 too.overweight-DAT found them-ACC
 ‘He found them overweight.’ [Hungarian]

I suggest that, rather than being an effect of semantic recoverability, the blocking factor observed in (36) is morphological in nature and is related to the requirement of the plural-number marker *-k* to have a host to attach to.

The plural marker in Hungarian has the interesting property that it can attach to hosts of various categories in the absence of a lexical noun. For example, in DP-internal ellipsis with an adjectival remnant, the stranded plural marker and case marker attach to the adjective:

- (37) a. Akartam a zöld almá-k-at.
 wanted-1SG the green apple-PL-ACC
 ‘I wanted the green apples.’
- b. Akartam a zöld-ek-et.
 wanted-1SG the green-PL-ACC

‘I wanted the green (ones).’

[Hungarian]

In fact, these markers can attach to any remaining DP-internal modifier, including numerals, classifiers, and complex phrasal modifiers such as passive participle clauses, as in (38) from Lipták & Saab (2015:21).

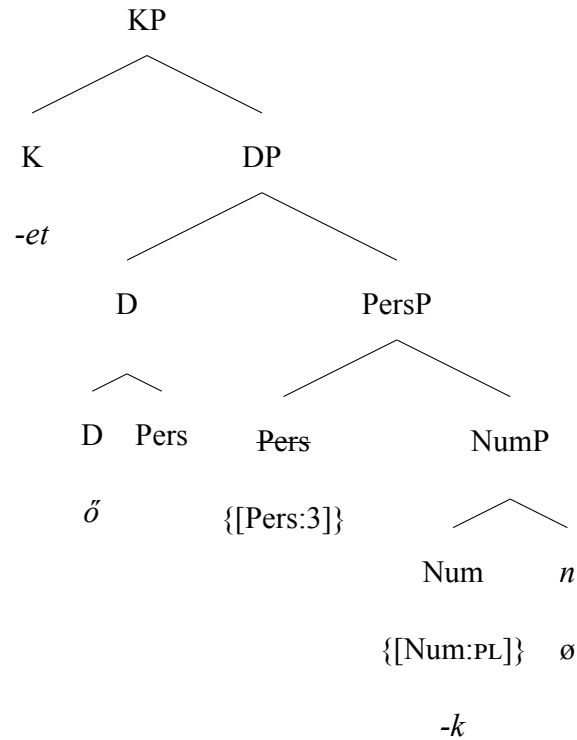
- (38) A Mari által megoldott feladat-ok-at láttam. A János által
the Mari by solved problem-PL-ACC saw-1SG the János by
megoldott-ak-at még nem.
solved-PL-ACC yet not
‘I have seen the problems solved by Mari. I haven’t (seen) the ones
solved by János.’

[Hungarian]

The markers surfacing on non-nominal hosts in the elliptical contexts are best analysed as the same elements which surface attached to the lexical noun in non-elliptical contexts, that is as realisations of Num and K (cf. Lipták & Saab 2015 and Ruda 2016). In overt pronouns, the plural marker attaches to the morpheme *ő* ‘she/he’, analysed in section 3.2 above as the realisation of the Pers-D complex head:

(39) *The structure of ő-k-et ‘them’*

[Hungarian]



I suggest that definite object drop in Hungarian is in fact the drop of the complex D-Pers head, that is, it is a consequence of the non-realisation of the feature set dominated by the branching D node. In the absence of the morpheme *ő* ‘she/he’, the plural marker *-k* is left stranded, without having any possible host within the projection of the pronoun. This results in the structure being ill-formed at the SM interface, explaining the unacceptability of omitting a definite plural object.²⁰ In the case of singular objects, the number feature is either absent from

²⁰As far as the omission of pronominal subjects is concerned, Hungarian is a canonical *pro*-drop language and subjects of all persons and numbers are dropped. This difference in constraints on subject and object drop suggests that the two require different approaches. In principle, any

the structure altogether (see Farkas & de Swart 2003) or is unrealised in the morphophonological component, which is why no violation obtains when the D-Pers head is unrealised with singular number.

In line with the analysis of missing objects in English and Polish outlined above, I take missing objects in Hungarian to lack the K head. This hypothesis aligns well with the morphological approach to the patterns of object drop in Hungarian: unlike the plural marker, the accusative case marker usually realised overtly as *-(V)t* does not have an effect on the acceptability of missing objects; otherwise dropping third-person singular objects should be blocked by the presence of the stranded accusative marker (cf. *ő-t* ‘she/he-ACC’).

The hypothesis postulating a caseless noun phrase is not unfamiliar in the literature on Hungarian. For example, so-called nominative possessors, exemplified in (40), have been taken to lack the case feature (see, a.o., É. Kiss 2002; Dékány 2011).²¹

analysis of *pro*-drop in rich agreement systems should be able to account for the Hungarian subject drop data (see, e.g., Roberts 2010; Barbosa 2017 and references therein for discussions and proposals). The focus of this work being on object drop, issues related to subject drop will not be discussed further here.

²¹Furthermore, the accusative marker on first/second-person singular (but not plural) pronouns and certain lexical noun phrases is optional in Hungarian (see, e.g., Kenesei et al. 1998 for a discussion of the patterns):

- (i) a. eng-em(-et), tég-ed(-et)
I-1SG-ACC you_{SG}-2SG-ACC
‘me, you_{SG,ACC}’
- b. az én könny-em(-et), a te könny-ed(-et)
the I tear-1SG-ACC the you_{SG} tear-2SG-ACC

- (40) János könyv-e
 John book-POSS
 John's book' [Hungarian]

The present approach is thus also congruent with the picture of nominal structures in Hungarian emerging from the existing theoretical literature. For concreteness, I suggest (41) as the structural representation of the acceptable singular missing object in Hungarian. The structure in (42) presents a potential representation of a plural missing object. This structure leads to an illegitimate morphophonological representation due to the presence of the overt marker *-k*, which realises the Num head.²²

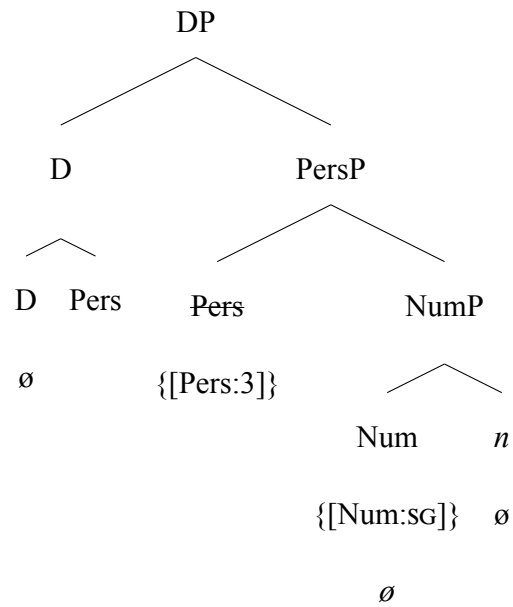
'my/your tear' [Hungarian]

This can result either from the optionality of the K head in the relevant contexts or from an application of a morphological impoverishment rule (e.g. such as the one in (ii)). If the latter option is operative in Hungarian, another analytical possibility to account for the lack of effect of the accusative marker on object drop in Hungarian is to take the rule in (ii) to be extended to contexts in which D-Pers is unrealised, perhaps as a last-resort operation rescuing the structure from resulting in ill-formedness due to a stranded case marker. As no rule parallel to (ii) is available for the plural marker, the marker has to be realised overtly whenever the plural feature is present in the structure. Since this solution seems less parsimonious than not merging the K head at all, the latter option should be assumed, unless it can be shown to be inadequate.

- (ii) *Impoverishment rule for the accusative marker* [Hungarian]
 $K/\{[Case]\} \rightarrow \emptyset / _ \{[Pers:1/2], [Num:SG], [Case:ACC]\}$

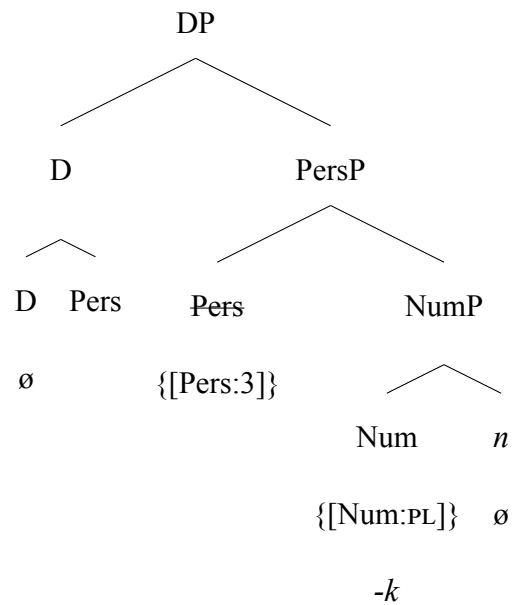
²²If singular number is in fact the lack of number in Hungarian (see Farkas & de Swart 2003), the structure in (ia) needs to be modified by removing the NumP projection. This modification does not have a bearing on the present discussion.

- (41) *The structure of third-person singular missing objects* [Hungarian]



- (42) *The structure of would-be third-person plural missing objects*

[illegitimate at SM]



The non-realisation of the D-Pers complex head can be formalised as in (43), which captures the relation between the absence of the case marker/K and the realisation of D-Pers.²³

(43) *Realisation rule for $[_D \text{D-Pers}]$* [Hungarian]

$[_D \text{D-Pers}_{[\text{Pers}:3]}] \rightarrow \check{o}/__\text{K};$

else

$[_D \text{D-Pers}_{[\text{Pers}:3]}] \rightarrow \emptyset$

In the absence of the K head, $[_D \text{D-Pers}_{[\text{Pers}:3]}]$ is zero-realised. This means that the presence of the plural-number feature in the structure lacking the K head necessarily leads to the crash of the derivation at the SM interface. This is in agreement with the data, as it is impossible to drop the accusative marker, leaving $[_D \text{D-Pers}_{[\text{Pers}:3]}]$ and $\text{Num}_{[\text{Num}:PL]}$ overt (i.e. *ő-k* ‘she/he-PL’ cannot surface in accusative contexts instead of *ő-k-et* ‘she/he-PL-ACC’).

3.3.3.3 *First/second-person plural objects*

As noted above, the person feature of the object influences the availability of plural object drop (see also section 4.3.2 of chapter 4). Unlike omitting third-

²³If so-called nominative possessors are always caseless (see (40)), overt realisation of D-Pers can be enforced by information-structural factors, in addition to being conditioned on the presence of K (pronominal possessors in Hungarian can be overt in information-structurally marked environments, but are dropped when information-structurally neutral).

person plural objects, which is clearly unacceptable, omitting first/second-person plural objects is not ruled out. The study reported in Keresztes (2013) shows that the omission of a first-person plural object is judged almost as acceptable as singular object drop. The omission of a second-person plural object is felt to be somewhat degraded in comparison with first-person plural object drop, but it is still acceptable (as determined by judgments expressed on a 7-point scale). The data in (44) illustrate the crucial example sentences used in Keresztes's study (Keresztes 2013:56).

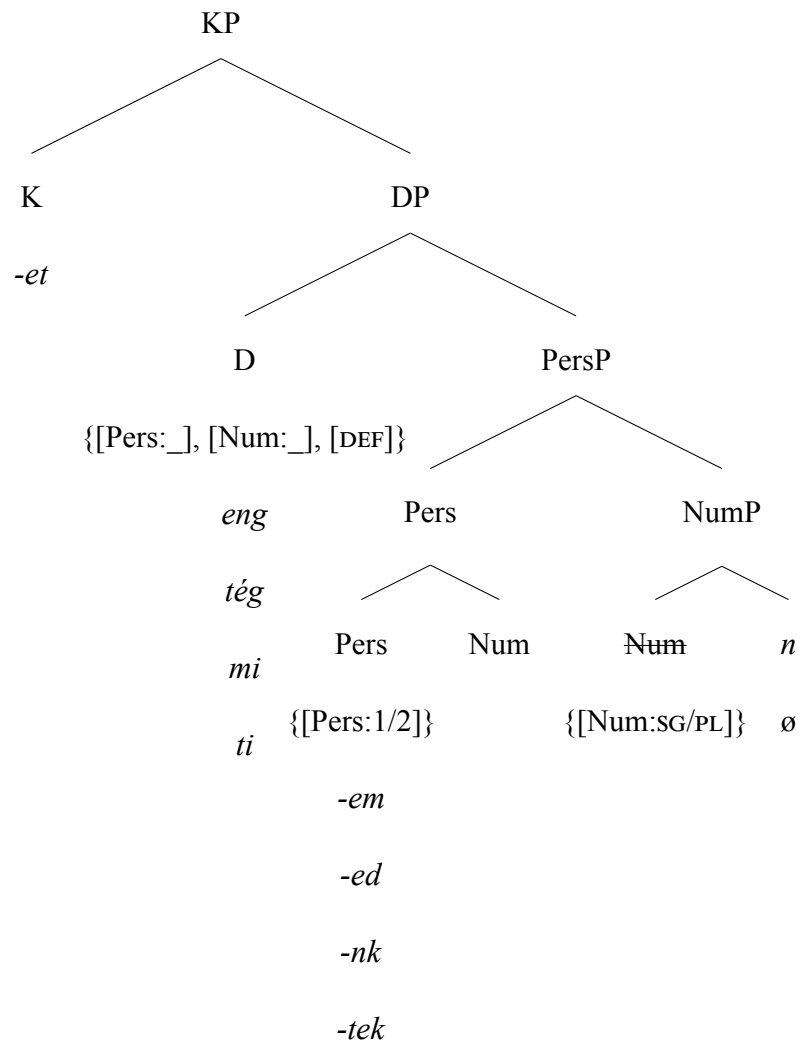
- (44) a. (Mi) elbújtunk előletek, (ti) mégis megtaláltatok
 we hid-1PL from.you_{PL} you_{PL} still found-2PL.INDEF
 %(minket).
 us
 'We hid from you, still you found us.'
- b. (Ti) elbújtatok előlünk, (mi) mégis megtaláltunk
 you_{PL} hid-2PL from.us we still found-1PL.INDEF
 %(titeket).
 you_{PL}
 'You hid from us still we found you.'
- c. (Ők) elbújtak előlünk, (mi) mégis megtaláltuk *(őket).
 they hid-3PL from.us we still found-2PL.DEF them
 'They hid from us, still we found them.' [Hungarian]

These data suggest that there is a purely grammatical distinction between third-person plural object drop, which is always unacceptable, and the remaining op-

tions. This difference can be taken to follow from the difference between the representations of third-person and first/second-person pronouns.

As discussed in section 3.2, first/second-person pronouns contain two sets of fusional person/number markers (cf. *eng-em(-et)* ‘I-1SG-ACC’ vs. *mi-nk-et* ‘we-1PL-ACC’). For convenience, I repeat the structure suggested for these pronouns in (45).

- (45) *The structure of eng-em(-et) ‘me’, tég-ed(-et) ‘you_{SG}’, mi-nk-et ‘us’, and ti-tek-et ‘you_{PL}’* [Hungarian]



The difference between the structure in (45) and the structure proposed for third-person pronouns is that in this case, the Num head is not realised separately, since it moves to Pers. Just as is the case with third-person missing objects, the K head

can be taken to be missing in the structure of first/second-person missing objects. Rules similar to the rule for the realisation of the D-Pers complex postulated in (43) for third person can now be suggested for the structures with first and second person. As in this case the D and Pers heads do not form a single complex head, separate rules dictate their realisation (see (46)–(47)).²⁴

(46) *Realisation rules for D* [Hungarian]

a. $D_{\{[Pers:1], [Num:SG]\}} \rightarrow eng/ __K;$

else

$D_{\{[Pers:1], [Num:SG]\}} \rightarrow \emptyset$

b. $D_{\{[Pers:2], [Num:SG]\}} \rightarrow tég/ __K;$

else

$D_{\{[Pers:2], [Num:SG]\}} \rightarrow \emptyset$

c. $D_{\{[Pers:1], [Num:PL]\}} \rightarrow mi/ __K;$

else

$D_{\{[Pers:1], [Num:PL]\}} \rightarrow \emptyset$

d. $D_{\{[Pers:2], [Num:PL]\}} \rightarrow ti/ __K;$

else

²⁴Refining the rules in (47) by introducing the case value to the environment variable can be used to capture the fact that in the nominative case the additional set of person/number markers realising $[_{Pers} Pers-Num]$ on the current assumptions is absent (in the standard dialect of Hungarian; see Table 3.3 above).

$$D_{\{[Pers:2], [Num:PL]\}} \rightarrow \emptyset$$

(47) *Realisation rules for $[_{Pers} Pers-Num]$* [Hungarian]

a. $[_{Pers} Pers_{[Pers:1]}-Num_{[Num:SG]}] \rightarrow -em/ __K;$

else

$$[_{Pers} Pers_{[Pers:1]}-Num_{[Num:SG]}] \rightarrow \emptyset$$

b. $[_{Pers} Pers_{[Pers:2]}-Num_{[Num:SG]}] \rightarrow -ed/ __K;$

else

$$[_{Pers} Pers_{[Pers:2]}-Num_{[Num:SG]}] \rightarrow \emptyset$$

c. $[_{Pers} Pers_{[Pers:1]}-Num_{[Num:PL]}] \rightarrow -nk/ __K;$

else

$$[_{Pers} Pers_{[Pers:1]}-Num_{[Num:PL]}] \rightarrow \emptyset$$

d. $[_{Pers} Pers_{[Pers:2]}-Num_{[Num:PL]}] \rightarrow -tek/ __K;$

else

$$[_{Pers} Pers_{[Pers:2]}-Num_{[Num:PL]}] \rightarrow \emptyset$$

The rules in (46)–(47), combined with the hypothesis that missing objects lack the K head in their structure, derive the availability of both singular and plural object drop in first and second person, as opposed to the third person.²⁵

²⁵Accounting for the difference in the degree of acceptability of first and second person plural missing objects noted in Keresztes (2013) requires further empirical and theoretical investigation (dropping the latter seems less acceptable than dropping the former). One possible direction

To sum up, this section has analysed the restrictions on definite missing objects in Hungarian in terms of the morphophonological properties of the language. Taking missing objects in Hungarian to parallel pronominal structures up to the DP projection but to lack the K head makes it possible to capture the asymmetries in the availability of object drop, which are determined by the morphological realisations of ϕ features distributed in pronominal structures. I have analysed the unacceptability of third-person plural missing objects as a consequence of the lack of an appropriate host to which the plural marker *-k* could attach. As first-person and second-person plural pronouns have an analysis on which the Num head is not realised independently, but is a part of a complex Pers-Num head, plural number does not block object drop in this case.

The system developed here thus proposes a structural difference between definite missing objects in English and Polish on the one hand and in Hungarian on the other. Whereas I have analysed definite missing objects in English and Polish as represented as *n*, being interpreted as definite due to the application of the operation ι in the semantics, I have taken Hungarian definite objects to be

for future research might be to see whether this difference can be attributed to an interpretive difference between first and second person pronouns: even though both are potentially ambiguous between two interpretations, that is the speaker and her/his associates vs. a plurality of speakers and the hearer and her/his associates vs. a plurality of hearers, contexts where the plurality of speakers is an appropriate interpretation are much more restricted than contexts in which the plurality of hearers is meant. Resolving ambiguity can thus be more difficult for second-person pronouns than for first-person pronouns. See, for example, Wechsler (2010) and references cited therein for relevant discussions.

DPs. This difference is reflected in the data, which show that missing objects are more flexible in terms of interpretation than overt pronouns only in the two former languages (cf. the examples in (12), (19), and (26)). This type of analysis is available on the assumption that definite interpretation of a nominal argument does not require the presence of the D head in the syntactic representation, as discussed in section 1.4 of chapter 1. In the following section, I consider briefly the alternative on which the D head is obligatory for the definite reading to arise.

3.3.4 *An alternative: null D in English and Polish*

Two kinds of approaches developed in the literature about the interpretation of nominal expressions in natural language grammar are in principle available to account for the definite interpretation of missing objects (cf. the discussions in Corver 1990; Longobardi 1994; Chierchia 1998; Progovac 1998; Willim 2000; Rutkowski 2002; Bošković 2008, 2012; Jiang 2012; Fanselow & Féry 2013; Pereltsvaig 2013, among others). According to one of them, an expression of type $\langle e, t \rangle$ can undergo a type shifting operation in the semantic component (ι). This operation is not associated with any syntactic head, making it possible to take the syntactic representation of the object to be minimal (i.e. n on the current proposal). An alternative to applying ι in the semantics is to adopt the hypothesis that definite interpretation is only possible via mediation of a dedicated lexical

item merged within the projection of an argument (i.e. D).²⁶ I have adopted the former view in the present work, as discussed in section 1.4 of chapter 1.²⁷ On the latter view, the structure of definite missing objects would need to include at least the *n* and D heads (see (48)), and possibly also the Num head, if D is taken to select for Num.

$$(48) \quad [\text{DP D-}\emptyset [n\text{-}\emptyset]]$$

The postulation of a null D raises some non-trivial issues for the analysis of Polish and English. Polish does not have overt lexical items which can be analysed as equivalents of the English articles. Furthermore, it lacks any overt evidence for the presence of a null D head in the structure (see Willim 2000). Assuming the structure in (48) and, naturally, adopting also the hypothesis that definite lexical noun phrases are also DPs in this language would have serious theoretical consequences. In particular, due to the lack of evidence which could lead a language acquirer to postulate a null D head in the lexicon, information about the existence of this head would need to be part of innate language-specific knowledge. This is not an optimal solution, as in languages with articles the dependence between definite interpretation and the presence of an article in the

²⁶I thank Tonia Bleam for a discussion of this option.

²⁷See also section 6.2 in the concluding chapter for a discussion of some consequences for the theory of language acquisition.

structure can be acquired based on primary linguistic data.

The major problem related to the analysis of missing objects as (48) in English is more basic. Even taking for granted that a child could acquire a null article, in addition to the overt ones, it is still unclear why this null article should not be able to take an *nP/NumP* complement containing a lexical noun. Furthermore, it is unclear how lexical restrictions on the use of definite missing objects could be encoded in this case. The categorial identity of the missing object would be the same as the categorial identity of overt objects, which means that any transitive verb selecting for nominal complements should be able to be merged with an object represented as shown in (48).²⁸ Even though some solutions to these problems might be available, they would introduce further complications in the theory of missing arguments, in addition to complicating UG. Representing all definite missing objects as shown in (48) thus seems theoretically unattractive, as it does not take into account the properties of objects in particular languages and the broader properties of the systems of nominal interpretation in these languages.

²⁸This is also the case on the analysis which takes the highest projection of noun phrases to be KP, as K should be able to select a DP complement regardless whether D is null or overt.

3.4 Definite missing objects as *n* or DP: conclusion

Taking the view that the structure of a missing object minimally includes the nominal categorising head *n* as the point of departure, the present chapter has modelled definite missing objects in English, Polish, and Hungarian with reference to the structure of pronouns in these languages. In the former two languages such objects exhibit subtle interpretive differences when compared with overt pronouns, along with a number of similarities. To capture these differences, I have suggested a representational difference. Unlike overt pronouns, which contain the Pers head, and in English also the D head, definite missing objects in these two languages are represented in the same way as indefinite missing objects (that is as *n*), but they are interpreted via the application of the ι operation. In Polish, which makes extensive use of bare nouns, ι is freely available and the restrictions on the use of missing objects are related to discourse factors and to the availability of overt pronominals. In English ι can only apply to complements of verbs which are lexically marked as making this option available. This accounts for the restricted use of such objects in English. On the other hand, the interpretive properties of definite missing objects in Hungarian parallel these of overt pronouns and the restrictions are morphological in nature. More specifically, object drop is blocked in Hungarian when the Num head bearing the plural-number

feature does not rise to Pers and has to be realised by the morpheme *-k*, which needs a host to attach to.

On a more general theoretical level, the present analysis of Hungarian provides further support for the hypothesis in Neeleman & Szendrői (2007) that the morphology of pronouns has an important role to play in licensing or blocking argument drop. However, one of the crucial hypotheses in Neeleman & Szendrői's (2007) analysis of radical *pro* drop is that Spell-Out rules dictating the realisation of pronouns target non-terminal nodes. Contra their approach, the present data can only be explained if Spell-Out rules target terminals. This invites the possibility that Neeleman & Szendrői's approach to their domain of empirical inquiry may need to be reconsidered to make a uniform approach to Spell-Out possible.

Part II

The Phenomenon. Further Empirical Facts and Theoretical Considerations

Chapter 4

Interpretive properties of missing objects

In this chapter, I discuss the interpretation of missing objects, focusing on the ways in which anaphoricity and definiteness of the object can be influenced by the linguistic and extra-linguistic context. I present the basic facts concerning the distribution of non-anaphoric and anaphoric missing objects in English, Polish, and Hungarian, as well as the ways in which these facts have been used to inform the theoretical analyses of the phenomenon.

The discussion begins with general comments on anaphoricity and definiteness in relation to missing objects in section 4.1. Section 4.2 is concerned with non-anaphoric objects. Here I outline three basic types of analytical approaches

to non-anaphoric missing objects: the approach taking them to involve intransitive structures, that is the lexical ambiguity approach (section 4.2.1), the approach assuming a syntactically transitive structure (section 4.2.2), and the approach equating non-anaphoric missing objects with antipassive structures (section 4.2.3). I conclude that the arguments used to support the first and last view are not without problems and that the second approach is worth pursuing in the absence of strong evidence militating against it. I then offer a brief discussion of two special types of non-anaphoric missing objects, namely objects interpreted as human (section 4.2.4) and objects in structures describing a characteristic property of an instrument (section 4.2.5).

Anaphoric missing objects are the focus of section 4.3. I discuss here the issue of the licensing of definite missing objects by particular verbs in English and, drawing on previous literature, I show that, if licensed, definite missing objects involve transitive structures in English. Sections 4.3.1 and 4.3.2 are concerned with anaphoric missing objects in Polish and in Hungarian respectively. I show here that object drop is not constrained lexically in these languages. The data presented in these sections suggest that definite object drop is largely dependent on pragmatic inferencing in Polish, whereas in Hungarian the number (and person) feature of the object plays the crucial role. I provide a short note about reflexive objects in section 4.4, and follow it in section 4.5 with some more general con-

siderations of, among others, some controversies related to object drop with the verb *win*.

4.1 General introduction: anaphoricity and definiteness

As (1) and (2) show respectively, missing objects can be anaphoric or non-anaphoric. Anaphoric missing objects receive their interpretation from a phrase present in the linguistic context or from an entity salient in the extra-linguistic context. They can be indefinite and replaceable with an indefinite nominal, as illustrated in (1a), or definite, as shown in (1b).¹ In the latter case, an anaphoric missing object is interchangeable with a definite nominal expression. Non-anaphoric missing objects can be interpreted with reference to factors such as verb meaning. An alternative to structures with non-anaphoric missing objects in English is the *do some Ving* construction (e.g. *I was doing some reading*; see Allerton 1975).

(1) *Anaphoric missing object*

a. *Indefinite*

It is said that fear in human beings produces an odor that provokes
animals to attack ø. [Brown]

¹For the purpose of the present discussion, I subsume generic and universal noun phrases under indefinites, in accordance with the view that to be definite, a noun phrase must be referential/specific, as discussed in Enç (1991), following Heim (1982).

(= It is said that fear in human beings produces an odor that provokes animals to attack them/human beings.)

b. *Definite*

“They’ll probably attack ø at dawn”, Montero said. [Brown]

(= “They’ll probably attack us at dawn”, Montero said.)

(2) *Non-anaphoric missing object*

Mrs. Coolidge would knit ø, and the President would sit reading ø [...]

[Brown]

(= Mrs. Coolidge would knit stuff, and the President would sit reading stuff [...]/ Mrs.

Coolidge would do some knitting, and the President would sit doing some reading [...].)

As has been noted in the literature on English, whether a verb can be accompanied by an anaphoric or a non-anaphoric missing object is determined lexically.² This is suggested by the following examples from Cote (1996:153), where the missing object of the verb *call* has to be identified as an entity salient in discourse, but the same is not true of the missing object of *eat* (see also Allerton 1975).

²An additional factor related to lexical specifications of verbs which has featured prominently in the literature is the influence of the manner and result components of verb meaning on the availability of object drop. I discuss this issue in detail in section 5.2.2 of chapter 5 and in section 2.3 of chapter 2.

(3) A: Have you been in touch with John?

B: #No, I called \emptyset , but not John... I spoke to Mary.

(4) A: Did you know there's some lasagna in the fridge?

B: No, I ate \emptyset , but not the lasagna... I ordered a pizza.

The Hungarian example in (5) from Németh T. (2000:1660–1661), where the missing object of *eat* is not coreferential with the established topic (i.e. the soup), follows the same pattern as (4), which could also be reproduced for Polish.

(5) A: Merítsek levest? — kérdezi az ebédelő feleség éppen
get-1SG soup asks the having.dinner wife just
megérkező férjétől.
arrived husband
“‘Shall I get you some soup?’”, asks the wife, who is having dinner, of her husband, who has just arrived.’

B: Nem, köszönöm, már ettem \emptyset .
no thanks already ate-1SG
“‘No, thanks, I have already eaten.’” [Hungarian]

Even though missing objects of verbs such as *eat* do not refer to discourse topics, an entity mentioned explicitly can be included in the meaning of the missing object by way of inferential processes, as indicated by (6) from Ruppenhofer (2004:375).³

³Liu (2008:302) and Saloni (1976:128) provide similar examples with the verbs *read* and

(6) A: Why did it take him so long to eat the soup?

B: He ate \emptyset only with a fork.

The following corpus data show a similar effect with the verbs *drink* and *drive*:

(7) Lord Byron poured himself another glass of wine and held it up to the candle flame admiring the rich color. He drank \emptyset slowly with due appreciation. It was an excellent vintage. [Brown]

(8) Miraculously, the bottle was still in my hand, foam still geysering over my (luckily) waterproof watch. No sooner had I started drinking \emptyset than the driver started zigzagging the truck. The beer foamed furiously. I drank \emptyset furiously. [Brown]

(9) Out of the church and into his big car, it tooling over the road with him driving \emptyset and the headlights sweeping the pike ahead and after he hit college [...]. [Brown]

pisać ‘write’ respectively:

(i) She gave me the book, and went out. I began to read \emptyset . I think I read \emptyset for two hours, but it seemed like ten minutes. [BNC]

(ii) Siedział nad nową powieścią. Pisał \emptyset .
sat-3SG over new novel wrote-3SG
‘He was working on a new novel. He was writing (it).’ [Polish]

For relevant discussions, see also Groefsema (1995); Scott (2006); Martí (2015); Williams (2015).

Also the verbs *wash*, *spray*, and *mop*, likewise typically described in the literature as making only non-anaphoric object drop available, appear in the corpus with anaphoric, definite missing objects, as illustrated in (10), taken from a paragraph describing the process of cleaning a fresco.

- (10) On this giddy and oscillating platform over fifty feet from the floor, after a first dusting, we began to wash \emptyset . A most useful tool for wetting the surface without running \emptyset down was made from a greenhouse “mist spray” nozzle welded to a hose connection, to be used at low water pressure. A valve in the handle let us cut the pressure still lower. One man sprayed \emptyset , with a sponge in hand to check excess wetting. A second assistant mopped \emptyset with two sponges. [Brown]

The missing objects refer to the surface, explicitly mentioned in the second sentence.

In addition to factors related to the antecedent of the object and the lexical properties of the verb, also other phrases in the sentence can be used to guide the interpretation of the missing object.⁴ For example, Bobrowski (1981:100) notes that the subject and its relation to the verb can influence the interpretation

⁴I use the term ‘antecedent’ broadly here to refer to the element whose reference determines the reference of the missing object, be it a linguistic antecedent in the sense of the Binding Theory, or an antecedent present in a larger situational context.

of the object. Accordingly, in (11)–(12), both containing verbs with potentially very broad selectional restrictions (i.e. *wziąć* ‘take’ and *oblać*, which translates as *pour/spill (liquid) over; fail*, and *celebrate* out of context), the denotation of the subjects provides information which can help to identify the objects.

- (11) Ryba wzięła \emptyset .
 fish took
 ‘The/a fish took the bait.’ [Polish]
- (12) Student oblał \emptyset .
 student failed
 ‘The/a student failed the/an exam.’ [Polish]

As attested by corpus data, the referent of a missing object can also be co-extensive with the referent of a missing object of a preceding verb, as shown in (13), or with a different unrealised argument of a preceding verb, as in (14), where the object of the verb *judge* is co-extensive with the implicit argument of the passive structure built around the verb *entertain*. Both of these null arguments are interpreted as anaphoric to *he* in the preceding sentence.

- (13) Obviously someone has to sell \emptyset in order for someone to buy \emptyset , and
 vice versa. [Brown]
- (14) Whether he sang well or badly had nothing to do with it. The au-

dience had come not to be entertained but to judge \emptyset . Twenty-four hours had changed him from a performer to a freak. [Brown]

Two tests have been suggested in the literature to determine whether a missing object is definite or indefinite: the test based on the expression of ignorance of the identity of the referent, illustrated here in (15a) and (16a) from Fillmore (1986:96), and the sluicing test, shown in (15b) and (16b) from AnderBois (2012:45). As expected, the definite object is infelicitous in (16), while the indefinite missing object is appropriate in (15a) and can license sluicing, as (15b) shows.⁵

(15) *Indefinite missing object*

- a. He was eating \emptyset ; I wonder what he was eating.
- b. Fred baked \emptyset , and Lucinda's going to find out what.

(16) *Definite missing object*

- a. #They found out \emptyset ; I wonder what they found out.
- b. A: Maribel noticed \emptyset .
B: #What?

⁵However, the ignorance test is not suitable for contexts such as (6), as is also pointed out in Ruppenhofer & Michaelis (2013).

I begin a more detailed discussion of the interpretive properties of missing objects in the following two sections, which focus on non-anaphoric and anaphoric missing objects respectively.

4.2 Non-anaphoric missing objects

In English, non-anaphoric missing objects are available with verbs such as *clean*, *cook*, *drive*, *examine* (test academically), *hunt*, *paint*, *read*, *sew*, *bake*, *draw*, *iron*, *mend*, *plough*, *recite*, *sketch*, *study*, *teach*, *vacuum*, and *wash* (see Allerton 1975:215; Levin 1993:33). Similar verbs make available non-anaphoric missing objects in Hungarian (see, e.g., Kiefer 2006; Németh T. 2008) and in Polish (see, e.g., Karolak 1984). Non-anaphoric missing objects are generally associated with two types of interpretations, both of which can arise with the same verb:

- Object general in meaning; verb denoting an activity

(see Allerton 1975:217; Fillmore 1986:96; cf. also Cote 1996:148–150)

(17) When my tongue was paralyzed I couldn't eat \emptyset or drink \emptyset .

[object understood as any liquid/edible thing]

(18) I've never drunk \emptyset out of that (tea)cup. [object understood as any liquid]

- Semantic specialisation of the object

(see Fillmore 1986:96–97; see also Williams 2015 for some discussion)

(19) We’ve already eaten \emptyset . [object understood as a meal]

(20) I’ve tried to stop drinking \emptyset . [object understood as alcohol]

As (21), adapted from Bobrowski (1981:100–102), illustrates, some verbs make non-anaphoric object drop available only when a specialised object is intended. It seems that in cases of this type, general objects are not normally available because the internal argument is not associated with any prototypical entities which could guide the process of interpreting the object.⁶

- (21) a. Kierownik bierze \emptyset .
 manager takes
 ‘The manager takes bribes/drugs.’
- b. Ryby nie biorą \emptyset w taką pogodę.
 fish not take in this weather
 ‘Fish don’t take bait in such weather.’ [Polish]

⁶Similarly, the verb *use* can take a non-anaphoric missing object interpreted as drugs in English (though its counterpart in German cannot; see Ruppenhofer 2004:410):

- (i) At 26, Paul has been addicted to crank for years and sent to jail at least twice. By now, he’s used \emptyset so long he’s not quite sure of time anymore. (Sacramento Bee, October 8, 2000, “A Madness Called Meth”)

For a discussion of the impact of selectional restrictions of the verb on object drop, see Resnik (1993, 1996) and section 5.2.1 in chapter 5.

Mittwoch (2005:241) offers some discussion of the variable degrees to which different verbs require specific contextual background to be acceptable with unspecified missing objects, as (22) illustrates. The variants in (22a) are appropriate answers to the question asked, whereas those in (22b) are not.

- (22) A: What is he doing?
- a. B: He is reading \emptyset /cooking \emptyset /knitting \emptyset /drawing \emptyset /eating \emptyset .
 - b. B: #He is polishing \emptyset /chopping \emptyset .

The importance of contextual information is underscored by the observation that appropriate embedding in context makes unspecified object drop acceptable even with verbs which usually cannot be used without an overt object, such as verbs denoting a change of possession (Mittwoch 2005:243; see also chapter 5):

- (23) a. A: I deal in antiques as a sideline.
 B: Have you bought/sold *(anything) recently?
- b. Last week she sold *(something) to/bought *(something) from a rich Japanese collector.
- c. Did you buy *(anything)? (said to someone coming from a shop)

- (24) a. ??Last week John was called to the headmaster because he stole
 Ø.
 b. Last week John stole Ø from a teacher.

Non-anaphoric missing objects typically do not introduce a discourse referent which could be referred back to with a pronoun (Williams 2015:103):

- (25) a. Al cooked stuff before it had thawed.
 b. #Al cooked Ø before it had thawed.

Some literature suggests that there might be exceptions to this (see Ruppenhofer 2004:405), even though the naturalness of the examples can be questioned:

- (26) I've eaten Ø already. It was delicious.

Similarly, even though Farkas & de Swart (2003:147) provide the example in (27), where the non-anaphoric object of *írt* 'wrote' serves as an antecedent to a definite null object of the verb *el-tépte* 'tore up', (28b) is not judged as well-formed. A comparison with (28a) suggests that quantificational properties of the clause can influence the judgments in this case.⁷

⁷I thank Professor István Kenesei for a discussion of these examples.

- (27) Folyton írt \emptyset_i de aztán el-tépte \emptyset_i .
 incessantly wrote-3SG.INDEF but then up-tore-3SG.DEF
 ‘She/he kept writing, but then she/he tore it up.’ [Hungarian]

- (28) a. Mindig festesz \emptyset_i , de senki sem vásárolja meg
 always paint-2SG.INDEF but nobody not buy-3SG.DEF PV
 \emptyset_i .
 ‘You always paint stuff, but nobody buys it.’
- b. *?Tegnap festettél \emptyset_i , de senki sem
 yesterday painted-2SG.INDEF but nobody not
 vásárolta meg \emptyset_i .
 bought-3SG.DEF PV
 ‘You painted stuff yesterday, but nobody bought it.’ [Hungarian]

Finally, as (29)–(30) from Polish show, a non-anaphoric object can sometimes serve as an antecedent to a null subject (*pro*), but this is not always fully acceptable.

- (29) ?Jadłam \emptyset_i w piątek w tej nowej restauracji i muszę
 ate-1SG.F in Friday in this new restaurant and have.to-1SG
 powiedzieć, że *pro*_i było lepsze niż się spodziewałam.
 say that was-3SG.N better than SE expected-1SG.F
 ‘I ate in this new restaurant on Friday and I have to say that it was
 better than I expected.’ [Polish]

- (30) #Gotowałam \emptyset_i wczoraj i muszę powiedzieć, że *pro*_i
 cooked-1SG.F yesterday and have.to-1SG say that
 było lepsze niż się spodziewałam.
 was-3SG.N better than SE expected-1SG.F
 ‘I cooked stuff yesterday and I have to say that it was better than I

expected.’

[Polish]

Since the possibility of establishing pronominal reference can be influenced by factors such as the salience of the intended referent in the speaker’s mind, these patterns could follow from an interplay between semantics and pragmatics.

Polish and Hungarian do not (need to) make a distinction between episodic and habitual contexts at the level of the form of the sentence (as opposed to the distinction between continuous and simple tenses in English). This is why which reading is intended may have to be determined on the basis of other factors. For example, Bobrowski (1981:101) points out that (31) is most readily interpreted as episodic, unless it is known that Marysia is a spinster. The intended interpretation of the object can also influence the interpretation of the sentence in this way, as in (32), which is interpreted as episodic if the object is not understood as alcohol, but which can be either episodic or habitual if the object refers to alcohol.⁸

- (31) Marysia szyje \emptyset .
Marysia sews

⁸Kiefer (2006:76–77) discusses Hungarian data parallel to (32).

In addition to the register-neutral verb *pić* ‘drink’, Polish has the colloquial verb *chlać* ‘booze’, which also can be used without an object when the object is to be interpreted as alcohol. This is illustrated in (i) from an internet search (original spelling preserved).

- (i) Wyszła ze szpitala, myślałam, że zmadrzała, ale ciągle chleje \emptyset .
left-3SG.F from hospital, thought-1SG.F that got.wiser-3SG.F but still boozes
‘She came out of hospital, I thought she had got wiser, but she still drinks.’ [Polish]

‘Marysia is sewing/sews.’ [Polish]

- (32) Janek pije \emptyset .
Janek drinks
‘Janek is drinking/drinks.’ [Polish]

A similar pattern holds in Hungarian, as (33) from Németh T. (2000:1674) illustrates. Here the response can be interpreted either habitually (see (33a)) or episodically (see (33b) and (33c)).

- (33) A: Mit csinál Gergő?
what does Gergő
- B: Gergő épít \emptyset .
Gergő builds
- a. A: ‘What does Gergő do?’
B: ‘Gergő builds buildings.’
- b. A: ‘What is Gergő doing?’
B: ‘Gergő is building a house.’
- c. A: ‘What is Gergő doing?’
B: ‘Gergő is building a castle/house for fun.’ [Hungarian]

Such ambiguity is available with verbs which do not need special licensing conditions to appear with unspecified object drop. I illustrate this in (34) from Polish, where the verb *zabijać* ‘kill’ does not admit the episodic interpretation, as ob-

ject drop in this case is licensed by habituality, a licensing factor which I discuss further in section 5.4.1 of chapter 5.

(34) A: Co Leon robi?
what Leon does
'What does Leon do/What is Leon doing?'

B: Zabija ø.
kills
'He kills.'

NOT: 'He is killing someone.' [Polish]

4.2.1 Analytical possibilities: lexical ambiguity

The existence of specialised interpretations, illustrated in (19)–(21) above, has been used to argue that the verbs which take non-anaphoric missing objects should be treated as separate, intransitive entries in the lexicon. On this approach, for example, the transitive *drink* is used in contexts with an overt object and the intransitive *drink* is used otherwise. Analyses treating structures with non-anaphoric missing objects as syntactically intransitive have been proposed, among others, in Bresnan (1978), Fodor & Fodor (1980), and Jackendoff (1990).⁹ On this ap-

⁹Bresnan (1978) supplements the analysis with lexical mapping rules to derive the fact that an event of eating is always an event of eating something. Fodor & Fodor (1980) argue for deriving the facts with meaning postulates rather than lexical mapping rules, but see Gillon (2012) for a critique. Considering variation between *eat* and *devour*, Jackendoff (1990) proposes to encode optionality of the object with the former, but not the latter, by introducing brackets into the representation of the relevant verbs. For example, the Thing argument is optional with *eat*.

proach, the meaning of the intransitive *drink* can be more specific, with additional conditions stated over the patient/theme participant of the event, making the interpretation of the intransitive entry similar in its denotation to the phrase *drink alcohol* (see, e.g., Lasnik 2000; Williams 2015).

The fact that, for example, the verb *eat* can be used with non-food-denoting objects when the object is overt, as (35) from Lehrer (1970:230) shows, whereas a null object can only be interpreted as food, has been used to support the approach to non-anaphoric missing objects as lexically encoded. However, examples such as (36) suggest that this might not be a strong argument.

(35) John won a bet by eating some iron nails and wooden pegs.

(36) Did you run this morning?

The verb *run* in isolation is very general in meaning, denoting a particular manner of movement. However, interpretation in the context in which (36) could be uttered is not general, but rather relates to running as a type of exercise, with all of its relevant connotations (special outfit, pre-determined time and/or distance, etc.). Introducing a separate lexical entry with a denotation of *running for sport*, and, for the sake of consistency, doing the same for any other verb which might trigger specialised reading in some contexts does not seem motivated well

enough. The effect of specialised interpretation seems to be general enough to warrant a (pragmatic) inference-based account. Admittedly, comparing (36) and cases of specialised missing objects is a matter of subtle judgments, but if indeed these contexts are parallel, they show that postulating homonymy is not necessary to account for the specialised readings, which are rather a result of broader effects of conventionalisation of certain types of activities.

In addition, postulating intransitive entries with special conditions on the interpretation of the patient/theme raises questions about the derivation of cases such as (17)—(18) above, where the object is interpreted as general in meaning. If the meaning of the intransitive *drink* is that of the phrase *drink alcohol*, the meaning of non-anaphoric missing objects should be restricted to alcohol, unless a further intransitive entry *drink* is postulated, this time similar in meaning to *drink liquid*.¹⁰ In addition to multiplying lexical entries, such an approach seems

¹⁰The corpus examples with *write* in (i), where the non-anaphoric missing objects refer to poetry/prose, letters, any text, or are used in a sentence concerning a general ability to write, show that the verbs *drink* and *eat* are not isolated cases where the missing objects can have different meanings.

- (i) a. But both were high-spirited and vivacious, both had tempers to control, both loved languages, especially English and German, both were good teachers and wrote ø for publication. [Brown]
- b. A good many pages of the first section are taken up with an account of the dogged determination of the prisoners to write ø to their wives and families [...]. [Brown]
- c. He took the pen in his stumps and began to write ø. [Brown]
- d. When her right hand was incapacitated by the rheumatism, Sadie learned to write ø with her left hand. [Brown]

inconsistent with what is observed with uncontroversial cases of ambiguity. As Gillon (2012:319) notes, one of the properties of ambiguous items is that all of their interpretations are always available. Accordingly, the expression /bil dajd/ can be understood either as the acceptable sentence *Bill died* or as the unacceptable sentence **Bill dyed* \emptyset . On the other hand, /bil red/ can only be interpreted as an acceptable sentence and cannot be interpreted as an unacceptable instance of object drop with a transitive verb *read*.

What is more, in some special types of contexts even verbs such as *kill*, which are not associated with non-anaphoric object drop in the same way as *drink* is, can appear with missing objects (e.g. *I've never killed* \emptyset *before*; see chapter 5 for more discussion). This means that some account of structures with missing objects is still needed for such cases. Postulating an intransitive entry for all verbs and imposing additional restrictions on the distribution of the intransitive variant seems less desirable theoretically than postulating a smaller lexicon and developing a theory of the conditions under which transitive verbs can appear with missing objects. Therefore, the more parsimonious solution seems to be to take the specialised readings associated with verbs such as *run*, *drink*, and *eat* to arise through the application of pragmatic and world knowledge in the process of interpretation, without this being encoded directly via multiplying lexical entries.¹¹

¹¹The analytical contribution of this work focuses on the syntactic aspect of missing objects (see part 1) and I do not offer an explicit model of interpretation of the object within pragmatic

This approach makes it possible to consider the problem of deriving all data with object drop with a uniform analysis in mind, such as the one put forward in part 1 of this book.

4.2.2 *Analytical possibilities: syntactic transitivity*

Within syntactic approaches, Fraser & Ross (1970) propose the Rule of Unspecified NP Deletion in their early generative account. Furthermore, Fillmore (1986) quotes Katz & Postal (1964), who propose that the object position is occupied by *something* or *it*, which can be deleted. Solutions of this type ensure that the object is available at deep structure and can satisfy the selectional requirements of the verb and be interpreted. Structures with missing objects are thus treated as both syntactically and semantically transitive. However, Fillmore (1986:106) notices that, even though the missing object usually seems to be semantically equivalent to the word *something*, this is not always the case. For example, in (37) the object is interpreted as *stuff* rather than as *something*.

context. However, some studies conducted within the framework of Relevance Theory discuss this issue (Groefsema 1995; Németh T. 2000; Scott 2006). For example, Scott (2006) suggests that when syntactic rules do not block omission, a complement can be omitted in accordance with optimal relevance (Sperber & Wilson 1986:207, quoted here after Scott 2006:159):

- (i) *Presumption of optimal relevance*
 - a. The ostensive stimulus is relevant enough for it to be worth the addressee's effort to process it.
 - b. The ostensive stimulus is the most relevant one compatible with the communicator's abilities and preferences.

- (37) I spent three days cooking \emptyset .

Importantly, indefinite missing objects do not parallel the quantifier *something* or indefinite noun phrases in scopal properties (see Bresnan 1978; Fodor & Fodor 1980; Condoravdi & Gawron 1996; Williams 2015). As noted in chapter 1 of part 1, indefinite missing objects are restricted to narrow-scope readings. In this they differ from the quantifier *something* and indefinite noun phrases, which can sometimes take wide scope with respect to quantifiers merged higher in the structure (see (38) from Fodor & Fodor 1980:759 and in (39) from Williams 2015:105).

- (38) a. Everybody ate something.
b. Everybody ate \emptyset .
- (39) a. Every boy stole a book from exactly three girls.
b. Exactly three students baked \emptyset this morning.

In (38), only the (a) example allows the wide-scope reading of *something*, while (38b) does not entail that there was some specific thing *x* such that everyone ate *x*. Similarly, (39a) has the interpretation on which the indefinite *exactly three girls* scopes over the quantifier *every boy*, but (39b) cannot be interpreted to mean that

there is some specific thing x such that x was baked by exactly three students.

Even though the scopal facts have been used to support the intransitive approach to the structure with missing objects (see esp. Bresnan 1978; Fodor & Fodor 1980) the fact that also bare plurals in English can only take narrow scope (Carlson 1977:15–21) suggests a different analytical possibility.

(40) Miles wants to meet a/some/sm policeman.

CAN MEAN: $(\exists x)(\text{Policeman}(x) \ \& \ \text{Miles want}(\text{Miles meet } x))$

CAN MEAN: Miles want $((\exists x)(\text{Policeman}(x) \ \& \ \text{Miles meet } x))$

(41) Miles wants to meet policemen.

CANNOT MEAN: $(\exists x)(\text{Policemen}(x) \ \& \ \text{Miles want}(\text{Miles meet } x))$

CAN MEAN: Miles want $((\exists x)(\text{Policemen}(x) \ \& \ \text{Miles meet } x))$

Negated statements provide a similar type of context (see (42), quoted here after Dayal 2011:1089), where a parallel behaviour is observed with mass nouns (Carlson 1977:462–464), as shown in (42), where *whisky* is associated only with the narrow-scope reading.¹²

(42) Miles didn't see policemen/a policeman/some policemen.

¹²Thanks go to Jeffrey Green, William Matchin, and Laurel Perkins for providing me with the judgments regarding this example.

(43) Miles didn't drink/always drinks whisky.

The interpretive parallelism between bare plurals, mass nouns, and missing objects opens up the possibility that missing object structures are transitive, with the mechanism responsible for the restriction on the scopal interpretation of the object being the same in all three cases (see chapter 2 in part 1 for a discussion of one possibility).

Analyses which assume the projection of the object position in syntax and which do not run into the problems of scope with the deletion of an indefinite quantifier have also been put forward in the literature. For example, in his analysis of structures with non-anaphoric missing objects in Polish, Bobrowski (1981, 1985) introduces into the lexicon nominal elements symbolised as Δ (see also Bobrowski 1994). These elements are characterised as general in meaning and are treated on a par with lexical nouns for the purpose of rewrite rules, as exemplified in (44).

(44) $N \rightarrow \{\text{książka}, \Delta_{[+należące\ do\ literatury]}\}$
 $\text{'}N \rightarrow \{\text{book}, \Delta_{[+belonging\ to\ literature]}\}\text{'}$

The node Δ undergoes an obligatory deletion transformation. This approach makes it possible to treat verbs such as *czytać* 'read' as uniformly transitive, even

though it also suffers from the disadvantage of expanding the lexicon, populating it with as many items Δ as needed to capture all the meanings of specialised and general non-anaphoric missing objects.

Within the GB framework approaches employing deletion rules had their successors in analyses employing lexically null elements. The seminal discussion in Rizzi (1986) identifies syntactically active null objects in Italian as *pro* (see section 4.2.4 for some more comments on Rizzi's work). Hoekstra & Roberts (1993) develop Rizzi's approach further to capture also some English facts, employing *pro* to ensure the satisfaction of the Projection Principle. Even though their focus is on the middle formation, illustrated in (45), with the logical subject in middles analysed as a quasi-universal arbitrary *pro*, they suggest that the object position of verbs such as *rape*, *murder*, *kill*, and *steal* is also occupied by a quasi-universal arbitrary *pro* when they are used in the structure with object drop, as shown in (46).¹³ This *pro* is in fact a null counterpart of the overt impersonal *one*. The sentences in (45)–(46), from Hoekstra & Roberts (1993:187–189), illustrate interpretive similarities shared by the three relevant constructions (i.e. middles, *one* impersonals, and sentences with arbitrary missing objects).

¹³The distinction between quasi-universal and quasi-existential arbitrary elements has been proposed in Cinque (1988), with the former ones being characterised, among others, by the compatibility with generic, but not specific, time reference.

(45) *Middle formation*

- a. Bureaucrats always bribe easily.
- b. ?*Bureaucrats bribe easily; even John managed it.
- c. Bureaucrats_i [_{VP} *pro* [_V bribe *t_i* easily]].

(46) *Arbitrary missing object*

- a. John steals \emptyset for a living.
- b. *This evening John stole \emptyset .
- c. Bureaucrats_i [_{VP} *t_i* [_V bribe *pro* [_{PRO_i} to win promotion]]].

(47) *One impersonal*

- a. One always goes out on Sundays.
- b. *One telephoned last night; it was John.

Building on Rizzi's (1986) theory of licensing and identification of *pro*, Hoekstra & Roberts suggest that *pro* can be content-licensed in two ways, morphologically, as argued for in Rizzi (1986), and thematically. The latter content-licensing condition is referred to as *arb* licensing and requires *pro* to be the sister of a lexical head assigning it the theta role and the index *arb*.

Keyser & Roeper (1992) suggest that all verbs in English are associated with what they refer to as an abstract '*Clitic position*', a sister to V. This position is

occupied by an ‘invisible nominal’ in structures with missing objects such as (48) from Keyser & Roeper (1992:96).

- (48) a. Don’t push \emptyset .
b. Don’t kick \emptyset .

However, some differences in the syntactic behaviour of null and overt objects create a challenge for accounts that postulate a syntactically projected object position in structures with missing objects (in English). Firstly, the null object cannot be promoted to the subject position in a passivised variant of the sentence:

- (49) a. Wendy drinks \emptyset .
b. * \emptyset is drunk by Wendy.

Chomsky (1957:64) suggests that the passive transformation can be used to reject the analysis of intransitive verbs as taking zero objects. In particular, since a string such as *John—slept— \emptyset* meets the structural description of the passive transformation, *\emptyset —was slept—by John* should be a possible sentence of English.¹⁴ However, within the current approach to grammar, it is not completely clear whether the effect in (49) is directly related to the syntactic status of the

¹⁴The structural analysis for the passive transformation in Chomsky (1957:43) is NP_1 —Aux— V — NP_2 and the structural change is NP_2 —Aux+be+en— V —by+ NP_1 .

object and that it may indicate the absence of the object in the syntactic representation, or whether it can be attributed to the interaction of the requirements of operations involved in the passive formation and some properties of the element in the object position. I suggest one possibility exploring this option in chapter 2 of part 1.

Secondly, as noted, among others, in Ruppenhofer (2004:406–407), secondary predication with depictives, shown in (50), and resultatives, illustrated in (51), predicated of the indefinite missing object is usually impossible.

(50) *I like to eat \emptyset raw/hot.

(51) #I think today I ironed \emptyset to perfection.

Even though there are exceptions, as in (50) from an internet search, judgments are usually as indicated in (50)–(51).

- (52) a. Many diets require you to count calories and limit your serving sizes. Not so when you are eating \emptyset raw. When you eat most of your food raw you can eat \emptyset until you're completely satisfied.
- b. How do I eat \emptyset raw for weight loss?
- c. Eat \emptyset Raw Safely And Successfully

Phrases such as *out of that (tea)cup* in (18), repeated here in (53), have been analysed as secondary predicates.

(53) I've never drunk \emptyset out of that (tea)cup.

Goldberg (2005) takes data of the type in (53) to feature a resultative structure interpreted as involving a path of motion predicated of the unrealised argument (see also section 5.2.2 in chapter 5). However, a plausible alternative could be to take the relevant phrases to modify the event rather than the object. If this is correct, these phrases introduce the directionality of the action or an instrument, rather than the direction of movement predicated directly of the object. This possibility is supported by a telicity-related contrast between sentences such as (53) and sentences which uncontroversially contain resultative predicates. In particular, sentences involving phrases analysed as a path of motion predicated of the missing object by Goldberg (2005) are construed as atelic, as (54) shows, whereas resultatives typically trigger telic interpretation, as (55) from Wechsler (2015:290) illustrates.¹⁵

(54) John drank \emptyset out of that (tea)cup (for an hour/*in an hour).

¹⁵Thanks go to Jeffrey Green, William Matchin, and Laurel Perkins for providing me with the judgments concerning (54).

- (55) a. John hammered the metal (for an hour/*in an hour).
 b. John hammered the metal flat (*for an hour/in an hour).

The sentences in (54) and (55b) also differ in their interpretation. The sentence in (55b) is similar in meaning to *John hammered the metal, causing the metal to become flat* or to *As John hammered the metal, the metal became flatter and flatter, until it was flat* (Wechsler 2015). By contrast, (54) cannot be interpreted in the same way as *John drank liquid, causing the liquid to be out of that (tea)cup* or as *As John drank liquid, more and more liquid was out of that (tea)cup, until it was (all) out of that (tea)cup*. Even though the same situation can fulfil truth conditions for all of these sentences, the element of causation relating John's intention and the state of affairs in which the liquid is out of the (tea)cup seems absent in (54), but present in the resultative paraphrases. The sentence in (54) can be true when there is still some liquid left in the cup at the end of the drinking event, but at the end of the hammering event in (55b), the entire piece of metal is flat. This suggests that (53) does not constitute a case of resultative predication involving the missing object. The example in (53) thus does not constitute convincing evidence for the availability of unspecified missing objects in structures with secondary predication.

A more convincing case is put forward in Mittwoch (2005:253), who reports

that missing objects can participate in secondary predication in cases such as (56), where the property of being high is attributed to buildings.

- (56) These architects build \emptyset high.

Mittwoch (2005) interprets this as indicating that even in English unspecified missing objects can be projected in the syntax. In this case, event modification does not seem plausible. Similarly, the adverb *wysoko* ‘high’ in (57) from Polish does not locate the event of building (at a high position) in space, but attributes a property to the referent of the implicit object (which becomes high in the event).

- (57) Przez te rosnące stale ceny gruntu, w miastach
due.to these rising continuously prices land in cities
deweloperzy teraz najchętniej budują \emptyset wysoko.
developers now preferably build high
‘Due to the continuously rising prices of the land, developers are
preferably building high in the cities now.’ [Polish]

Similar examples appear in corpus data, as (58) and (59) show.

- (58) He had to write \emptyset very small to get it on the bottom of the scrap of
paper. [Brown]

- (59) Part-time farmers generally must pay higher prices for supplies than

full-time farmers because they buy \emptyset in smaller quantities. [Brown]

Furthermore, corpus data include some examples of sentences with missing objects of phrasal verbs, as exemplified in (60), where object drop is licensed by modality introduced by the phrase *know how*.¹⁶ Also in (61) the presence of the particle *up* in the phrase *pry up* does not block object drop licensed by the verb sequence.

(60) Tom never knew how to condense \emptyset , to boil \emptyset down. [Brown]

(61) Then he looked at his finger, at the wrinkled, heavy knuckle and the thick nail he used like a knife to pry up \emptyset , slit \emptyset , and open \emptyset . [Brown]

The above discussion indicates that passive formation and secondary predication are distinguished by their sensitivity to missing objects, suggesting that their acceptability is determined by different properties of the objects. This is thus another fact which syntactic analyses need to address, in addition to explaining why a difference between missing objects and overt ones should be found at all on the assumption that they are all projected in syntax.

¹⁶See McShane (2005) for an observation about the potential of this phrase to license object drop.

4.2.3 Analytical possibilities: antipassive

Another analytical option is briefly mentioned in Croft (2012), who suggests that unspecified missing objects, which he refers to as indefinite null instantiations, could be analysed as involving a morphologically-unmarked antipassive structure. He attributes the lack of overt antipassive marking to a general property of English, namely the lack of overt markers of verbal alternations (cf. *She broke a branch* and *A branch broke*). However, this hypothesis seems incompatible with some data from Polish. In particular, Polish has the morpheme *się*, which signalsises various types of alternations (e.g. anticausative, as in *Złamała gałąź* ‘She broke a branch’ vs. *Gałąź się złamała* ‘A branch broke’). There is indeed one construction with missing objects which involves this morpheme, shown in (62). However, the morpheme is absent in the regular structures with unspecified object drop, as evidenced by examples throughout this work.

- (62) Ta dziewczynka się przezywa.
 this little.girl SE call.names-3SG
 ‘This little girl calls/is calling people/me/us names.’ [Polish]

The object in the construction in (62) can only be interpreted as human, suggesting perhaps that *siε* is the realisation of a head in the extended verbal projection and, as a part of an antipassive structure, restricts the interpretation of the inter-

nal theta role of a verb to human individuals. I do not analyse this structure in detail here, as the presence of the morpheme *się* introduces additional complications which go beyond the scope of this study (see, e.g., Rivero 2000; Rivero & Milojević Sheppard 2003 for an analysis). What is important for the present discussion is that if (62) is an instance of an antipassive structure in Polish, unspecified object drop of the type which I discuss in this section cannot be given the same treatment.¹⁷ Just like in English, structures with unspecified missing objects are morphologically unmarked in Polish, a language which has the requisite morphological marker in its inventory. I thus do not pursue an antipassive analysis of non-anaphoric object drop here.

4.2.4 *A special case: human object*

In addition to indefinite missing objects of verbs such as *read*, there is a set of verbs whose missing objects are typically interpreted as referring to people in general (see Rizzi 1986; Levin 1993), as illustrated in (63) and (64).

(63) This leads \emptyset to the following conclusion.

(64) That dog bites \emptyset .

¹⁷For some discussion of antipassives in Polish, see Janic (2011).

Levin (1993) refers to the construction in (64) as the ‘characteristic property of agent alternation’, henceforth CPAA. CPAA is usually found with verbs such as *bite*, *butt*, *itch*, *kick*, *pinch*, *prick*, *scratch*, and *sting* and it serves the purpose of predicating a property of the subject, so that the referent of the subject (agent) is taken to show a propensity for the action named by the verb.

However, even though Levin (1993) describes CPAA as involving exclusively human themes, the object in fact need not be human, as shown in (65).¹⁸

- (65) [Context: a documentary about a bear cub with the narrator describing the cub’s encounter with a snake]

If it comes closer to the snake, it will learn that the snake bites \emptyset .

In (65), the property of being a biter is predicated of the snake, but the theme is not necessarily interpreted as human. This suggests that, just like in other cases of non-anaphoric missing objects discussed above, the interpretation of objects in CPAA is subject to some guidance from the meaning of the entire sentence and context, rather than being rigidly set as human-denoting. This contrasts with some accounts of similar structures proposed within the line of research taking the patient/theme theta role to be saturated in the lexicon, such as Rizzi

¹⁸I would like to thank Joseph DeVaugh-Geiss for the judgment of (65) and (68).

(1986) and Marelj (2004). A lexically saturated argument is stipulated to be interpreted as human in all its occurrences. For example, to derive structures with non-anaphoric missing objects of the type in (63), Rizzi (1986:509) suggests the following lexical rule, where *arb* is associated with properties such as [+human], [+generic], etc.:

- (66) Assign *arb* to the direct Θ -role.

A similar interpretive effect is achieved in Marelj (2004), who assumes the creation of the ARB-role (a theta role (cluster) for which there are no merging instructions within Reinhart's Theta System (see, e.g., Reinhart 2002)) by a lexical operation of ARB-saturation (variable binding) at LF. This solution has the same interpretive effect as Rizzi's rule in (66). Importantly, on these accounts, arbitrary interpretation is inherently related to the feature [+human]. This is a problem in the light of examples such as (65) above.

Importantly, even though Rizzi (1986) discusses the relation between lexical saturation and the interpretation of an argument as [+human] with respect to examples other than CPAA, as (67) illustrates, the type of contexts with missing objects which he investigates does not enforce the human reading either, as (68) indicates.

(67) This sign cautions (people) against avalanches.

(68) [*Context*: description of the typical patterns of communication of the
Alpine Marmot]

A sharp whistle cautions \emptyset against danger.

In the light of data such as (65) and (68), I assume that the human interpretation usually observed with CPAA (and related constructions) is an effect arising at the Conceptual-Intentional (C-I) interface rather than an inherent property of the construction.

As far as syntax is concerned, structures such as (67) demonstrate an interesting cross-linguistic contrast: languages differ in whether the understood object can participate in control. Providing the English examples in (69), modelled on Rizzi's (1986:503) examples, Authier (1989:46) points out that a similar contrast between structures with null and overt objects does not hold in French, as (70) shows. Facts such as (69) motivated Bach's generalisation in (71), quoted here after Rizzi (1986:503) and Authier (1989:46).

(69) a. Ambition leads people [PRO to make mistakes].

b. *Ambition leads \emptyset [PRO to make mistakes].

(70) a. L'ambition amène les gens à [PRO commettre des erreurs].

- b. L'ambition amène \emptyset à [PRO commettre des erreurs]. [French]

(71) *Bach's generalisation (Bach 1979)*

In object control structures the object NP must be structurally represented.

The French data pattern with what Rizzi (1986) observes for Italian. Both Rizzi and Authier assume that the generalisation in (71) holds universally and interpret the difference between Italian and French on the one hand and English on the other in terms of the presence versus absence of an object in the syntactic representation. Authier (1989) follows Rizzi (1986) in taking this difference to result from the availability of null categories in positions governed by the verb in Italian and French, but not in English. For Rizzi the null category is *pro* and for Authier it is a free variable, available only if it can be bound by an (overt or covert) adverb of quantification via the mechanism of unselective binding proposed in Lewis (1975). Unselective binding accounts for the possibility of interpreting (72a) as (72b), where adverbs of quantification are treated as operators which bind all free variables in a sentence (Authier 1989:54).

- (72) a. Cats sometimes like to swim.
b. Some cats like to swim.

A similar effect arises with arbitrary missing objects in French, as shown in (73a), which can be paraphrased with (73b), as discussed in Authier (1989:55).

- (73) a. Souvent, la peur pousse \emptyset à PRO fuir.
 ‘Often, fear pushes *arb* to flee.’
 b. La peur pousse beaucoup de gens à PRO fuir.
 ‘Fear pushes a lot of people to flee.’ [French]

However, the limited number of examples in Authier (1989) may conceal the full spectrum of the interpretive options for the object. The Polish sentence in (74a), parallel to (73a), has the same truth conditions as *Fear pushes a lot of people to make risky decisions*, but a different interpretation, on which the adverb quantifies only over events and the object is interpreted as generic seems also to be available. This ambiguity is easier to detect with a context which does not favour the former type of interpretation as much as (74a). The sentence in (74b) seems ambiguous without favouring a particular reading (the adverb can quantify over the object or the subject (*Loans push a lot of people to make risky decisions* versus *A lot of loans push people (in general)/those who took them to make risky decisions*) or only over the event variable). On the other hand, the most salient interpretation of (74c) seems to be the one on which the

adverb quantifies over the subject (i.e. *A lot of brokers urge people to make risky decisions*). This shows that the variable associated with the internal argument can be bound by a quantificational adverb, but this binding is not obligatory.

- (74)
- a. Strach często popycha \emptyset do podejmowania ryzykownych
fear often pushes to taking risky
decyzji.
decisions
'Fear often pushes people to make risky decisions.'
 - b. Kredyty często popychają \emptyset do podejmowania ryzykownych
loans often push to taking risky
decyzji.
decisions
'Loans often push people to make risky decisions.'
 - c. Maklerzy często nakłaniają \emptyset do podejmowania ryzykownych
brokers often urge to taking risky
decyzji.
decisions
'Brokers often urge people to make risky decisions.' [Polish]

4.2.5 *A special case: characteristic property of the instrument*

Another relevant construction distinguished in Levin (1993:39) is the 'characteristic property of instrument alternation', involving verbs such as *clip*, *cook*, *cut*, *slice*, and *write*. This construction is used to indicate whether an instrument is suitable to carry out the action denoted by the verb:¹⁹

¹⁹See Potashnik (2012) for some discussion of the conditions under which an instrument can be merged as the subject and the general approach to the derivation of this pattern within the

(75) This knife doesn't cut \emptyset .

(76) This oven cooks well \emptyset .

This alternation is similar to CPAA discussed in the previous section in that it also involves predicating a property of the subject.

Discussing a larger class of constructions with instrument subjects, which includes structures with realised direct objects, Fellbaum & Rapoport (2013:47) point to the importance of informativeness for the well-formedness of sentences characterising the subject. Informativeness explains the need for an adverbial, negation, or contrast, without which the construction is not well-formed, as indicated by the comparison of (77) and (78).

- (77) a. This pen doesn't write \emptyset .
b. This pen writes \emptyset on metal.
c. This kind of pen WRITES \emptyset .

(78) #This pen writes \emptyset .

New information or contrast provide the necessary focus, which licenses the structure.

Theta System (Reinhart 2002).

4.3 Anaphoric missing objects

Missing objects are anaphoric when their meaning is reconstructed on the basis of previous linguistic context, as (79)–(80) from Allerton (1975:214, 220) illustrate, or when the content of the object is retrieved from situational context, as in (81)–(82) from Ruppenhofer & Michaelis (2013:4).

(79) I went to see the cricket. George was watching \emptyset already.

(80) Alan realized that he would have to pull the boat ashore by himself.
He felt tired. The water was cold and the wind was strong. But he
pulled \emptyset as hard as he could.

(81) Could I see (it)?

(82) Give me (that)!

In addition to being definite, as in the examples above, an anaphoric object can also be indefinite, as in (83), where the meaning of the missing object can be identified as human beings based on the preceding context.

(83) It is said that fear in human beings produces an odor that provokes
animals to attack \emptyset . [Brown]

Liu (2008:306–307) suggests the following division into five semantic classes of verbs which make definite object drop available:

- Epistemic/cognitive, e.g., *forget, know, realise, recall*; a *that/wh*-clause or the pronouns *it/that* are missing:

(84) He said, “But I don’t want any pain.” I said, “I know \emptyset .” [BNC]

- Inquisitorial/explanatory, e.g., *ask, explain, find out*; a *whether/how*-clause or the pronouns *it/that* are missing:

(85) “Zam, what you been up to?” “Don’t ask \emptyset .” [BNC]

- Sensory, e.g., *hear, notice*; a clause/noun/noun+infinitive complement is missing:

(86) The writing was on the wall but nobody noticed \emptyset . [BNC]

- Aspectual, e.g., *continue, resume, stop*; a noun (often gerund)/infinitive is missing:

(87) I called her a little angel, but she got upset about that, so I stopped \emptyset .

[BNC]

- Action/performative, e.g., *accept*, *consider*, *decline*; a noun (often concrete)/*that*-clause/infinitive is missing:

(88) He offered me a cigarette. I declined \emptyset . [BNC]

As noticed in García Velasco & Portero Muñoz (2002), the first four types of verbs distinguished above, which they refer to as speech act/cognition verbs, perceptual verbs, and aspectual verbs respectively, typically select objects which denote non-first order entities.²⁰ Accordingly, the object omitted in (87) is a second-order entity, in (84) and (86) a third-order entity, and in (85) a fourth-order entity.²¹ However, as indicated by examples such as (88) and (79)–(82), in an appropriate linguistic and/or situational context, objects denoting first-order

²⁰See Lyons (1977), who introduces the notion of first-order entities (i.e. objects located in time and space, evaluated in terms of their existence), second-order entities (i.e. events, states of affairs, located in time, evaluated in terms of their reality), and third-order entities (i.e. propositions, evaluated in terms of their truth) and Hengeveld (1992), who complements this classification with fourth-order entities (i.e. speech acts, evaluated in terms of their felicity).

²¹The sole fact that a verb subcategorises for a complement denoting a non-first-order entity is not enough to license the non-realisation of the complement, as indicated by verbs such as *figure out* and *discover*, which do not behave in parallel with *find out* and *know* and do not make object drop possible (Grimshaw 1979). To capture this fact, Grimshaw (1979) suggests that the subcategorisation frames of the latter verbs, but not the former ones, specify that they take the S' complement optionally. This means that for Grimshaw (1979) the unrealised complement is absent from syntactic derivation in this context. She further assumes a rule of copying the semantic structure/relevant part of the logical representation from the antecedent into the elliptical structure. Sentences such as (i) can provide an argument for assuming that it is the semantic representation of the antecedent and not its syntactic structure that matters. The possible antecedent *the time* is not subcategorised by the verb *inquire* (**inquire the time*; Grimshaw 1979:308).

- (i) Bill asked me the time, so I inquired \emptyset .

entities can also be dropped in English (see also García Velasco & Portero Muñoz 2002).²² It is this type of missing objects that is the focus of this work. For discussions of null complement anaphora with verbs such as *notice*, see, for example, Depiante (2000); Williams (2012) and the references cited therein.

Lexical variation, the property probably most often noticed in relation to the conditions on object drop in English, distinguishes between lexical items belonging to the same verb classes, including verbs of caring for a specific body part. Here, the verbs *brush (teeth)*, *floss (teeth)*, *shave (beard, legs)*, and *wash (hands, face)* allow object drop, while the verbs *bob (hair)*, *brush (hair)*, *file (nails)*, and *towel (face, hands)* require the presence of an overt object (Levin 1993:34):

- (89) a. I flossed my teeth.
b. I flossed \emptyset .

²²As shown in Depiante (2000:60), a verb which makes it possible for its propositional complement to be dropped need not tolerate the omission of its individual-denoting complement:

- (i) a. The children know [_{NP} the song].
b. The children know [_{CP} that it is time to leave].
- (ii) a. The teacher told the children that it was time to leave even though they already knew \emptyset .
b. *The children learned the song on Monday but by Friday they no longer knew \emptyset .

- (90) a. Celia braided her hair.
 b. *Celia braided \emptyset .

Differences are found not only across different lexical items, but also across different senses expressed by the same item (Fillmore 1986:101):

- (91) a. They accepted my offer./They accepted \emptyset .
 b. They accepted my gift./*They accepted \emptyset .
- (92) a. They approached me./They approached \emptyset .
 b. We were approaching the town./We were approaching \emptyset .
 c. They approached the solution./*They approached \emptyset .

Groefsema (1995) notes in relation to examples such as (92) that it is generally the case that when a verb can express spatial and non-spatial movement, the argument can be dropped only in the former context, as the assumptions about where the referent of the external argument is going are immediately accessible only in the former case. Similarly, Groefsema (1995:157) shows that with the verb *follow*, omission of the object is degraded when the object is not understood as path, but, for example, denotes a lecture:

- (93) a. ?John went to the lecture on astronomy, but he couldn't follow \emptyset .

- b. John went to the lecture on astronomy, but he couldn't follow it.

According to Groefsema (1995) the conceptual structure of *follow* (in the sense of Jackendoff 1990) contains information specifying that a following event involves an instance of a thing that has gone somewhere before you. This is why a lecture can be conceptualised as going along a path and the judgments of (92) differ depending on people's experience with lectures and their knowledge about how lectures are structured. In addition to the locational sense, missing objects with the verb *follow* appear in the corpus also in the temporal sense, as shown in (94), and in the metaphorical context of providing support to a leader, as in (95).

- (94) The deeds of this team, through two seasons and in the two World's Series that followed \emptyset , have been written and talked about until hardly a word is left to be said. [Brown]

- (95) But like all despots, as he builds his following from among the gullible, he grows more threatening toward those who won't follow \emptyset —such solid citizens as Doc Raccoon. [Brown]

The sentence in (96) provides a similar example, illustrating that also the verb *push* makes object drop possible when used in its more abstract sense.

- (96) Adults take a long time to convince and you are thwarted if you try
to push \emptyset . [Brown]

Furthermore, an anaphoric object lacking an antecedent in the surrounding linguistic environment does not have to have a referent salient in the extra-linguistic context, but can also be abstract, as shown in (97), where the object refers to the burglary, and in (98), where the object of *accepted* is the invitation.

- (97) The Kochaneks told police they left home at 8 a.m. and returned
about 45 p.m. and found the house had been entered. Patrolman
Robert J. Nunes, who investigated \emptyset , said the thieves broke in through
the back door. Drawers and cabinets in two bedrooms and a sewing
room were ransacked. [Brown]

- (98) It was at that party that, finally overcoming my timidity, inspired by
tales only half-understood and overheard among older boys, I asked
Jessie to spend New “Year’s” Eve with me. Lovingly, she accepted
 \emptyset [...] [Brown]

As shown in (99), the same verb can be used with anaphoric objects related to different senses of the verb.

- (99) a. *Answering a question*

When he was asked a question or addressed in such a way that
some response was inescapable, he would answer \emptyset . [Brown]

- b. *Answering a phone*

I answered \emptyset to find Nadine at the other end. [Brown]

Fillmore (1986) notes further that no cases of change-of-state verbs (e.g. *break, bend, create, destroy, move, lift*) are found with definite object drop. For non-affected objects to be dropped (e.g. the object of *call*), a salient discourse antecedent is required. Hence, an entity just introduced into the discourse is not appropriate as an antecedent (Cote 1996:154–155):

- (100) A: Did you speak to a customer service office?

B: #I called \emptyset but got no answer.

- (101) A: Did you speak to the customer service office?

B: I called \emptyset but got no answer.

With verbs of the *call* type, the interpretation of the object depends on discourse factors, as shown in (102)–(104), where the object refers to the speaker in the former case, but to the hearer and the non-participant in the latter cases (Cote

1996:155–156).

(102) I haven't seen many people since I moved to the suburbs. John visited $\emptyset_{[me]}$ yesterday (but he was the first in a long time).

(103) Don't tell me you never see anybody. John visited $\emptyset_{[you]}$ yesterday.

(104) I ran into John's mother at the supermarket today. She seemed to be in a good mood. (I guess) John visited $\emptyset_{[her]}$ yesterday.

Definite null objects of this type behave analogously to overt pronouns in terms of some of their interpretive properties, making available all of the following types of readings (Pedersen 2011:158–159):

(105) *Exophoric interpretation*

- a. *While pointing at John:* He is a famous linguist.
- b. *While looking at my cell phone:* I hope John calls \emptyset soon. [= calls me]

(106) *Endophoric interpretation*

- a. John just arrived. He is a famous linguist.
- b. The new shoe store is opening tomorrow. John can't wait to

call \emptyset .

(107) *Bound variable interpretation*

- a. Every boy admires his teacher.
- b. Every man is worried that his wife will call \emptyset while his mistress is visiting \emptyset .

(108) *E-type: pronoun of laziness*

- a. Every woman brought her dog to the party, but left him outside.
- b. Every actress left her chauffeur outside at the premiere, and called \emptyset when she was ready to be picked up.

(109) *E-type: modal subordination reading*

- a. John thinks he will catch a fish, and hopes I will grill it tonight.
- b. John wishes he had a beautiful mistress. But he couldn't visit \emptyset every weekend or his wife would find out.

(110) *E-type: paycheck reading*

- a. The wise man gave his paycheck to his wife. The foolish man gave it to his mistress.
- b. Every good father visits his daughter on her birthday. Bill's a deadbeat dad, so he only calls \emptyset .

(111) *E-type: donkey reading*

- a. If a man owns a donkey, he beats it.
- b. If a farmer has a wife, he should make sure he calls \emptyset when he is traveling.

The fact that in cases of verbs such as *call* and *visit* bound variable reading is available (see (107)) implies that these verbs are at least semantically transitive, and that the internal argument position is occupied by a variable available to be bound. This condition is necessary for variable binding to arise (see also Williams 2015 for some discussion; see (155) in section 4.5 for similar data with the verb *win*).²³

Interestingly, whatever element introduces this variable, it does not behave exactly the same as either pronouns or R-expressions with respect to Binding Theory. For example, as noted in chapter 1 of part 1, definite missing objects seem to differ from pronouns with respect to the Principle B effect and with re-

²³On the other hand, indefinite missing objects do not have bound variable readings (Williams 2015:114):

- (i) a. No cake was praised by the student who baked it.
- b. No cake was praised by the student who baked \emptyset .

This need not mean that objects of this type are not represented structurally, but points to a semantic difference between definite and indefinite missing objects, whereby the latter are not of the right type to participate in relations such as variable binding (cf. (155) in the main text, showing that bound variable readings are available for pronouns and definite noun phrases).

spect to the ability of focus to ameliorate Principle B violation (see (112) and (113) adapted from Cote 1996:126–127 and Pedersen 2011:167 respectively).

(112) A: Did Mary get in trouble at school yesterday?

B: Yes, I saw her today and she said that it was terrible. She said that usually her teacher talks to her about problems with other students but that that evening...

a. *he called her_i about her_i.

b. he called ø_i about her_i.

(113) Everyone seems to be calling John to congratulate him on his new baby.

a. ?Mary called him, Sue called him, and I think that even HE called him.

b. Mary called ø, Sue called ø, and I think that even HE called ø.

The greater flexibility of missing objects in comparison with pronouns as far as the interpretive mechanisms are concerned has also been observed for sentences with the verb *win*. Even though the overt pronominal object has to be interpreted with reference to a salient entity, however inadequate, a missing object invites some effort on the part of the addressee to arrive at a suitable interpretation (see

(114) from Williams 2012:137, where (114a) is likely to trigger a response such as (114b), but where (114c) is more likely to be followed by (114d)).

- (114) a. I went to the faculty meeting and won it.
b. How do you win a meeting?!
c. I went to the faculty meeting and won \emptyset .
d. Do you play some sort of game at your meetings?

Just as is usually the case with non-anaphoric objects, exemplified in (50)–(51) in section 4.2, predicating a depictive predicate of definite missing objects is unacceptable in English (Ruppenhofer 2004:406):

- (115) *We attacked \emptyset in their homes.

What the English data overviewed above seem to suggest is that, if the missing object is hypothesised to be projected syntactically, the internal structure of its projection is not exactly the same as the internal structure of pronouns and definite lexical arguments, which can lead to the interpretive and syntactic differences between overt and null objects.

Since anaphoric, and especially definite, missing objects in Polish and Hungarian are associated with some additional variable facts, I discuss them sepa-

rately in the two following sections.

4.3.1 *Anaphoric missing objects in Polish*

Polish has been described as a language blocking pronominal object drop (as opposed to pronominal subject omission), for example, in Pisarkowa (1968, 1969). Yet even these works note that in some syntactic contexts, for example, with subordinate clauses whose subject is coreferential with the missing object, the object can be dropped (Pisarkowa 1968:192):

- (116) A ty wychodzisz bez pożegnania i zmuszasz (mnie),
and you get.out-2SG without goodbye and force-2SG me
żebym goiła cię po mrozie.
so.that-1SG chase-SG.F you at frost
'And you get out without a goodbye and make me chase you in the
cold.'

[Polish]

Pisarkowa (1968) suggests that this is possible especially with first and second person, but less so with third person, where, according to her, establishing the intended referent is more difficult (Pisarkowa 1968:192):

- (117) Potem pytano (jego), czy jest ojcem tego znanego
later ask-IMPRSNL him if is father this well-known
lekkooatlety.
athlete
'They asked him later if he was the father of this well-known athlete.'

[Polish]

- (118) Otworzył usta, nie wiedział, co powiedzieć, więc
opened-3SG.M lips not knew-3SG.M what say so
zamknął (je) zaraz [...]
closed-3SG.M them immediately
'He opened his mouth, didn't know what to say, so he shut it immediately [...]' [Polish]

Despite the examples above, Pisarkowa (1968) considers anaphoric object drop as a marginal phenomenon in the grammar of Polish. Furthermore, on the basis of examples such as (119)–(120), translated from Cummins & Roberge (2004), Bułat (2009) suggests that Polish makes it impossible for definite and referential objects to be null.

- (119) Wyciągnięto do niego dłoń. Zdenerowany, *zignorował \emptyset .
'A hand was extended to him. Annoyed, *he ignored \emptyset .' [Polish]
- (120) Jeśli facet proponuje Ci kawę, *rzuć \emptyset mu w twarz.
'If a guy offers you a coffee, *throw \emptyset in his face.' [Polish]

Object drop is also blocked in Polish in sentences parallel to the English *visit*-type examples from (102)–(104) above:

- (121) Prawie nikogo nie widuję odkąd się przeprowadziłam na
almost nobody not see-1SG since SE moved-1SG.F on
przedmieścia. Jan *(mnie) wczoraj odwiedził (jako pierwszy
suburbs Jan me yesterday visited-3SG.M as first
od dawna).
from long.time
‘I see almost nobody since I moved to the suburbs. Jan visited me
yesterday (as the first in a long time).’ [Polish]

However, the picture of missing objects in Polish is more complex. Saloni (1976) discusses a number of relevant examples, which show that omission is possible with both non-referential (see (122)) and referential (see (123)) antecedents (Saloni 1976:126). According to him, omitting an object is most natural in dialogue situations.

- (122) A: Czy Janek ma psa?
whether Janek has dog-ACC
‘Does Janek have a dog?’
B: Kupił ø wczoraj.
bought-3SG.M yesterday
‘He bought one yesterday.’ [Polish]
- (123) A: Skąd Janek ma psa?
from.where Janek has dog-ACC
‘Where did Janek get the dog?’
B: Kupił ø wczoraj.
bought-3SG.M yesterday
‘He bought it yesterday.’ [Polish]

In fact, corpus data show that, just as in English, a variety of factors can license object drop in Polish (cf. chapter 5). For example, definite missing objects appear in the corpus in the context of licensing by contrast:

- (124) Obu panów łączy miłość do piłki nożnej. Dzieli ø
 both gentlemen-ACC unites love to ball foot-ADJ divides
 wizja kierowania partią.
 vision leading party
 ‘Both gentlemen are united by their love for football. They are di-
 vided by their vision for leading the party.’ [NKJP]

Emphasis on the verb is also a licensing factor for missing objects in Polish, as shown in (125), where choosing stands in opposition to not choosing.

- (125) Zawsze słuchamy dyktatu i wybieramy, co
always listen-1PL dictate-GEN and choose-1PL what
wygodniejsze, co zyskowniejsze, albo co nas
more.convenient what more.profitable or what US-ACC
gruntownie ogłupiło. — Ale wybieramy ∅.
completely stupefy but choose-2PL
'We always listen to the dictate and choose what is more convenient,
what is more profitable, or what has stupefied us completely. But
we choose.'
[NKJP]

A particularly favourable environment for definite missing objects is constituted by conversations, as has already been observed in Saloni (1976) and is

confirmed by corpus data. In this case it is very natural for the referent of the object to be established based on the extra-linguistic situation rather than on overt linguistic material, as illustrated in (126)–(127).²⁴

- (126) A: nie pogniewasz się ka jak nie dokończę ø?
 not get.offended-2SG SE KA if not finish-1SG
 ‘You won’t you get offended if I don’t finish it, will you?’
- B: nie jak ci nie smakuje to nie jedz ø..
 no if you-DAT not tastes PRT not eat-IMPER.2SG
 ‘No, if you don’t like it, don’t eat it.’ [NKJP]
- (127) Puszczaj ø, bo zabiję ø!
 let.go-IMPER.2SG because kill-1SG
 ‘Let go of me or I will kill you.’ [NKJP]

Different cues from the surrounding linguistic material can also be used to identify the referent of the missing object. For example, (128) shows that subject agreement morphology in a following clause can serve as a cue, whereas in (129) the following noun phrase makes the referent clear.

- (128) Chwali ø, że co jak co, ale świętować umiemy.
 praise-3SG that what like what but celebrate be.able.to-1PL
 ‘She/he praises us that, be it as it may, but we do know how to
 celebrate.’ [NKJP]

²⁴The dialogue in (126) is a transcript of a spoken conversation (capital letters are not used in transcribed texts in NKJP). The element *ka* seems to be a performance error.

- (129) Dobrze wychowany młodzieniec — chwali \emptyset babcia, gdy
 well brought.up young.man praises grandma when
 Marcin znika w mroku nocy.
 Marcin disappears in darkness night
 “‘A well-behaved young man’”, grandma praises him when Marcin
 disappears in the darkness of the night.’ [NKJP]

In addition to the definite contexts above, anaphoric object drop can also target non-specific objects. Based on examples such as (130), McShane (1999) suggests that the lexicon of Polish includes an inherently null anaphor lexically specified as nondefinite and nondiscrete, used in contexts which require the use of *some* in English (McShane 1999:72).

- (130) Na rogu sprzedawali pomarańcze, więc kupiłam
 on corner were.selling-3PL oranges-ACC and/so bought-1SG.F
 parę/ trochę/ \emptyset .
 a.few-ACC a.little-ACC
 ‘They were selling oranges on the corner, and/so I bought some.’
 [Polish]

As McShane (1999) notes, for some speakers the pronoun *je* ‘them’ can be used in (130) as well in the absence of *parę* ‘a few’ and *trochę* ‘a little’.

McShane (1999, 2000, 2005) also shows that anaphoric object drop is acceptable in a relatively wide range of contexts in Polish, with some types of contexts favouring it for discourse-pragmatic reasons, even though a definite null object

can usually be replaced with a pronominal clitic (McShane 1999:60):²⁵

- (131) a. Możemy wykonać słonia z gumy, napęlnić
 can-1PL make elephant-ACC from rubber fill
 go powietrzem i wstawić ø za ogrodzenie.
 it-CL.ACC air-INSTR and put behind railing
- b. Możemy wykonać słonia z gumy, napęlnić ø
 can-1PL make elephant-ACC from rubber fill
 powietrzem i wstawić ø za ogrodzenie.
 air-INSTR and put behind railing
- c. Możemy wykonać słonia z gumy, napęlnić ø
 can-1PL make elephant-ACC from rubber fill
 powietrzem i wstawić go za ogrodzenie.
 air-INSTR and put it-CL.ACC behind railing
- d. %Możemy wykonać słonia z gumy, napęlnić
 can-1PL make elephant-ACC from rubber fill
 go powietrzem i wstawić go za
 it-CL.ACC air-INSTR and put it-CL.ACC behind
 ogrodzenie.
 railing
 ‘We can make an elephant out of rubber, fill it with air and put
 it behind the railing.’ [Polish]

No semantic difference is detectable between these options, even though this is not always the case. The corpus example in (132), featuring three missing objects, provides an interesting contrast in this respect.

²⁵The ‘%’ marking in (131d) signals that some speakers find the second occurrence of the clitic overly repetitive.

- (132) Przez chwilę rozglądam się w poszukiwaniu kogoś,
 over moment look.around-1SG SE in searching someone-GEN
 kto gada przez telefon. Jakbym znalazł ø, to
 who talks over phone if-COND.1SG found PRT
 chybabym zarekwiował ø. Ale nie widzę ø, więc
 probably-COND.1SG commandeered but not see-1SG so
 wpadam na pomysł, by zresetować swój telefon.
 fall-1SG on idea to reset self's phone
 'I'm looking around for a moment in search for someone who's
 speaking over a phone. If I found someone, I would probably com-
 mandeer it. But I don't see anyone, so I come up with the idea to
 reset my phone.'
- [NKJP]

In this example, the second missing object is interpreted as a phone, even though the first and the third missing object is interpreted as someone with a phone based on preceding discourse. By contrast, in (133), where the missing objects are substituted with pronominal clitics, the only interpretation available to the second pronominal clitic is that of the preceding clitic, that is the clitic has to be interpreted as referring to a person with a phone.

- (133) Przez chwilę rozglądam się w poszukiwaniu kogoś,
 over moment look.around-1SG SE in searching someone-GEN
 kto gada przez telefon. Jakbym go znalazł, to
 who talks over phone if-COND.1SG him-CL found PRT
 chybabym #go zarekwiował. Ale go nie
 probably-COND.1SG him-CL commandeered but him-CL not
 widzę, więc wpadam na pomysł, by zresetować swój telefon.
 see-1SG so fall-1SG on idea to reset self's phone

‘I am looking around for a moment in search for someone who speaks on a phone. If I found someone, I would probably commandeer him. But I don’t see anyone, so I have the idea to reset my phone.’ [Polish]

In contrast to the preceding examples, in structures referred to as the ‘assertion + elaboration’ strategy in McShane (1999:64), object drop is blocked in Polish and instead an overt pronominal is required:²⁶

- (134) Zjadłam trzy pierogi. Sama je/ *ø zrobiłam.
 ate-1SG three dumplings-ACC alone them-ACC made-1SG
 ‘I ate three dumplings. I made them myself.’ [Polish]

When licensed, missing objects are available in islands in Polish (Kowaluk 1999), suggesting that they are not represented as variables bound by a null topic in the left periphery of the clause (see, a.o., Huang 1984; Raposo 1986 for analyses along these lines):²⁷

²⁶For some discussion of discourse factors influencing the possibilities of object drop in Polish, see McShane (1999, 2000). In addition to discourse factors, animacy seems to play a role, inanimate objects being dropped more often than animate objects (Mykhaylyk & Sopata 2016). See Erteschik-Shir et al. (2013) for an approach to the animacy factor in Hebrew object drop in terms of differential object marking.

²⁷The examples in (135) and (136) substitute for Kowaluk’s (1999) original examples, because her examples do not strike me as unacceptable with *wh*-movement out of the islands.

In general, the purpose of Kowaluk’s paper is to report on her study of Polish learners of English as a second language, establishing a correlation between the patterns of anaphoric object drop and the development of the determiner system. Even though she does not provide the full set of her test sentences, based on the examples in text, it seems that she has used the context with

(135) *Complex NP island: wh-extraction unacceptable*

*Co znasz [naukowca, który wynalazł eə]?
 what-ACC know-2SG scientist who invented what-ACC
 ‘What do you know the scientist who invented?’ [Polish]

(136) *Complex NP island: missing object acceptable*

A: Sama zebrałaś te jagody w lesie?
 alone picked-2SG.F these blueberries-ACC in forest
 ‘Have you picked these blueberries in the forest on your own?’

 B: Nie, spotkałam na targu [faceta, który mi (je)
 no met-1SG.F on market guy who me-DAT them
 sprzedał].
 sold-3SG.M
 ‘No, I met a guy who sold them to me at the market.’ [Polish]

In sum, the data discussed in the literature suggest that anaphoric object drop in Polish is available, but it is constrained by contextual factors, including the information-structural alignment of the sentence.

4.3.2 *Anaphoric missing objects in Hungarian*

As (137)–(138), adapted from Farkas & de Swart (2003:135–137), show, a (third-person) definite object can be dropped in Hungarian when it is singular, but not polar (*Yes/No*) questions to test the use of null objects. As in this case the elliptical structure can be derived with VP ellipsis rather than genuine object drop (see section 1.1.6 in chapter 1), her findings cannot be considered reliable as far as the study of the latter is concerned.

when it is plural.²⁸

- (137) a. János_i vizsgált egy beteget_j.
 János examined a patient-ACC
 ‘János examined a patient.’
- b. *pro*_i Túlsúlyosnak találta \emptyset _j.
 too.overweight-DAT found
 ‘He found him overweight.’ [Hungarian]
- (138) a. János_i vizsgált valami beteget_j.
 János examined some patients-ACC
 ‘János examined some patients.’
- b. *pro*_i Túlsúlyosnak találta őket/ * \emptyset _j.
 too.overweight-DAT found them-ACC
 ‘He found them overweight.’ [Hungarian]

Object drop with an antecedent which is situationally salient, but is not present in the linguistic context, is also possible in Hungarian (Németh T. 2000:1673):

- (139) [*Context*: The baby is crying and the father wants to go to him/her,
 but the mother says:]

Megyek. Megetetem \emptyset .
 go-1SG feed-1SG.DEF
 ‘I am going to her/him. I will feed her/him.’ [Hungarian]

²⁸For a discussion of various additional factors conditioning the choice of overt and null objects (such as specificity and animacy), see Alberti & Farkas (2013).

Indefinite missing objects can also be interpreted with reference to a situationally-salient entity, as illustrated in (140) from Németh T. (2000:1675–1676), where the definiteness of the object is reflected in the verb form.²⁹ In particular, the verbs *kapott* ‘got’ and *adott* ‘gave’ are inflected according to the indefinite paradigm, suggesting that the missing object is interpreted as an indefinite (some bread). The third occurrence of a missing object is definite, the verb *megette* being inflected in accordance with the definite paradigm. This time the object refers to the piece of bread which Péter gave to Pál.

(140) [Context: Péter, András, and Jakab are distributing bread to children.]

P: Mindenki kapott \emptyset ?
 everyone got-3SG.INDEF
 ‘Has everyone got some?’

A: Nem. Pálnak nincsen.
 no Pál-DAT none
 ‘No. Pál does not have any.’

J: Péter adott \emptyset Pálnak. Biztosan már megette
 Péter gave-3SG.INDEF Pál-DAT certainly already ate-3SG.DEF
 \emptyset .

²⁹In short, Hungarian has two conjugational paradigms, the choice between which is conditioned by the features of the object (and the subject). Roughly speaking, when the verb is intransitive or appears with an indefinite object, the so-called indefinite (or subjective) conjugation is used and when the object is definite, the definite (or objective) conjugation is used (see section 3.3.3.1 in chapter 3 for more details).

‘Péter gave some to Pál. He must have eaten it already.’

[Hungarian]

First/second-person objects can also be dropped. Even though the literature usually states that only singular objects can be dropped, as illustrated in (137)–(138) above, Keresztes (2013:56) presents data from her acceptability study, whose results diverge from this view.³⁰ In particular, even though the omission of third-person plural objects is confirmed to be unacceptable, dropping first/second-person plural objects is not judged as degraded to the same extent. The study reported in Keresztes (2013) shows that first-person plural object drop is judged almost as acceptable as singular object drop, with the omission of a second-person plural object felt to be a bit worse than the dropping of a first-person plural object, but still acceptable (as determined by judgments expressed on a 7-point scale). I present a set of examples with plural objects used in the study in (141). First/second-person singular object drop is as acceptable as third-person singular object drop.

- (141) a. (Mi) elbújtunk előledek, (ti) mégis megtaláltatok
we hid-1PL from.you_{PL} you_{PL} still found-2PL.INDEF
%(minket).
us
‘We hid from you, still you found us.’

³⁰I thank Júlia Keresztes and Balázs Surányi for a discussion of these facts.

- b. (Ti) elbújtatok előlünk, (mi) mégis megtaláltunk
 you_{PL} hid-2PL from.us we still found-1PL.INDEF
 %(titeket).
 you_{PL}
 ‘You hid from us still we found you.’
- c. (Ők) elbújtak előlünk, (mi) mégis megtaláltuk *(őket).
 they hid-3PL from.us we still found-2PL.DEF them
 ‘They hid from us, still we found them.’ [Hungarian]

Interpretation of a first/second-person missing object as plural is available if there are clear linguistic or extra-linguistic contextual cues favouring this interpretation. In the absence of such cues, the default interpretation of the object is singular (the number feature of the object is not reflected in verbal morphology).³¹ This may be a reflex of the complex semantics of the pluralisation of first/second-person pronouns. In particular, even though the speaker and hearer are salient in context, this is not necessarily so for the speaker’s or the hearer’s group. For this reason arriving at the interpretation where the speaker or the hearer and their associates are meant rather than only the speaker or the hearer requires some more context.³²

In accordance with the conjugational system of Hungarian, the combination

³¹I would like to thank Professor István Kenesei for drawing my attention to this fact.

³²There is inherent ambiguity introduced by pluralisation of first/second-person pronouns, where the plural can mean the speaker/hearer and their contextually-relevant associates or can mean the plurality of speakers (a much less frequent type of a situation involving speaking in unison) or the plurality of listeners. See, for example, Wechsler (2010) and references cited therein for some discussion.

of a first-person singular subject and a second-person object requires the special marker *-lak* (see (142)). The combination of a second-person subject and a first-person object requires the verb to be used in the indefinite conjugation (see (143)).³³ This does not interfere with object drop, as illustrated in (142)–(143) from Kenesei et al. (1998:262). When there can be ambiguity with respect to the intended referent of the object, even a singular object is expressed overtly, as in (144) from Kenesei et al. (1998:262). In this case omitting the object would result in ambiguity between first and second person. When discourse makes clear which of these is intended, the object can be dropped, as (145) from É. Kiss (2012:195) shows.

(142) Szeret-lek \emptyset .
 love-1S.SG.2O
 ‘I love you_{SG}.’ [Hungarian]

(143) Szeret-sz \emptyset ?
 love-2SG.INDEF
 ‘Do you love me?’ [Hungarian]

(144) Péter szeret engem?
 Péter love-3SG.INDEF me
 ‘Does Péter love me?’ [Hungarian]

(145) Felismertek \emptyset .
 recognised-3PL.INDEF

³³See, for example, Kenesei et al. (1998) for a description of the patterns and Bartos (1999); É. Kiss (2005); Bárány (2015) for some theoretical approaches.

‘They recognised me/you.’

[Hungarian]

Just as in Polish, missing objects in Hungarian are available in islands:³⁴

(146) *Complex NP island: wh-extraction unacceptable*

*Mit ismered [a tudóst, aki feltalálta
what-ACC know-2SG.DEF the scientist who invented
mit]?
what-ACC

‘What do you know the scientist who invented?’ [Hungarian]

(147) *Complex NP island: missing object acceptable*

A: Találkoztál már a Rubik-kocka feltalálójával?
met-2SG already the Rubik’s.cube inventor-INSTR
‘Have you ever met the inventor of the Rubik’s cube?’

B: Nem, de ismerek [valakit, aki tegnap
no but know-1SG.INDEF someone who yesterday
látta (ő)t].
saw-3SG.DEF him

‘No, but I know someone, who saw him yesterday.’ [Hungarian]

The most intriguing facts related to definite missing objects in Hungarian, which are the focus of the analysis in chapter 3, are the ban on plural object drop in third person in contexts where singular object drop is available and the impact of the person feature of the object on the acceptability of plural object drop.

³⁴Thanks go to Gergő Turi for providing me with these data.

4.4 A note on reflexives

Reflexive verbs are also included in some discussions of missing objects in English (see, e.g., Cote 1996). The reason is that sentences such as (148a) can also be expressed as in (148b).

- (148) a. John washed himself.
b. John washed \emptyset .

Among verbs which license this alternation are *bathe*, *change*, *dress*, *preen*, *shave*, *shower*, and *wash* (Levin 1993). In Polish, such reflexive verbs are marked with the SE morpheme *się*, shown in (149), whereas in Hungarian, reflexive verbs are derived with reflexivising suffixes, exemplified in (150) from Kenesei et al. (1998:129).

- (149) Jan się umył.
Jan SE washed
'Jan washed.'
[Polish]

- (150) Ti mos-akod-tok.
you wash-REFL-2PL
'You are washing (yourselves).'
[Hungarian]

As non-reflexive missing objects in Polish and Hungarian do not involve ad-

ditional verbal markers, a unified analysis of reflexives and missing objects seems unlikely. Due to the numerous complications involved in the proper analysis of reflexivisation, I leave it for future research to determine whether a uniform treatment of reflexives and structures with object drop is viable for English.³⁵

4.5 Problems of interpretation: *win* \emptyset

The interpretive properties of missing objects, and in particular their context-dependence and flexibility, have raised the questions of the proper characterisation of the nature of their interpretation and of their status as full-fledged semantic arguments that are implicit, as opposed to constructions involving an arity reduction in the logical structure of the verb. These questions have sparked a contro-

³⁵See Alexiadou et al. (2013) for an attempt, which, however, crucially depends on the approach to object drop in Rappaport Hovav & Levin (1998, 2010). I discuss some problems which this analysis faces in section 5.2.2 of chapter 5.

The same pattern as is observed with reflexives is found with reciprocal verbs such as *meet*, *date*, *hug*, *kiss*, etc., where the object can be expressed with the reciprocal *each other*, but need not be overtly present (Levin 1993). I do not discuss these verbs here, similarly to verbs such as *jam*, *cram*, *load*, *pack*, *jerk*, *pull*, and *yank*, which make it possible for the reflexive object to be dropped (Levin 1993:36):

- (i) a. We loaded ourselves onto the bus.
b. We loaded \emptyset onto the bus.
- (ii) a. We pulled ourselves free.
b. We pulled \emptyset free.

As noted in Levin (1993), in Romance and Slavic languages, such verbs appearing without the reflexive object are accompanied by an overt clitic.

versy in some analyses focusing on the verb *win*. Considering *win* together with some other context-dependent predicates (e.g. *apply*, *local*, and *near*), Condoravdi & Gawron (1996) show that implicit arguments of such predicates can be interpreted with reference to the context of the utterance or to previous linguistic discourse, and, when appearing in the scope of a quantifier, they can be interpreted as bound variables, even though not all predicates in this group allow all of these possibilities. Condoravdi & Gawron (1996) point out that implicit arguments behave like pronouns in these cases in that they can be interpreted with reference to all types of contexts noted above. On the other hand, they also resemble definite descriptions, as they do not require an overt antecedent and, in some cases, are not interpreted in parallel with pronouns (Condoravdi & Gawron 1996:10):³⁶

- (151) a. Every man who bet on the Superbowl won \emptyset .
 b. = Every man who bet on the Superbowl won the bet.
 c. \neq Every man who bet on the Superbowl won it.

³⁶Substituting a non-anaphoric missing object of a verb such as *eat* with a pronoun is also impossible (Ruppenhofer 2004:405):

- (i) A: Are you hungry?
 B: #No, I've eaten it.

Contra Condoravdi & Gawron (1996), Pedersen (2011:170) argues that the implicit argument of *win* should not be analysed as a definite null complement. He bases his argument on examples such as (152), where the unrealised argument of *win* is understood as *some money* rather than as *the bet they make*.

- (152) Everyone who enters this casino is guaranteed to win \emptyset .

The example in (153) likewise suggests that the implicit argument of *win* can be indefinite (Pedersen 2011:171).

- (153) a. Every man who bet on Green Bay won \emptyset , but not very much.
 b. Every man who bet on Green Bay won some money, but not very much.
 c. #Every man who bet on Green Bay won the bet he made, but not very much.

In addition, AnderBois (2012:51) shows that a missing object of *win* can refer to a bet even when it is indefinite, as suggested by the fact that it can antecede sluicing:³⁷

³⁷Similarly, Groefsema (1995:142) notes that a missing object of *win* does not need to be interpreted as referring to a contextually salient entity, as illustrated in (i), where the object is understood as some tennis match, without there being any particular sports event introduced into the discourse.

- (154) Fred definitely won \emptyset , but I'm not sure which bet.

Analysing these facts, AnderBois (2012) introduces a third class of implicit arguments in addition to definite and indefinite implicit arguments, that is flexible implicit arguments. These arguments share some properties with both of the other classes. They can refer to an entity salient in discourse and can be antecedents for sluicing, even though not at the same time. AnderBois (2012) suggests that flexible internal arguments are not true semantic arguments of the predicates present in the argument structure. Instead, they are existential lexical entailments.³⁸ However, this analysis cannot be maintained in the light of the observation in Williams (2012:128) that the missing object of *win* makes the bound variable reading available, behaving similarly to both pronouns and definite descriptions in this respect:

-
- (i) Martina Navratilova has won \emptyset again.

³⁸This analysis seems reminiscent of a proposal made in Larson (1988), who focuses mostly on implicit arguments denoting sources and goals, illustrated in (i) from Larson (1988:169), ditransitive structures, and nominals, and analyses them within the Situation Semantics framework. In short, he proposes that implicit arguments of these types are licensed by inference relying on the knowledge of relations between events. In particular, such implicit arguments are licensed by virtue of contributing semantically to the event which is inferred rather than to the one which is described directly, a process guided by necessary or conventional constraints on relations between events.

- (i) John ran (from the house) (to the store) (along the river).

By contrast, according to AnderBois (2012), indefinite implicit arguments are present in the semantics (see Recanati 2007 for an opposing view).

(155) Every contest seems fair to the guy who won (it/the task).

Since a bound variable reading can be possible only if the relevant variable is available, this example shows clearly that the internal argument of *win* is present in the semantics (see also Williams 2015 for some relevant discussion).

Williams (2012) analyses sentences such as *Ron won \emptyset* by treating the missing argument as a number-neutral definite description lacking descriptive content. To this effect, Williams postulates the self-identity condition in the representation of the argument, which is trivially satisfied (i.e. *Won*(Ron,[$\iota y(y = y)$])). With ι shifting a predicate to an individual, this analysis accounts for the definite readings of the missing object. Indefinite readings need to be accounted for separately.

4.6 Conclusion and outlook

In this chapter, I have shown that missing objects can be non-anaphoric (section 4.2) or anaphoric (section 4.3). The latter can be interpreted either as definite or as indefinite. There are restrictions on both types of missing objects. The most salient property of non-anaphoric missing objects is their sensitivity to verb types and special licensing contexts, which I discuss in greater detail in the following chapter. Interpretive properties of these objects, such as general versus spe-

cialised meaning and their scopal properties constitute important factors which have been used to argue for specific types of approaches to their analysis. In section 4.2, I have provided some arguments against treating (all) structures with non-anaphoric missing objects as including an intransitive variant of a transitive verb and against encoding the alternation directly in the lexicon.

Non-anaphoric missing objects pattern similarly in English, Polish, and Hungarian, but anaphoric/definite missing objects exhibit some differences. The availability of these objects is determined by different aspects of the grammars of these languages, that is the properties of particular verbs in English, pragmatic factors in Polish, and the feature specification of the object in Hungarian.

A number of types of argument drop has been distinguished in the literature. This includes *pro*-drop, conditioned by rich agreement and familiar from subject drop in languages such as Italian (see, e.g., Chomsky 1982; Rizzi 1982), topic drop, constrained by the presence of elements in the CP area, as observed, for example, in Swedish (see Sigurðsson 2011 and references cited therein), and discourse drop, where there are no clause-specific restrictions, but where argument drop can be constrained by other factors (e.g. island sensitivity), as observed in languages such as Mandarin (see, e.g., Huang 1984; Raposo 1986). Definite object drop in English, Polish, and Hungarian resembles most closely the last pattern, even though the particular restrictions imposed on it vary greatly between

the languages.

In the next chapter, I look more closely at the environments in which missing objects appear, with a view to isolating some factors which can license and constrain object drop.

Chapter 5

Missing objects: the licensing and constraining factors

Building on the discussion of the issues anchored in the interpretive properties of missing objects in chapter 4, in this chapter I focus on the ways in which missing objects interact with various features of their linguistic and extra-linguistic environment. I employ mostly English data for presentation, but, to the best of my knowledge, the facts observed for English also hold in Polish and Hungarian. I specifically discuss Polish and Hungarian only in reference to some factors observed in these languages, but absent in English.

The chapter begins with introductory remarks in section 5.1, followed by a discussion of some selected issues related to particular verb types and their fea-

tures, including selectional restrictions (section 5.2.1) and the manner and result components of verb meaning (section 5.2.2). I show here that the appeal to the specificity of verbal selectional restrictions in investigations of factors licensing object drop is empirically problematic. Furthermore, extant literature offers conflicting views on the role of manner specification in licensing object drop.

In section 5.3, the discussion shifts to features of the predicate and the sentence, including the potential interactions between object drop and *aktionsart*, telicity, and grammatical aspect. I provide data showing that none of the categories distinguished within these classifications blocks object drop in its own right. I then discuss some additional factors licensing missing objects in section 5.4, that is habituality, genericity, and iterativity (section 5.4.1) as well as contrast, emphasis on the action, verb sequences, and stress on an element other than the object (section 5.4.2). The data show that a multitude of factors can influence the acceptability of a missing object.

5.1 Introduction

One of the observations commonly made in the literature on missing objects in English is that their distribution is heavily lexically-constrained, as discussed, for example, by Fillmore (1986). This seems to be true both in terms of making object drop available and in terms of the way in which the object is interpreted, as I have explained in chapter 4. In view of this, Fillmore (1986) concludes that no purely semantic or pragmatic explanation can capture the data and suggests that lexical items carry information specifying that their complements are marked as indefinite or definite omissible. The most frequently evoked contrast in this respect is the difference between the verb *eat*, which makes null objects available, and the verb *devour*, which (allegedly) does not. For example, Jackendoff (1990) suggests that the lexical entry of *eat*, but not that of *devour*, specifies that the thing eaten is only optionally chosen as an argument, as already observed in section 4.2 of chapter 4. However, the empirical data are more complex than a simple lexical specification of particular items would predict. More specifically, in some contexts, the object can be missing even with *devour* (Pérez-Leroux et al. 2008:380):

- (1) There are those who annihilate \emptyset with violence—who devour \emptyset . [BNC]

Non-anaphoric object drop in (1) seems to be made possible by habituality, as I discuss in more detail in section 5.4.1. Similarly, anaphoric/definite object drop can be licensed in a variety of environments in Polish. For example, McShane (1999, 2000, 2005) identifies different factors (dis)favouring object drop in Polish, including repetition, illustrated in (2) from McShane (2000:111).

- (2) Szanuję swojego ojca. Szanuję (go), ale go
 respect-1SG self's father-ACC respect-1SG him-ACC but him-ACC
 nie kocham.
 not love-1SG
 'I respect my father. I respect him, but I don't love him.' [Polish]

In the respective sections which follow, I discuss various properties of the verb, the sentence, and larger pragmatic context which enter into this type of interactions with object drop. This includes not only factors licensing object drop, but also factors which restrict its availability.

5.2 Features of the verb

This section discusses the ways in which selectional restrictions and the manner and result components of verb meaning have been analysed in the literature to influence object drop.

5.2.1 *Selectional restrictions*

Rice (1988) links the ability of a verb to appear with a missing object to the nature of the default interpretation of such an object. More specifically, according to her, objects whose semantic content is most probable with a particular verb meaning are omissible. For example, the verb *smoke* can be used without an object if the object is *cigarettes*, but not when it is *Marlboros/a pipe*. Furthermore, she suggests that the unacceptability of object drop in the following examples results from the verbs taking too broad a range of objects, thereby not being associated with any default object which could be inferred (Rice 1988:207):

(3) *Someone opened \emptyset /shut \emptyset /closed \emptyset /sealed \emptyset /locked \emptyset .

(4) *He made \emptyset /built \emptyset /fabricated \emptyset /constructed \emptyset .

Even though not phrased in these terms, Rice's observations are related to selectional properties of verbs, which have sometimes been taken to be a crucial factor determining the acceptability of object drop with specific verbs. For example, proposing an information-theoretic model of selectional constraints, Resnik (1996) notices that arguments which are strongly selected for are more easily inferred (see also Resnik 1993). He further suggests that selectional preference

strength (i.e. the amount of information which a verb carries about its argument) can predict whether a verb can appear with a null object. Verbs which can be found with (either definite or indefinite) null objects are reported to be the ones for which selectional preference strength is high (informally speaking, their objects tend to be felt as typical by native speakers, which is why the content of the objects is easy to infer). The following examples from Olsen & Resnik (1997:6) illustrate this:

- (5) a. Benjamin ate lunch/a sandwich/something yummy.
b. Benjamin ate \emptyset .
- (6) a. Benjamin called me/home/his grandparents.
b. Benjamin called \emptyset .
- (7) a. Benjamin wanted a trike/help/more food.
b. *Benjamin wanted \emptyset .
- (8) a. Benjamin found a toy/help/my keys.
b. *Benjamin found \emptyset .

However, as the examples in (9)–(10) show, object drop is possible with some verbs which select only for one type of complement, but it is blocked with others

(Rice 1988:205–206):¹

- (9) John stretched/flexed (his muscles).
- (10) a. John stubbed *(his toe).
b. John barked *(his shin).
c. John sprained *(his wrist/his ankle).

What is more, even though the verbs *eat* and *devour* have parallel selectional restrictions, object drop outside of special licensing contexts is available only with the former one. Thus, it seems that reference to selectional restrictions is not enough to account for the full spectrum of data with missing objects, even though selection can certainly play a central role in the process of determining the interpretation of a missing object.

5.2.2 *Meaning components: manner and result*

Object drop has been discussed in the context of the manner/result distinction in theories of verb meanings, exemplified in (11). The original observation is that verbs lexicalising manner, but not verbs lexicalising result, are licensed with unspecified and non-subcategorised objects, as illustrated in (12)–(13) from Rappa-

¹Ruppenhofer & Michaelis (2013) make the same point in reference to the verb *devein*, whose object can only be noun phrases headed by the noun *shrimp*, but which does not license object drop.

port Hovav & Levin (2010:21) (see also Rappaport Hovav & Levin 1998; Levin 1999; Beavers & Koontz-Garboden 2012 for relevant discussions).

- (11) a. *Manner verbs*: nibble, rub, scribble, sweep, flutter, laugh, run,
swim
b. *Result verbs*: clean, cover, empty, kill, melt, open, arrive, die,
faint

- (12) a. Kim scrubbed \emptyset all morning.
b. Kim scrubbed her fingers raw.

- (13) a. *The toddler broke \emptyset .
b. *The toddler broke his hands bloody.

Rappaport Hovav & Levin (1998:109) propose realisation rules which determine how the integration of a root into an event schema is governed by its ontological category. I provide their predicate decomposition of manner roots here in (14a) and the predicate decomposition of the externally-caused, result-state ontological type in (14b).

- (14) a. [x ACT<MANNER>]
b. [[x ACT] CAUSE [y BECOME <RESULT-STATE>]]

For transitive manner verbs, Rappaport Hovav & Levin (1998) assume that the participant expressed by the object is licensed by the root (the constant in their terms), whereas the subject argument (agent) is associated with the variable in the event structure template (x in (14a)). By contrast, two subevents are encoded in event structure templates of result verbs, namely a causing activity and a change of state, and both participants of the event are associated with variables in the template (x and y in (14b)).² Rappaport Hovav & Levin (1998) suggest that each participant associated with a variable in the event structure template must be realised syntactically and formulate this requirement as follows (Rappaport Hovav & Levin 1998:113):³

(15) *Argument Realisation Condition*

- a. There must be an argument XP in the syntax for each structure participant in the event structure.
- b. Each argument XP in the syntax must be associated with an identified subevent in the event structure.

²However, Neeleman & van de Koot (2012) argue against including the causing event/CAUSE in the linguistic representation of causative events.

³Rappaport Hovav (2008) proposes that the object is needed with scalar-change verbs because it provides a scale along which the extent of change of state can be measured. The verb itself does not provide a scale, which is why to measure the event, the event is mapped onto the scale provided by the object.

On the other hand, the only condition on the realisation of participants licensed by the root is that they be recoverable (either by being represented syntactically, or by prototypicality).

However, some predictions which the distinction between manner and result verbs makes with respect to object drop are empirically problematic. On the account in Rappaport Hovav & Levin (1998, 2010), *eat* needs to be classified as a manner verb, as it makes unspecified object drop available.⁴ However, in contrast to the verb *eat*, verbs expressing the manner of eating cannot be used with null objects, as (16) shows, and, further, in this case, it is the rich manner component which has been identified as the cause of the unavailability of object drop in Rice (1988:203) (see also García Velasco & Portero Muñoz 2002 for some discussion).⁵

- (16) a. Celia ate \emptyset .
- b. *Celia nibbled \emptyset /bit \emptyset /chewed \emptyset /devoured \emptyset /ingested \emptyset /munched \emptyset .

In addition to verbs expressing the manner of eating, the following items encod-

⁴Levin (2013) explicitly categorises *eat* as a manner verb.

⁵There might be some inter-speaker variation with respect to the particular verbs blocking object drop. For example, my informant accepts (16) with *nibble* and *chew* and marks *sip* in (18) as degraded, but better than the other options. Similarly, Mittwoch (2005) includes verbs such as *chew*, *revise* (*what has been learnt*), and *rehearse* among the ones which make object drop possible. This contrasts with the judgments presented in Rice (1988).

ing a rich manner component show the same pattern (Rice 1988:203):⁶

- (17) a. Walter smoked \emptyset .
b. *Walter puffed \emptyset .
- (18) a. Hemingway drank \emptyset .
b. *Hemingway sipped \emptyset /guzzled \emptyset /swigged \emptyset .
- (19) a. Mike studied \emptyset all afternoon.
b. *Mike perused \emptyset /memorized \emptyset /reviewed \emptyset all afternoon.
- (20) a. Moses spoke \emptyset .
b. *Moses uttered \emptyset .
- (21) a. Samuel Pepys wrote \emptyset daily.
b. *Samuel Pepys penned \emptyset /inscribed \emptyset /drafted \emptyset daily.

Rice (1988) suggests that in these cases the default interpretation of the object may be disfavoured as a result of the degree of specificity added to the action by manner specification and that object drop is in general facilitated by verb neutrality. Moreover, she suggests that verbs whose meaning includes not only

⁶Note that these examples are also problematic for the accounts that attribute the patterns of object drop to the selectional restrictions of particular verbs (see section 5.2.1). The verbs in the respective examples are parallel as far as this property is concerned.

action but also the manner in which the action is performed block object drop.⁷

The examples above show clearly that rich manner specification can block object drop. However, some further data complicate the relation between the degree of manner specificity and object drop. In particular, verbs such as *sweep*, *dust*, *hoover*, and *iron* can be used with missing objects (see Mittwoch 2005), even though their manner component is quite specific. It thus seems that different approaches discussed above might need to be combined to account for the data. I provide some relevant discussion of these issues in section 2.3 of chapter 2.

The manner/result distinction has also been characterised in terms of the classification of verbs into non-core and core transitive or mono-eventive and bi-eventive. The two types can be distinguished by transitivity tests developed in Bresnan (1982), Levin (1999), Levin & Rappaport Hovav (1999), and Kratzer (2005), quoted here from Alexiadou et al. (2013:5–6):

- Reduplication to improve object drop (in an eventive construal)

- (22) a. John ate \emptyset and ate \emptyset and ate \emptyset . [non-core transitive]
 b. *John broke \emptyset and broke \emptyset and broke \emptyset . [core transitive]

⁷Alexiadou & Anagnostopoulou (2013) note that in Greek not all verbs encoding manner make unspecified object drop possible (outside of special licensing contexts).

- *Out*-prefixation

- (23) a. John out-ate Mary. [non-core transitive]
 b. *John out-broke Mary. [core transitive]

- Resultative formation

- (24) a. The child rubbed [the tiredness out of his eyes]. [non-core transitive]
 b. Cinderella scrubbed [her hands raw]. [non-core transitive]
- (25) a. *The clumsy child broke [the beauty out of the vase]. [core transitive]
 b. *The clumsy child broke [his knuckles raw]. [core transitive]
- (26) a. Leslie wiped the cloth over the table. [non-core transitive]
 (MEANS: 'Leslie wiped the table';
 cf. Leslie wiped the table with the cloth.)
 b. Kelly broke the stick over the fence. [core transitive]
 (CANNOT MEAN: 'Kelly broke the fence.')

- ‘Fake’ reflexives (a special case of the resultative formation)

- (27) a. John sang [himself sore]. [non-core transitive]
 b. John read [himself tired]. [non-core transitive]
- (28) a. *The butcher killed [himself bloody/thirsty]. [core transitive]
 b. *The vandal broke [himself tired/thirsty]. [core transitive]

- *X’s-way* construction (a special case of the resultative formation)

- (29) a. John danced his way out of the room. [non-core transitive]
 b. *The butter melted its way off the turkey. [unaccusative]
 c. *He destroyed his way into history books. [core transitive]

The factor taken to underlie these tests is that verbs whose thematic object cannot be dropped should not make it possible for the direct object position to be occupied by a non-subcategorised object, which is taken to be the case in (23)–(29). Yet, it is unclear whether these examples show anything beyond the fact that verbs such as *break* do not (usually) make object drop possible. It has not been shown that the non-subcategorised phrases in fact occupy the object positions. Furthermore, not all of the tests are completely reliable. For example, the *x’s-way* construction has also been reported to be acceptable with verbs classified

as resultative, as shown in (30) and (31) quoted in Goldberg (2001:509) from the Oxford University Press corpus and in (32) from Levin (1993:99).⁸

(30) The rebels raped, pillaged and murdered their way through villages
of the Krahn tribe.

(31) [...] fans smashed their way into the Utrecht stadium [...]

(32) The explorers cut their way through the jungle.

One other point which these examples reveal is that the Argument Realisation Condition, presented in (15) above, might not be adequate to capture the data. In particular, even though the verbs *murder*, *destroy*, and *cut* encode result, the participant associated with the y variable (e.g. people in (30)) is not expressed overtly.⁹

⁸The following example from the Brown Corpus is similar, involving a verb which can be classified as encoding both manner and result (see section 2.3 of chapter 2 for more discussion of this verb type):

(i) Grabski slurped his way to the bottom of the soup bowl. [Brown]

⁹Sentences in which the path of motion is predicated of an unrealised argument have also been used to challenge the proposal that at least one argument that is associated with each subevent in an event structure template must be expressed syntactically. Goldberg (2005:219) provides examples such as the following to illustrate the point:

(i) Pat blew ø onto the computer screen.

According to Goldberg (2005:219), sentences of this type have their semantic decompositions as

Another problematic case is the *out*-prefixation structure, illustrated in (23). More specifically, Beavers & Koontz-Garboden (2012:339–340) point out that judgments are not very sharp in this case:

- (33) a. ??Kim outbroke the other vase-smasher.
 b. ??Kim outshattered the other bottle-shatterer.
 c. ??Kim outdestroyed the experienced wrecking crew.

Furthermore, Levin (1993:100) provides an example of a result verb with a non-subcategorised object, which suggests that some additional factors might be relevant for the (un)acceptability of structures of this type:

- (34) Amanda burned the stove black.

The tests presented above are usually taken to show that non-core transitive

 in (ii).

- (ii) Pat ACT<blew>
 BECOME [air <onto the computer screen>]

Goldberg (2005) uses this as an argument against the Argument Realisation Condition. However, as noted in section 4.2 of chapter 4, it is unclear that an analysis of PPs in contexts such as (i) as predicated of the missing object is correct. An alternative worth exploring is event modification, especially that these structures do not share the telic property with resultatives.

Goldberg (2005) notes in addition that the optionality of expressing the object with verbs of contribution such as *contribute*, *donate*, and *give (to the foundation)* constitutes a similar problem for the Argument Realisation Condition, as the omission of the participant which changes its location/possessor does not result in unacceptability.

verbs need not have the internal argument in the syntactic structure. The test sentences are compared with examples such as (35)–(36), which show that two direct objects are impossible (Alexiadou et al. 2013:9).

(35) a. John out-ate (*pizza) Mary (*pizza).

b. Mary drank (*the water) teapot dry.

(36) John ate (*pizza) himself (*pizza) fat (*pizza).

However, interpreting these examples requires caution, as they are unacceptable for an independent reason. More specifically, in GB terms, adding the third noun phrase in (35)–(36) yields a classic configuration of Case Filter violation. A weaker claim compatible with these examples is that the subcategorised internal argument is represented in the structure in a way which does not require case valuation. If this is correct, the verb can value case on the non-subcategorised noun phrases in contexts such as (23)–(29), but not in (35)–(36), where both the subcategorised and the non-subcategorised objects are overt and need to have their case valued. I provide some additional arguments supporting the hypothesis that the missing object lacks case in the theoretical discussion in section 2.2.1 of chapter 2.

5.3 Features of the predicate/sentence

In this section, I focus on the potential interactions between object drop and *aktionsart*, telicity, and grammatical aspect. The main aim is to establish whether the classifications that they express interact with object drop so as to impose inherent constraints on the availability of dropping an object. In section 5.3.1, I draw on previous accounts of *aktionsart* and grammatical aspect in English, Polish, and Hungarian to show what strategies the languages under study here employ for encoding differences in the temporal constitution of the situations that verbal predicates and sentences denote. In section 5.3.2, I offer a preliminary discussion of the interactions between object drop and telicity, *aktionsarten*, as well as grammatical aspect. I show here that although telicity, *aktionsart*, and grammatical aspect may have an influence on the omissibility of the object argument, none of them blocks object drop in English, Polish, and Hungarian in its own right. Both anaphoric and non-anaphoric, definite and indefinite missing objects are found across all the *aktionsarten* and all the grammatical aspects in the languages studied here. While a theory of missing objects needs to take the interactions between object drop and *aktionsarten* as well as grammatical aspect into account, this complex issue must be left for future work.

5.3.1 Aktionsart, *telicity*, and grammatical aspect in English, Polish, and Hungarian: some basic facts and observations

Following Vendler (1967), verbs are commonly divided into four main classes: states, activities, achievements, and accomplishments.¹⁰ The four classes are distinguished by their temporal properties of stativity, durativity, and telicity. States are uniform or homogeneous and lack both internal structure or stages and development. But they are durative, holding of intervals of time and being true of every moment of time within the interval. Activities and accomplishments consist of parts or stages and they develop through time. Thus, they are durative and dynamic. Achievements do not unfold in time. Rather, they occur at a single moment in Vendler's classification. Although both activities and accomplishments are dynamic and durative, they differ with respect to telicity. As accomplishments specify a natural, finishing endpoint (*telos* or culmination), they are telic. Activities do not entail reaching a natural endpoint and they are atelic. Table 5.1 from Kearns (2011:158) illustrates Vendler's classification. Examples of each *aktionsart* are given in (37) after Kearns (2011:157–158).

- (37) a. *State*: be taller, be on, know, be different, be asleep, be in the

¹⁰While Vendler's aspectual classification is probably the most well-known and influential, it has undergone substantial revision both within the Vendler-Dowty tradition in aspect studies (see Filip 2012) as well as in different semantic frameworks (see, among others, Croft 2012).

	<i>Dynamism</i>	<i>Duration</i>	<i>Telos</i>
<i>State</i>	–	+	–
<i>Achievement</i>	+	–	+
<i>Activity</i>	+	+	–
<i>Accomplishment</i>	+	+	+

Table 5.1: Vendler’s classification of event types

hall

- b. *Achievement*: realize that *p*, reach the summit, spot the car,
discover a hoard of rare LPs
- c. *Activity*: walk, flutter, push a supermarket trolley, chat, swim,
play cards
- d. *Accomplishment*: build a house, eat an apple, run a mile, do
the dishes, make a speech, paint a triptych

Having a telos or culmination and a process part with forward movement, leading up to the finishing point, accomplishments are not homogeneous. By contrast, activities are homogeneous. This difference manifests itself in the compatibility of accomplishments with a time-span adverbial like *in an hour*, which indicates the time after which the endpoint has been reached. Adverbials like *for an hour* specify the duration of atelic events. Thus, they combine with activities as well as with states. As achievements do not have duration, an *in*-adverbial measures the time before an achievement event begins. These contrasts are illus-

trated in (38) below from Willim (2006:80).¹¹

(38) a. *State*

Mary loved jazz for/*in three years.

b. *Activity*

John sang for/(*)in three hours.

c. *Accomplishment*

Mary ate an apple *for/in three minutes.

d. *Achievement*

They reached the top of the mountain *for/in three hours.

As is well-known, Vendler's classification does not apply to verbs, but to verbal predications which include the verb's complements and adjuncts. As *build two houses* is a telic accomplishment predicate, it combines with a time-span

¹¹The activity predicate in (38b) is compatible with the *in*-adverbial only on the goal-based interpretation, where a set amount of singing is implied in an event.

As atelic predicates have the subinterval property, they license the entailment from the progressive to the perfect and to the simple past (Kearns 2011:164):

- (i) a. Jones is singing entails Jones has sung.
b. Jones is building a shed does not entail Jones has built a shed.
- (ii) a. Jones was singing entails Jones sang.
b. Jones was building a shed does not entail Jones built a shed.

See Kearns (2011) for further grammatical tests distinguishing between telic and atelic predicates.

adverbial and does not license an entailment from the progressive to simple past.

By contrast, *build houses* is atelic and has reverse properties:

- (39) a. Mary built two houses in a week/*for a week.
b. Mary was building two houses does not entail Mary built two houses.
- (40) a. Mary built houses *in a week/for a week.
b. Mary was building houses entails Mary built houses.

Even though the referential properties of the object argument of an activity predicate do not affect its *aktionsart* properties, as shown in (41)–(42), the *aktionsart* of the predication in (39)–(40) is determined by the referential properties of the object, referred to as the incremental theme argument.

- (41) a. John pushed the cart for an hour/*in an hour.
b. John was pushing the cart entails John pushed the cart.
- (42) a. John pushed carts for an hour/*in an hour.
b. John was pushing carts entails John pushed carts.

The verbs with incremental theme arguments are verbs that describe situation

types in which the referent of the object (internal argument) of the verb undergoes an incremental change over the course of the event. This relationship has been captured by assuming that the part structure of the object stands in a homomorphic relation to the progress in time of the event named by the verb (see Filip 2012; Kardos 2012 for discussion). Three groups of such verbs are usually distinguished: verbs of consumption, for example *eat*, *drink*, verbs of creation, for example *write*, *build*, and verbs of performance (or intellectual creation), for example *sing*, *read*. Given the object-to-event homomorphism, if the incremental theme has a specified quantity of stuff or entities in its denotation, that is when it is quantised, the event description is not true of the subparts of the event, as the quantity of stuff or entities they involve is smaller than the amount of stuff or entities at the end of the event. Thus, incremental theme predications with quantised incremental themes are telic. By contrast, when the incremental theme object is not quantised, the predication is atelic. For example, two temporally adjacent events of pushing carts fall under the predicate *push carts* (see Willim 2006 for discussion).

As the contrast between (39)–(40) indicates, in English, and more generally in Germanic languages, telicity arises just in case the argument that provides a (strict) mapping to the temporal trace of the event, that is the incremental theme

argument, is quantised.¹² The effect of the referential properties of incremental theme arguments on the predication is captured with the principle of aspectual composition (Krifka 1989:76), defined informally in (43) (cf. Willim 2006; Filip 2012).

- (43) An episodic incremental theme verb combined with a quantised incremental theme argument yields a quantised complex verbal predicate, while combined with a cumulative incremental theme, it yields an atelic complex verbal predicate.

Thus, English employs the object-marking strategy for encoding telicity (cf. Filip 2008). However, although a nominal argument with the definite or indefinite article is quantised, the telicity of predications with a verb of consumption like *eat*, a verb of creation like *draw*, and a verb of directed motion with an incremental path theme like *run* in fact is variable in English, as observed by Hay, Kennedy & Levin (1999:139):

- (44) a. She ate the sandwich in 5 minutes.
b. She ate the sandwich for 5 minutes.

¹²Apart from consumption/creation predicates, also verbs of directed motion such as *drive to New York* and change of state verbs such as *melt* are commonly analysed as incremental theme verbs, where the notion of the incremental theme is extended to spatial and property paths that provide the part-structure that is mapped onto the part-structure of the event (see Filip 2012).

As (45) is not a contradiction, Hay et al. (1999:139) suggest that the telicity of predications with incremental (path) theme verbs arises via implicature.¹³

- (45) She ate the sandwich but as usual she left a few bites.

Other examples of verbs with variable telicity are given in (46) and (47), suggesting a need for a finer-grained approach to telicity that takes into account both the verb's entailments of incrementality or lack thereof, the referential properties of the incremental theme, as well as linguistic and extra-linguistic context (Willim 2006:153, 113).¹⁴

¹³Nevertheless, the presence of a lexical quantifier or measure expression in the structure of an incremental theme seems to give rise to a non-cancellable implicature, as shown in (ii) below from Hay et al. (1999:139).

- (i) She ran a race, but she didn't quite finish it.

- (ii) ??She ran a mile, but she didn't quite finish it.

Variable telicity is a property of the class of predicates called degree achievements, illustrated in (iii) with the verb *cool*.

- (iii) The soup cooled in an hour/for an hour.

Kardos (2012) builds on the commonality between variable non-scalar incremental theme verbs of creation and consumption and degree achievements. I return to her analysis later in this section.

¹⁴The incremental theme is not restricted to the internal (object) argument in English. A classic example that shows that also the external (subject) argument can play a role in aspectual composition is shown in (i) from Dowty (1991), quoted here after Filip (2012:725). See also (47b).

- (i) At the turtle race, the winning turtle crossed the finish line in 42 seconds.

- (46) a. He washed the dishes for 30 minutes (but only got half of them done).
 b. He washed the dishes in 30 minutes.
- (47) a. The endless procession walked by the church for hours.
 b. The endless procession walked by the church in an hour.

To account for the fact that the quantisedness of the object argument of an incremental verb is not sufficient to generate the telic interpretation (see (44)), nor is it necessary for the telic interpretation to arise (see (47b)) and further, an incremental (path) theme verb or a scalar verb is not necessary for telicity, as shown in (48), Filip (2008) suggests that telicity is neither encoded in verbs as lexical items in the Germanic languages, nor is it a property of the incremental theme (path) arguments or scales of change. Rather, in the Germanic languages, telicity is the function of the maximalisation operator MAX_E which applies at the level of VP or the sentence (IP/TP) and interacts with the verb's arguments as well as with adjuncts, picking the maximal event in a given context, that is an event which cannot develop into any larger event (in a given context).

- (48) Mary saw seventeen clouds in three minutes/for three minutes.
-

The *MAX_E* operator is covert in the Germanic languages and what counts as a maximal event is often not entailed, but inferred by conversational implicature. This means that in interpreting an event as maximal or telic, a variety of contextual and pragmatic factors play a role. Thus, aspectual shifts such as (49) can be expected, given sufficient contextual support. The sentence in (49) can be interpreted telically if the context makes it clear that John ran a pre-determined distance in the time specified by the temporal adverbial (see also footnote 11).

- (49) John ran in less than 30 minutes today.

Filip's appeal to the role of both linguistic and extra-linguistic factors can also help explain the contrast observed by Ingham (1993/1994), quoted here after Pérez-Leroux et al. (2008:372) in (50) and (51).

- (50) a. John cut *(the hedge) in an hour.
 b. Mary mowed *(the lawn) in an hour.
- (51) a. John tidied up (his room) in an hour.
 b. Mary packed (her suitcase) in 10 minutes.

In contrast to English and the Germanic languages in general, in Filip's theory of telicity, the Slavic languages employ the verb-encoding strategy rather than

the object-encoding strategy for encoding telicity. In Slavic languages, unlike in English and the other Germanic languages in which verbs are atelic in the lexicon, MAX_E is grammaticalised in perfective verbs. On the assumption that MAX_E is part of the logical structure of a perfective verb in Slavic, illustrated here with Polish, no linguistic or extra-linguistic material can be incompatible with the maximalisation requirement carried by the covert MAX_E operator by perfective verbs. Thus, Filip takes a perfective incremental theme verb of consumption to constrain the interpretation of the incremental theme argument it combines with, as demonstrated in (52), where the object argument denotes the totality of the stuff or objects that fall under the denotation of the nominal predicate. In other words, (52) entails that the incremental theme object is totally affected (consumed) in the event described in (52).¹⁵

¹⁵ The totality entailment with respect to the quantity of the incremental theme affected in an event described with an incremental theme verb holds only when the direct object is accusative-marked. Genitive case marking on the incremental theme argument is inconsistent with an incremental modifier (see Willim 2006:236, 238):

- (i) a. Piotr zjadł kaszę w pół godziny.
Piotr PREF-ate porridge-ACC in half hour
'Piotr ate the/a portion of porridge in half an hour.'
 - b. *Piotr zjadł kaszy w pół godziny.
Piotr PREF-ate porridge-GEN in half hour
'Piotr ate (some) porridge in half an hour.'
- [Polish]
-
- (ii) a. Piotr zjadł kaszę/ oliwki stopniowo.
Piotr PREF-ate porridge-ACC olives-ACC gradually
'Piotr ate the/a portion of porridge/olives gradually.'
 - b. *Piotr zjadł kaszy/ oliwek stopniowo.
Piotr PREF-ate porridge-GEN olives-GEN gradually

- (52) On zjadł kaszę/ oliwki.
 he PREF-ate porridge-ACC olives-ACC
 ‘He ate (up) (all) the porridge/olives.’ (i.e., the whole quantity of porridge/olives)

[Polish]

According to Filip (2005, 2008), the totality interpretation is not an implicature, but an entailment. As expected in this scenario, the totality requirement on the interpretation of the incremental theme object cannot be cancelled without a contradiction:¹⁶

‘Piotr ate porridge/olives gradually.’

[Polish]

¹⁶Given the acceptability of the example in (i) from a questionnaire by CBOS, the government-based polling agency, whether the totality interpretation of the incremental theme is a logical entailment rather than an implicature needs further investigation empirically supported with naturally-occurring data. To the extent that the lack of the totality interpretation of an incremental theme illustrated by (i) is supported by further data, this opens up the theoretical possibility that telicity may be an implicature rather than an entailment also in Polish, arising in the context of an incremental theme verb in the absence of a specified quantity of the incremental theme argument expressed with a lexical quantifier or a measure expression. In the latter case, overriding the totality interpretation in the context of a perfective verb encoding a contextually determined maximal event, as illustrated in (ii), can be expected to be preempted by the Gricean Maxim of Quantity.

- (i) Ile książek przeczytał(a) Pan(i) w ciągu roku od początku do
 how.many books PREF-read(-SG.F) Sir/Madam in duration year from beginning to
 końca, a ile prawie do końca.
 end and how.many almost to end
 ‘How many books did you read from the beginning to the end in a year and how many
 did you read almost to the end.’ [Polish]
- (ii) #Wypili butelkę wódki, ale zostawili dwa kieliszki dla Zbyszka.
 PREF-drank-PL.M bottle vodka but left-PL.M two shots for Zbyszek
 ‘They drank a bottle of vodka, but left two shots for Zbyszek.’ [Polish]

- (53) a. #On zjadł oliwki, ale parę zostało.
 he PREF-ate olives-ACC but a.couple remained
 ‘He ate (up) (all) the olives, but there are a couple left.’
- b. #Ona zjadła kanapkę, ale trochę zostawiła jak zwykle.
 she PREF-ate sandwich-ACC but a.bit left as usual
 ‘She ate (up) the sandwich, but left a bit as usual.’ [Polish]
- (54) a. On przeczytał polisę do końca.
 he PREF-read policy-ACC to end
 ‘He’s read the policy to the end.’
- b. #On przeczytał polisę, ale nie do końca.
 he PREF-read policy-ACC but not to end
 ‘He’s read the policy, but not to the end.’ [Polish]

In contrast to the perfective, the imperfective, being the unmarked category in the privative aspectual opposition, does not constrain the interpretation of the incremental theme’s referential properties (cf. Filip 2005, 2008). As (55) demonstrates, the incremental theme can have indefinite or definite interpretation in the scope of the imperfective operator.

- (55) On jadł kaszę/ oliwki.
 he ate porridge-ACC olives-ACC
 i. ‘He was eating (sm/ø/the) porridge/olives.’
 ‘He was eating some of the porridge/olives.’
- ii. ‘He ate (sm/ø/the) porridge/olives.’ [Polish]

Importantly, perfectivity and telicity are not co-extensive. While the perfective (MAX_E) is a covert operator in the perfective verb, the prefix that marks the verb, which applied to a base imperfective verb typically yields a perfective verb (form) and is usually referred to as perfectivising, in fact contributes its own meaning to the base verb. Thus, while both (56a) and (56b) involve perfective verbs, in (56b) the prefix does not compose with the incremental theme, but rather modifies the temporal extent of the event. The predication in (56a) is perfective and telic at the same time, describing an event as having come to a culmination endpoint beyond which it cannot continue. By contrast, (56b) describes a terminated event, but not one that could not go on. Furthermore, while (56a) entails that the object has been affected in its totality, (56b) lacks this entailment.

- (56) a. On przeczytał książkę w dwie godziny/ *przez dwie
 he PREF-read book-ACC in two hours for two
 godziny, #ale jej nie dokończył.
 hours but her not finished
 ‘He read a/the (entire) book in two hours/for two hours, but he
 didn’t finish it.’
- b. On poczytał książkę *w dwie godziny/ przez dwie
 he PREF-read book-ACC in two hours for two
 godziny, ale jej nie dokończył.
 hours but her not finished
 ‘He read a/the book in two hours/for two hours, but he didn’t
 finish it.’

[Polish]

Also imperfectivity is not co-extensive with atelicity. Being the unmarked member of the aspectual opposition, the imperfective can generate a progressive interpretation, in which the reaching of the finishing endpoint of an event specifying an inherent culmination point is not entailed, similarly to the progressive in English, as shown in (57).

- (57) Janek przechodził ulicę, kiedy potrafił go samochód.
 Janek crossed street when hit him car
 ‘Janek was crossing a/the street when a car hit him.’ [Polish]

However, the imperfective is also consistent with a telic interpretation in a telic presupposition context, that is a context in which the culmination of the event is presupposed rather than asserted, as shown in (58b).¹⁷

- (58) a. Kto ci uszył tę sukienkę (w niecały tydzień)?
 who you-DAT PREF-sewed this dress-ACC in not.full week
 ‘Who’s made you this dress (in less than a week)?’
 b. Kto ci szył tę sukienkę?
 who you-DAT sewed this dress-ACC
 ‘Who’s made your dress?’ [Polish]

In general, a telic event can be expressed with an imperfective verb in Polish, similarly to other Slavic languages, if the base predicate that serves as input to a

¹⁷See Willim (2006:200–205) for an overview of the readings of the perfective and imperfective predications in Polish.

plural operator, as in habitual and generic contexts, is telic, as illustrated in (59) and (60).

- (59) Kto ci szyje sukienki?
 who you-DAT sews dresses-ACC
 ‘Who makes dresses for you/Who makes your dresses?’ [Polish]
- (60) a. Na krótkiej przerwie w szkole Kasia zawsze jadła kanapkę w
 on short break in school Kasia always ate sandwich in
 5 minut.
 5 minutes
 ‘During the short break at school, Kasia would always eat a
 sandwich in 5 minutes.’
- b. Jako ambitny inżynier Jan zawsze budował dom w rok.
 as ambitious engineer Jan always built house in year
 ‘As an ambitious engineer, Jan would always build a house in a
 year.’ [Polish]

In contrast to Polish, aspect is not grammaticalised in Hungarian, where regular processes marking grammatical aspect are absent, as noted, for example, in Kenesei et al. (1998). In Hungarian perfectivity can arise with some verbs due to the contribution of a stressed bare noun in the postverbal position. According to Kiefer (1994:448), the generalisation in (61) holds.¹⁸

¹⁸Furthermore, structures with indefinite objects obey a similar constraint, as shown in the example in (i), where one of the available readings is the reading that the perfective (ii) expresses (Kiefer 1994:450). Such ambiguity is not observed in Polish (*pisalam list* ‘wrote-1SG.F letter-

- (61) A verb+bare noun construction is grammatical (and perfective) if it can be interpreted as bringing about a new state.

The structures in (62) from Kiefer (1994:445–446) illustrate the generalisation given in (61).¹⁹

- (62) a. *'Olvasott 'újságot 'öt óra alatt.
 read-3SG newspaper-ACC five hour under
 'She/he has read a newspaper in five hours.'
- b. 'Főzött 'ebédet 'öt óra alatt.
 cooked-3SG dinner-ACC five hour under
 'She/he has prepared dinner in five hours.' [Hungarian]

According to Kardos (2012), Hungarian differs from English and other Germanic languages as well as from Polish and other Slavic languages in that it requires the presence of an explicit, overt event-bounding element for a bounded-/perfective/maximal event reading to arise. Apart from event-bounding preverbs, also resultative/locative predicates and quantised scalar measure/quantity expressions such as *5 kilometers*, *10 laps*, etc., can act as event-binders, as illustrated ACC is unambiguously imperfective).

- (i) írtam egy levelet 'wrote-1SG a letter-ACC' [Hungarian]
- (ii) megírtam egy levelet 'PV-wrote-1SG a letter-ACC' [Hungarian]

¹⁹The symbol ' ' marks stress here.

in (63) from Kardos (2012:89).

- (63) a. Péter egy hétig/ *egy hét alatt festett egy kerítést.
Péter a week.for a week under painted a fence-ACC
'Péter painted a fence for a week.'
- b. Péter egy hét alatt/ *egy hétig lefestett egy kerítést.
Péter a week under a week.for PV-painted a fence-ACC
'Péter painted a fence in a week.'
- c. Péter egy hét alatt/ *egy hétig pirosra festett egy
Péter a week under a week.for red.into painted a
kerítést.
fence-ACC
'Péter painted a fence red in a week.' [Hungarian]

As (63b) and (63c) demonstrate, both a preverb and a resultative predicate telicise the events that the sentences containing them describe. Atelicity arises in the absence of an overt event bounder. Kardos (2012) thus suggests for Hungarian that the overt event-binders all contribute event maximalisation to the predicates with which they combine and as a result, an overtly bounded event has quantised reference and is telic. The sentence in (63a) is atelic as there is no over event bounder that could enforce event maximalisation. Notice that the indefinite article in the structure of the noun phrases linked to the incremental theme does not contribute to the maximalisation of the event in Hungarian, as (63a) shows, unlike in English, where both the atelic and the telic interpretation can arise in the

presence of an object with an indefinite article, as shown in (64). The sentence in (63a) also stands in contrast to Polish, as shown in (65), where a time-span adverbial is not inconsistent with the imperfective aspect of the verb, but in such a case, the sentence receives a habitual interpretation. Habitual events, having an unbounded plurality of individual events in their denotation, are atelic (cf. also (60)).

(64) Peter painted a fence for a year/in a year.

(65) Piotr malował płot przez tydzień/ w tydzień.
 Piotr painted fence-ACC for week in week
 ‘Piotr painted a fence for a week/Piotr would paint a fence in a week.’

[Polish]

The only exception to the generalisation that event bounding requires the presence of an overt event boulder, such as an event-bounding preverb, resultative/locative predicate, or a scalar DP, in Hungarian are creation and consumption predications, in which the telicity of the predication depends on the quantised reference of the incremental theme argument, as shown in (66) from Kardos (2012:100).²⁰

²⁰Notice that (66) is similar to predications of this type in English, as shown in (44), which Hay et al. (1999) analyse as demonstrating that the telicity of predications with consumption and creation verbs is variable in English.

- (66) Tamás egy óra alatt/ egy óráig evett egy hamburgert.
 Tamás an hour under an hour-for ate a hamburger-ACC
 ‘Tamás ate a hamburger in an hour/for an hour.’ [Hungarian]

Wrapping up, what the data discussed here clearly show is that the three languages under study here differ in the strategies that they resort to for the purposes of encoding the difference between event boundedness and unboundedness and/or telicity/atelicity. In addition, the presence and the referential properties of the object do not have an equal role to play in aspectual composition not only across English, Polish, and Hungarian, but also within the individual languages. In the next section, I look into the interactions between *aktionsarten*, telicity, and grammatical aspect to see if any of these categories block object drop and to see if any of these categories may favour object drop. I also discuss some additional factors that may contribute to licensing object drop in the languages under study.

5.3.2 *Interactions with object drop*

The relevance of *aktionsart*, telicity, and grammatical aspect for object drop has not remained unnoticed in the literature. For example, reacting to Fraser & Ross (1970:264), in which the acceptability of (67) is attributed to their idiomaticity, Browne (1971:256) provides the non-idiomatic but unacceptable examples in (68). He suggests that the relevant feature blocking the deletion of the object

is aspectual in that the verbs in (67) presuppose the completion of the action (e.g. the drink is completely gone in (67a) when the action denoted by the predicate is finished).²¹

- (67) a. John drank \emptyset (*down).
b. Fred wrote \emptyset (*off).
- (68) a. *J. consumed/devoured \emptyset .
b. *F. debited \emptyset .

In principle, both definite and indefinite objects can be dropped with telic and atelic predications in English:

²¹Object drop with the verb *drink* is unavailable when the completion of the event is asserted, as illustrated in (i) from Mittwoch (1971:256).

- (i) a. *He has just drunk (beer).
b. He has just drunk the beer.

On the other hand, the indefinite *something* can function as an object in the same context (Mittwoch 1971:257):

- (ii) He has drunk something.

This shows that object drop does not correspond to the deletion of an indefinite and is consistent with the difference in the scopal potential of the missing object and the indefinite discussed in section 4.2 of chapter 4.

- Atelic, definite object (Allerton 1975:220)

(69) Alan realized that he would have to pull the boat ashore by himself.
He felt tired. The water was cold and the wind was strong. But he
pulled \emptyset as hard as he could.

- Atelic, indefinite object (Mittwoch 1971:256)

(70) He drank (beer) for two hours.

- Telic, definite object (Liu 2008:307)

(71) He offered me a cigarette. I declined \emptyset .

- Telic, indefinite object (Mittwoch 2005:243)

(72) Last week John stole \emptyset from a teacher.

While a particle like *down* (or *off*) could be taken as telicising the events in sentences like (67), Mittwoch (1971) argues in reference to contexts with verbs like *wash* that the function of the particle *up* is to restrict the meaning of the verb rather than to encode the culmination point and trigger a telic interpretation, as

is usually the case with aspectual particles combining with verbs in English. In such cases, omitting the object is in general possible:²²

(73) Mary is washing up \emptyset /tidying up \emptyset /cleaning up \emptyset .

At the same time, completive particles (e.g. *drink up*, *use up*, and *work out*) have been noted in the literature to contribute to making the object prominent in the sentence by shifting attention to the result state of the event (see García Velasco & Portero Muñoz 2002) and for this reason to contribute to blocking object drop.

Telicity is also not a blocking factor for object drop in Polish:

- Atelic, definite object

(74) Zażądałem, by wyszedł. Straszylem \emptyset
 demanded-1SG.M so.that leave-3SG.M threatened-1SG.M
 policję. Chciałem go wypchnąć z mieszkania [...]
 police-INSTR wanted-1SG.M him push.out from flat
 ‘I demanded that he leave. I threatened him with the police. I wanted
 to push him out of the flat [...]’ [NKJP]

- Atelic, indefinite object

(75) Zimą bywało, że nie jadła \emptyset tygodniami.
 winter-INSTR was that not ate-3SG.F weeks-INSTR

²²Interestingly, the verb *tidy* can appear without an object only when accompanied by the particle (Mittwoch 1971).

‘It kept happening in winter that she didn’t eat for weeks.’ [NKJP]

- Telic, definite object

(76) A: Skąd masz kawę?
 where.from have-2SG coffee
 ‘Where did you get the coffee?’

B: A jak myślisz? Kupiłem ø sobie.
 and how think-2SG bought-1SG.M self-DAT
 ‘And what do you think? I bought it (for myself).’ [NKJP]

- Telic, indefinite object

(77) 6 lat temu jej dziecko zamordowano. Potem sama zabiła ø.
 6 years ago her child murdered-IMPRSNL later alone killed
 ‘6 years ago her child was murdered. Later she herself killed.’ [NKJP]

The same can be observed in Hungarian:

- Atelic, definite object (Kenesei et al. 1998:262)

(78) Szeret-lek ø.
 love-1S.SG.2O
 ‘I love you_{SG}.’ [Hungarian]

- Atelic, indefinite object (Németh T. 2000:1674)

- (79) A: Mit csinál Gergő?
what does Gergő
- B: Gergő épít ø.
Gergő builds
- a. A: ‘What does Gergő do?’

B: ‘Gergő builds buildings.’
- b. A: ‘What is Gergő doing?’

B: ‘Gergő is building a house.’
- c. A: ‘What is Gergő doing?’

B: ‘Gergő is building a castle/house for fun.’ [Hungarian]

- Telic, definite object (Farkas & de Swart 2003:135)

- (80) a. János_i vizsgált egy beteget_j.
János examined a patient-ACC
‘János examined a patient.’
- b. *pro*_i Túlsúlyosnak találta ø_j.
too.overweight-DAT found
‘He found him overweight.’ [Hungarian]

- Telic, indefinite object (Németh T. 2000:1675)

- (81) [Context: Péter, András, and Jakab are distributing bread to chil-

dren.]

P: Mindenki kapott \emptyset ?
everyone got-3SG.INDEF
'Has everyone got some?' [Hungarian]

Furthermore, as the data from English below show, *aktionsart* need not change with states, achievements, and accomplishments, including accomplishments with an incremental theme verb, regardless of whether the object is expressed or not. Object drop is not expected to affect the activity *aktionsart*, as (67b) above demonstrates.²³

(82) *State*

I don't know how to love (others) any more.

(83) *Achievement*

She's won (the chess tournament).

(84) *Accomplishment*

We've already eaten (lunch).

However, object drop may result in a shift in the *aktionsart* of the predication.

²³For a discussion of the *aktionsarten* and some correlations with argument realisation options in the conative alternation in English, Polish, and Hungarian, see Beavers (2013), Willim (2006), and Kardos (2012) respectively.

This can be diagnosed by the (in)compatibility of the complement predication with embedding under the predicate *take x-time*, which selects for a telic predication in its infinitival clause complement in English, as illustrated in (85). This is not so with predicates denoting activities in structures with missing objects, as in this case the addition of the object makes available also the accomplishment interpretation.

(85) a. *Activity*

For how long did he read (the short stories) last night?/*How long did it take him to read last night?

b. *Accomplishment*

How long did it take him to read the short stories?

Based on data like (85), it has been noted in the literature that dropping an indefinite object can serve the purpose of shifting an accomplishment to an activity. Mittwoch (1982:114) illustrates this point with (86), where the presence of the indefinite *something* in object position gives rise to the accomplishment reading (see Resnik 1993; García Velasco & Portero Muñoz 2002; Croft 2012 for some related remarks).

(86) a. John is eating \emptyset .

- b. John is eating something.

This alternation holds in some contexts, but not in others, as revealed by (84), where the use of the perfect aspect in the present tense context constrains the interpretive options.

In Hungarian, argument realisation options are influenced by the presence of preverbs, which can shift an activity verb to an accomplishment with the perfective interpretation, as discussed in É. Kiss (2002) and references cited therein.²⁴ For example, the verb *olvas* ‘read’ can be combined with the preverbs *el*, *át*, *meg*, *rá*, or *be*, which contribute their meaning to the meaning of the verb, ranging from signalling the notion of completion to non-compositional meanings (*elolvas* ‘read, finish reading’, *átolvas* ‘read through, skim’, *megolvas* ‘count (money)’, *ráolvas* ‘heal by words’, *beolvas* ‘tell off’). This lexical aspectual difference manifests itself, for example, in the types of temporal adverbials with which the verbs can combine, as (87) from É. Kiss (2002:62–63) illustrates.

²⁴When in the preverbal position, preverbs are spelled as one word with the verb by convention, as illustrated, for example, in (87) in the main text. However, they are postverbal in contexts with focused elements or negation and can be separated from the verb, as (i) from É. Kiss (2002:57) shows.

- (i) Péter nem olvasta őket fel.
 Peter not read them up-PV
 ‘Péter did not read them out.’ [Hungarian]

In the theoretical literature, preverbs have been taken to project phrases of their own (e.g. in Spec,AspP; see É. Kiss 2002 and references cited therein).

- (87) a. János hétfőre *olvasta/ elolvasta a regényt.
 János by.Monday read PV-read the novel
 ‘János read the novel by Monday.’
- b. János egész este olvasta/ *elolvasta a regényt.
 János whole evening read PV-read the novel
 ‘János read the novel the whole evening.’ [Hungarian]

The influence of preverbs on the argument realisation options in comparison with the basic verb *olvas* ‘read’ relates to the obligatoriness of the internal argument and to the value of its case. Even though *olvas* ‘read’ can be used in the structure with unspecified object drop, *elolvasta* ‘read, finish reading’, *átolvasta* ‘read through, skim’, and *megolvasta* ‘count (money)’ require overt accusative objects, *ráolvasta* ‘heal by words’ requires a sublativ object, and *beolvasta* ‘tell off’ a dative one (É. Kiss 2002:56). Interestingly, *felolvasta* ‘read aloud’, which retains the argument realisation options of *olvas* ‘read’ and can appear with an accusative object or in the structure with object drop, is also the only one which can be interpreted as an activity rather than only as an accomplishment (É. Kiss 2002:63):

- (88) a. János egy fél óra alatt felolvasta a verseit.
 János a half hour under PV-read the poem-3SG.POSS.PL.ACC
 ‘János read out his poems in half an hour.’
- b. ?János egész este felolvasta a verseit.
 János whole evening PV-read the poem-3SG.POSS.PL.ACC

‘János read out his poems the whole evening.’ [Hungarian]

Similarly, perfectivising prefixes also have an effect on *aktionsart* and argument realisation options in Polish. For example, even though the activity verb *plakać* ‘cry’ is intransitive, it becomes a transitive accomplishment when prefixed with the perfectivising prefix *wy-*:

- (89) Anna wypłakała podwyżkę u szefa w pół godziny/ *przez
 Anna PREF-cried-3SG.F rise-ACC at boss in half hour for
 pół godziny.
 half hour
 ‘Anna pleaded with the boss for a rise and got it in half an hour.’

[Polish]

The ways in which object drop interacts with grammatical aspect are likewise complex. In principle, objects can be dropped with the perfective and imperfective aspect in all three languages discussed here. As (90) and (91) illustrate for English, missing objects with the verb *call*, which licenses definite object drop, and the verb *cook*, which licenses indefinite object drop, are compatible with the perfective and the imperfective aspect.²⁵

²⁵In a diachronic study of English, Lavidas (2013) tests the hypothesis that the availability of null objects is related to the grammaticalisation of the progressive/non-progressive aspect distinction. The suggested correlation between the availability of null objects and viewpoint aspect is not supported by the data. See Giannakidou & Merchant (1997); Tsimpli & Papadopoulou (2006) for some relevant discussions of Greek.

- (90) a. Mrs. Roberts had called \emptyset , and couldn't wake you.
 b. I stumbled through the hall, wondering who would be calling \emptyset
 at this hour. [Brown]
- (91) a. Sharon, she's cooked \emptyset in a restaurant.
 b. Finally, he was cooking \emptyset , washing dishes [...] [Brown]

Furthermore, as noted also in section 5.4 below, experiential perfect belongs to the set of factors licensing object drop in English. The examples in (92)–(93) from Ruppenhofer (2004:373) provide an illustration.

- (92) Has this lion ever killed \emptyset ?
- (93) Field Goal Kicking Competition. Jamie had never kicked \emptyset before,
 and Jana had about 3 days of “rehearsal” behind her.

As (94) below, taken from Kiefer (1994:421), shows for Hungarian, and as (95) shows for Polish, object drop is also available with the perfective and the imperfective aspect in these two languages.

- (94) a. Anna megfőzött \emptyset és kitakarított \emptyset .
 Anna PV-cooked and PV-tidied
 ‘Anna has cooked and has tidied up.’

- b. Anna főzött \emptyset és takarított \emptyset .
 Anna cooked and tidied
 ‘Ann has been cooking and tidying up.’ [Hungarian]

- (95) a. Anna ugotowała \emptyset i posprzątała \emptyset .
 Anna PREF-cooked and PREF-tidied
 ‘Anna has cooked and has tidied up.’

- b. Anna gotowała \emptyset i sprzątała \emptyset .
 Anna cooked and tidied
 ‘Ann has been cooking and tidying up.’ [Polish]

As further noted in Kiefer (2006:46), some perfective verbs in the indefinite conjugation (e.g. *megetet* ‘PV-feed’, *megfőz* ‘PV-cook’) make object drop possible in

Hungarian, but not all (e.g. *megír* ‘PV-write’, *elolvas* ‘PV-read’).²⁶ The examples

²⁶Németh T. (2008) notes that verbs which can be used with missing objects in this context include also *kimos* ‘PV-wash’, *kivasal* ‘PV-iron’, *elmosogat* ‘PV-wash (do the washing up)’, *kitakarít* ‘PV-tidy’, *learat* ‘PV-reap’, even though Kiefer (2006:46) lists *kimos* ‘PV-wash’ among the verbs which cannot drop objects. As Professor István Kenesei informs me, verbs belonging to the same semantic class can behave differently in this respect. For example, housework verbs such as *fel-szeletel* ‘PV-slice, slice up (meat)’, *le-szed* ‘PV-take, take off (dishes from tables)’, and *meg-terít* ‘PV-lay (the table)’ make object drop available, but *meg-hámoz* ‘PV-peel, peel off (apples, potatoes)’ and *fel-akaszt* ‘PV-hang, hang up (pictures on a wall)’ do not. Pending further inquiry, Kiefer (2006) suggests that the difference between the verbs might be attributable to institutionalisation.

Kiefer (2006:47) observes that perfective verbs which make object drop of this type possible can also be used in the present tense to describe on-going present situations:

- (i) A: Mit csinálsz?
 what do-2SG
 ‘What are you doing?’
 B: Felmosok \emptyset / Kitakarítok \emptyset .
 PV-mop-1SG.INDEF PV-clean-1SG.INDEF
 ‘I’m mopping./I’m cleaning.’ [Hungarian]

in (96) illustrate this difference.²⁷

- (96) a. Az apa megfőzött ø (és utána focizni
the father PV-cooked-3SG.INDEF and then play.football
ment).
went-3SG.INDEF
‘Dad finished cooking (and then went to play football).’
- b. *Az apa megevett ø (és utána focizni
the father PV-ate-3SG.INDEF and then play.football
ment).
went-3SG.INDEF
‘Dad ate (and then went to play football).’ [Hungarian]

These sentences constitute an interesting contrast not only with each other, but also with parallel sentences in Polish, where both verbs make object drop available in this context:

- (97) a. Tato ugotował ø (i poszedł grać w piłkę).
dad PREF-cooked-3SG.M and went-3SG.M play in ball
‘Dad finished cooking (and went to play football).’
- b. Tato zjadł ø (i poszedł grać w piłkę).
dad PREF-ate-3SG.M and went-3SG.M play in ball
‘Dad ate (and went to play football).’ [Polish]

The difference between Hungarian and Polish observed in (96)–(97) could follow from more general, aspect-related differences between these languages, whose

²⁷I would like to thank Gréte Dalmi for the judgment.

exact analysis requires further research.

In Polish, perfective aspect is also compatible with non-anaphoric object drop in sentences interpreted habitually (Bulˆat 2004:163):²⁸

- (98) Tomek to dobry chłˆopak: (zawsze) naprawi ∅,
Tomek PRED good boy always PREF-fix-3SG
wyprasuje ∅, posprzˆata ∅...
PREF-iron-3SG PREF-clean-3SG
‘Tomek is a good guy: he will (always) fix stuff, iron, tidy up...’

[Polish]

This combination of habituality and perfectivity makes it possible to see how such features of the sentence can influence the interpretation of a missing object.

The examples in (99) constitute interesting contexts.

²⁸The licensing of anaphoric object drop by habituality coupled with a perfective verb is also attested in the corpus:

- (i) Dlaczego nawet w dobrej rodzinie dziecko potrafi tak wyprowadziˆc nas z
why even in good family child-NOM can so lead.out us-ACC from
równowagi. Rzuca siˆe na podłˆogˆe w hipermarkecie, bo nie dostało kolejnej
balance throws SE on floor in megastore because not got another
zabawki. Matka wychodzi z siebie: krzyczy, czasem
toy-GEN mother-NOM goes.out from self shouts-3SG.IMPERF sometimes
szarpnie ∅.
pulls-3SG.PERF
‘Why can a child put us out of patience even in good families? It throws itself onto
the floor in a megastore because it didn’t get yet another toy. The mother is driven
round the bend: she shouts, sometimes pulls the child.’ [NKJP]

- (99) a. Ten pies nie gryzie \emptyset .
 this dog not bite-3SG
 ‘This dog doesn’t bite.’
- b. Ten pies nie ugryzie \emptyset .
 this dog not PREF-bite-3SG
 ‘This dog won’t bite you/anyone.’
- c. To dobry pies, nigdy nie ugryzie \emptyset (ani nie
 PRED good dog never not PREF-bite-3SG nor not
 zawarczy).
 PREF-growl-3SG
 ‘This is a good dog, it will never bite anyone (or growl)/it never
 bites (or growls).’
- [Polish]

The sentence in (99a), where the verb is imperfective and the object is unspecified (by default, it is interpreted as people in general), involves the characteristic property of the agent alternation, which I have discussed in section 4.2.4 of chapter 4. The variant in (99c), where perfective aspect is combined with habituality can be interpreted similarly to (99a), or it can also have the future meaning, perfective aspect combined with a non-past verbal form giving rise to future interpretation in Polish. Here the object is also interpreted as unspecified. On the other hand, when the verb is perfective in the absence of habituality, the object is most readily interpreted with reference to contextually-salient individuals, such as the hearer. The sentence in (99b) could be an appropriate continuation for *Nie bój się, ...* ‘Don’t be afraid,...’, assuring the hearer that she/he feels safe. Interestingly, the

positive polarity variant of (99b) is not well-formed:

- (100) Uważaj! *Ten pies ugryzie ∅.
be.careful this dog PREF-bite-3SG
'Be careful! This dog will bite you.' [Polish]

The crucial role of negation in this case suggests that (99b) may in fact be interpreted similarly to (99c), with the interpretation of the object as referring to the hearer (for example) being inferred on the basis of situational context. The sentence in (99c) is unnatural, if acceptable, in the absence of negation:²⁹

- (101) ?*To okropny pies, zawsze ugryzie ∅ (i zawarczy).
PRED horrible dog always PREF-bite-3SG and PREF-growl-3SG
'This is a terrible dog, it will always bite people (and growl)/it al-
ways bites (and growls).' [Polish]

A natural way to express (101) is by using the imperfective verbs *gryzie* 'bite-3SG' and *warczy* 'growl-3SG', which can also be used in (99c).

The opposite situation with respect to the polarity-related distinction is also observed. In particular, non-anaphoric object drop with a perfective verb is available in Polish also in the presence of the light verb *lubić* 'like' and modality introduced, for example, by *wiedzieć jak* 'know how' or by the modal verb *potrafić*

²⁹One speaker reports that (101) is as unacceptable as (100) to him.

‘can’:

- (102) a. Ten pies lubi ugryźć ø.
this dog likes PREF-bite
‘This dog likes to bite.’
- b. Ten pies wie, jak ugryźć ø.
this dog knows how PREF-bite
‘This dog knows how to bite.’
- c. Ten pies potrafi ugryźć ø.
this dog can PREF-bite
‘This dog can bite/This dog sometimes bites.’ [Polish]

As descriptions of the dog, these sentences need to be positive in polarity. For example, adding negation to (102c) cannot yield the interpretation that *This dog never bites* has. Since the intricacies of the interaction of modality, aspect, and negation are beyond the scope of this work and remain the same beyond the domain of missing objects (cf., e.g., *Tu potrafi padać przez trzy dni z rzędu* ‘It can rain here three days in a row’ and **Tu nie potrafi padać przez trzy dni z rzędu* ‘It can’t rain here three days in a row’), I do not discuss them further here.³⁰

³⁰Another relevant contrast observed in Hungarian has been brought to my attention by Professor István Kenesei: whereas in the modal context in (ia) object drop is unacceptable, replacing modal inflection on the verb with the equivalent modal auxiliary makes it acceptable (see (ib)).

- (i) a. *Ez a kutya nem harap-hat.
this the dog not bite-MODALITY
‘This dog cannot bite.’
- b. Ez a kutya nem tud harap-ni.
this the dog not able bite-INF
‘This dog cannot bite.’ [Hungarian]

In sum, the discussion above has shown that object drop is not determined directly by telicity, *aktionsart*, or aspect, as missing objects can in principle appear in predications and sentences belonging to any of the categories distinguished within these classifications. The way in which these categories can influence object drop calls for a more detailed analysis focusing not only on different types of verbal predicates, but also concerned with the distribution and interpretation of object drop with individual verbs. This is a complex issue, which falls well beyond the scope of this work. However, since object drop is licensed across all the categories of *aktionsarten* and aspect in English, Polish, and Hungarian, an analysis of the syntax of missing objects is needed which takes into account the definite/indefinite and anaphoric/non-anaphoric contrast independently of the issues associated with *aktionsarten* and aspect and which can model the interpretive differences. The details of the model offered here have been presented mainly in chapters 2 and 3 of part 1. In the next section, I add further to the description of the contexts that interact with missing objects by focusing on factors that can influence object drop at the sentence level (IP/CP), as well as in larger situational contexts.

The affirmative counterpart of (ia) is acceptable:

- (ii) Ez a kutya harap/ harap-hat.
 this the dog bites bite-MODALITY
 'This dog bites/can bite.'
[Hungarian]

5.4 Licensing of missing objects by syntactic and information-structural environment

Object drop may be influenced by elements that enter the syntactic derivation of a sentence after the merger of VP (verb and its arguments) and any VP-adverbials. The following examples illustrate contexts favouring object drop described previously in the literature about English:³¹

- Habituality, genericity, iterativity (Resnik 1993:78; Goldberg 2001:507; Ruppenhofer 2004:374)

(103) Pussycats eat \emptyset , but tigers devour \emptyset .

(104) Smoking kills \emptyset .

(105) Scarface killed \emptyset again.

- Experiential perfect (Ruppenhofer 2004:373)

(106) Has this lion ever killed \emptyset ?

³¹An additional licensing factor is the use of a structure with missing objects within one of the special registers which license object drop, such as the recipe register. As the present work focuses on the neutral register, I do not discuss these contexts in detail here, even though I provide some relevant comments in section 6.1.1 of the concluding chapter. For some relevant discussion of English, see Haegeman (1987a,b); Massam & Roberge (1989); Cote (1996); Culy (1996); Bender (1999); Ruppenhofer (2005); Ruppenhofer & Michaelis (2010); Ruda (2014b).

(107) Field Goal Kicking Competition. Jamie had never kicked \emptyset before,
and Jana had about 3 days of “rehearsal” behind her.

- Imperatives (García Velasco & Portero Muñoz 2002:3)

(108) Push \emptyset hard.

- Contrast, emphasis on the action, verb sequences, stress on an element other than the object (Allerton 1975:235; Goldberg 2001:513; García Velasco & Portero Muñoz 2002:3)

(109) He theorises about language, but I just describe \emptyset .

(110) Why would they give this creep a light prison term!? He murdered
 \emptyset !

(111) He will steal \emptyset , rob \emptyset , and murder \emptyset .

(112) When BILL took the exam, he passed \emptyset .

- Characteristic property of the subject (Levin 1993:39; Resnik 1993:78; see also sections 4.2.4 and 4.2.5 of chapter 1):

(113) A: I thought you said your dog doesn't bite \emptyset !

B: That is not my dog.

(114) This knife doesn't cut \emptyset .

- Modality, even though this seems restricted to certain verbs; object-oriented verbs such as *prefer* and *undergo* block object drop even in this context (McShane 2005:114, 119):

(115) I know that you know how to love \emptyset .

(116) a. *He knows how to undergo \emptyset /prefer \emptyset .

b. *It's easy to undergo \emptyset /prefer \emptyset .

As the following corpus examples show, licensing by sentential and discourse factors makes possible both anaphoric object drop and non-anaphoric object drop with the same verb.

- Non-anaphoric object drop

(117) *Licensing by modality*

- a. He did not really want to kill \emptyset , but as in the sexual act, there was a moment when the impulse took over and could not be downed, even while you watched yourself giving way to it. [Brown]

- b. Her skin was stretched so tight that her cheekbones stuck out,
and if looks could kill ø, Wally would have been dead. [Brown]

(118) *Licensing by habituality*

- a. He killed ø accurately, freely, and dispassionately. [Brown]
- b. These were the ones Keith sought out—the loners, the ones who
killed ø for the joy of it, like himself. [Brown]
- c. He kills ø when he pleases, takes his women where he finds
them and always acts as judge, jury and executioner rolled into
one. [Brown]

(119) *Licensing by emphasis on the action*

and in that brief interval, a redcoat officer came tearing down the
road, whipping his horse fit to kill ø. [Brown]

- Anaphoric object drop

(120) *Licensing by contrast*

To kayo him and maybe or maybe not kill ø. [Brown]

(121) *Licensing by emphasis on the action*

Had that tall dark boy, carrying trays too heavy for him, found what

he might have considered adulation of a man he probably hated
 more than he could bear?? And possessed himself—how??—of a
 rifle and killed ø?? [Brown]

As expected, the object is indefinite with habitual and modal meanings. This facilitates an analysis on which the internal argument variable can be unselectively bound by clausal operators. Contrast and emphasis on the action are available in episodic construals, making possible definite interpretation of the object. Furthermore, (119) and (121) show that emphasis on the action denoted by the verb can license both non-anaphoric and anaphoric object drop with the same verb. Further sentential context determines the ultimate interpretation of the missing object. Similar effects arise in sequences of verbs or clauses, as the following examples show. In (122) the object is non-anaphoric and its interpretation relies on the canonical associations triggered by particular verbs. In (123) the content of the missing object is recovered from an overt object introduced earlier in the sentence, that is *ideas*.

(122) Dice rolled, prostitutes plied their trade, thieves stole ø, murderers
 stabbed ø, and the ungodly blasphemed. [Brown]

(123) So all-important are ideas, we are told, that persons successful in

business and happy in social life usually fall into two classes: those who invent new ideas of their own, and those who borrow ø, beg, or steal ø from others. [Brown]

Since verb and clause sequences do not impose their own restrictions on the interpretation of the object, the reading of the object is determined by other factors. This shows that the mechanisms of licensing object drop do not necessarily correlate with the anaphoricity or definiteness of the missing object.

The sections which follow provide some additional discussion of some of these contexts. Section 5.4.1 is concerned with habituality, genericity, and iterativity, whereas section 5.4.2 focuses on contrast, emphasis on the action, verb sequences, and stress on an element other than the object.

5.4.1 *Habituality, genericity, iterativity*

Genericity and habituality are important factors licensing object drop, as illustrated by the availability of a missing object denoting indeterminate people in (124) and things in (125) from Fraser & Ross (1970:264).³²

³²It seems that habituality is not always enough to license object drop, as suggested by the following examples from Goldberg (2001:512):

- (i) a. That man always recycles ø.
- b. *That man always breaks ø.

(124) Cecil rapes (murders, etc.) \emptyset .

(125) Max steals (sells, etc.) \emptyset .

In contrast to missing objects of verbs such as *read*, missing objects of verbs such as *rape* and *steal* are unavailable in the progressive when episodic reading is enforced, illustrating that habituality is indeed a licensing factor (cf. (124) and (126) from Fraser & Ross 1970:264).

(126) *Cecil was raping \emptyset .

As noted in Mittwoch (2005:244), some verbs which license unspecified missing objects are used in the habitual context with a somewhat different meaning than when used in episodic contexts. For example, a sentence such as *He is writing* \emptyset refers to making marks with a pen, etc., whereas the habitual *He writes* \emptyset can be true even if used with reference to the process of dictating into a tape recorder.

Missing objects in generic sentences, shown in (127) from Goldberg (2001:506), are non-referential, as expected due to the non-referential uses of the tenses involved.³³

Goldberg suggests that the two sentences are distinguished by the richness of the lexical meaning of the verbs.

³³See also Cummins & Roberge (2004) for a note on the correlation between the referentiality

(127) Tigers only kill \emptyset at night.

(cf. The tiger killed *(some animal).)

As revealed by the following Polish example from Karolak (1984:111), informativity of a sentence is also relevant to the degree to which it is judged as acceptable:

(128) a. Doktor Bielski leczy \emptyset akupunkturą.
doctor Bielski treats acupuncture-INSTR
'Doctor Bielski treats with acupuncture.'

b. ??Doktor Bielski leczy \emptyset .
doctor Bielski treats
'Doctor Bielski treats.'

[Polish]

The effect of the specification of the method in (129a) is similar to what has been observed with respect to the construction expressing a characteristic property of an instrument (cf. **This pen writes* and *This pen writes well*; see section 4.2.5 of chapter 4).

An additional interesting fact related to the example in (128) is that the non-anaphoric object here is ambiguous between indeterminate people and indeterminate medical problems. This is a result of the selectional properties of the verb

leczyć 'treat', which can take an accusative object of either type:
_____ of objects and tenses.

- (129) Doktor Bielski leczy diabetyków/ cukrzycę
 doctor Bielski treats diabetics-ACC diabetis-ACC
 (akupunkturą).
 acupuncture-INSTR
 ‘Doctor Bielski treats diabetics/diabetes (with acupuncture).’ [Polish]

Ambiguity remains unresolved in (128), but this does not affect the acceptability of the sentence. The informative focus is on the method or instrument. Unresolved ambiguity in fact leads to the inference that all kinds of diseases can be treated with the specified method.

5.4.2 *Contrast, emphasis on the action, verb sequences, and stress on an element other than the object*

Contrast can license object drop (Resnik 1993:78):

- (130) *Driver to police officer:* If I give you \$50, will you ignore this
 traffic violation?
Police officer to driver: You pay ø, I’ll ignore ø.

Just as is the case with non-anaphoric missing objects, discussed in section 4.2 of chapter 4, also with anaphoric object drop licensed by contrast stereotypical associations evoked by specific verbs can have effects on interpretation. For example, the fact that the null object of the verb *wash* usually refers to *dishes*

triggers a humorous effect in (131) from Cote (1996:151).

(131) The baby needs a bath—you wash \emptyset and I'll dry \emptyset .

As noted in Mittwoch (2005:250), the necessary contrast can be contributed by an extra-linguistic situation, as in (132), uttered by a person who sees someone cutting an article out of a newspaper.

(132) I always TEAR \emptyset .

Pragmatic focus on the activity can also contribute to licensing object drop, as discussed in Rice (1988:206) and Goldberg (2001:513) in relation to the following examples:

(133) Martha cooked \emptyset and cleaned \emptyset while Mary entertained \emptyset .

(134) He was always opposed to the idea of murder, but in the middle of battlefield, he had no trouble killing \emptyset .

To capture the effect of emphasising the prominence of action on object drop, Goldberg (2001:514) offers the following generalisation:

(135) *Omission under Low Discourse Prominence*

Omission of the Patient argument is possible when the Patient argument is construed to be deemphasized in the discourse vis a vis the action. That is, omission is possible when the Patient argument is not topical (or focal) in the discourse, and the action is particularly emphasized (via repetition, strong affective stance, discourse topicality, contrastive focus, etc.).

Yet, the examples in (136) show that it need not necessarily be the action that is emphasised, but any element other than the object. According to Allerton (1975:235), when something other than the antecedent NP receives main sentence stress, object drop can be favoured over overt realisation of the object. An overt pronoun is felt as less natural when the antecedent is pronominalised (cf. (136b) and (136c)).

- (136) a. When BILL took the exam, he passed \emptyset .
b. When BILL took the exam, he passed it.
c. When BILL took it, he passed it.

When the missing object is anaphoric, as in (137), its antecedent must be salient enough in discourse (Cote 1996:144):

(137) Bert pushed \emptyset and Ernie pulled \emptyset to get the door open.

(138) A: I wonder what Bert and Ernie are up to now?

B: Oh, there in the other room. #Bert's pushing \emptyset and Ernie's
pulling \emptyset .

Verb sequences can have the same effect, as illustrated in (111) above, repeated here in (139). However, the degree to which speakers find structures of this type acceptable has been reported to be subject to inter-speaker variation. In particular, Lavidas (2013:73), observes that some native speakers accept examples such as (140), but others find them degraded, even up to unacceptability.³⁴

(139) He will steal \emptyset , rob \emptyset , and murder \emptyset .

(140) The war started. */?The enemies destroyed \emptyset and burnt \emptyset .

³⁴Sequences of this type are attested in the corpus data, as exemplified in (i).

- (i) a. He is expected to supervise \emptyset , to encourage \emptyset , to direct \emptyset , to assist \emptyset in any way he can.
- b. Your aids are your attitude, which comes through your voice, your hands and legs—voice to encourage \emptyset , discourage \emptyset or whatever the need may be.
- c. She was going to keep on scheming, poking \emptyset , prodding \emptyset , suggesting \emptyset , and dictating \emptyset until the cops got up enough interest in him [...] [Brown]

5.5 Conclusion and outlook

Even though not unnoticed, special contexts licensing object drop have not played a major role in analyses of the syntax of missing objects. However, since object drop licensed by special environments is robustly represented in the data with missing objects, marginalising it in theoretical accounts seems unwarranted. The impact which the syntactic, semantic, and pragmatic context can have on licensing object drop should be treated as a serious indicator of the type of analysis which object drop should be given, especially when aiming for a unified analysis of contexts with object drop. Even if a unified analysis is not the goal, the acceptability of the structures with missing objects presented throughout this chapter still requires some explanation.

The discussion in this and the preceding chapter makes clear that both non-anaphoric and anaphoric indefinite and definite missing objects are available in English, Polish, and Hungarian at least in some contexts. The data support the analysis of at least some restrictions on the use of missing objects in English in terms of constraints imposed by an interaction of components of meaning rather than mechanisms as strict as lexical encoding of object omission. Interestingly, interpretive factors play a role not only for object drop, but also for the causative-inchoative alternation. As noticed by Wechsler (2015:80–81), even though the

verb *decapitate* is not usually licensed in the inchoative frame (see (141a)), when the event described can be construed as spontaneous, the structure becomes acceptable (see (141b)). This leads Wechsler (2015) to conclude that the verb *decapitate* is not lexically specified as transitive, but rather its inchoative use is constrained by a spontaneity condition on interpretation.

- (141) a. *The heretic decapitated at noon.
- b. Packed with 70+ minutes of songs about bunnies, squid, aardvarks, and classmates, this collection is certain to make you wish you could spontaneously decapitate.

I advocate the same line of reasoning with respect to the contexts of object drop in which interpretive factors license the missing object and the particular type of interpretation with which this object can be associated. More generally, data of the type as in (141), in combination with the data with object drop discussed here, suggest that there might be a general problem with enforcing uses of verbs with a particular number of overt arguments by rigid lexical specifications.

In part 1 of this work, I have presented some further facts concerning the issues relevant here, based on native-speaker judgments of some additional examples. The key factor on which I have focused in the theoretical analysis in part

1 is the grammatical representation of indefinite and definite missing objects in English, Polish, and Hungarian, which can form a basis for a theoretical approach to variation found cross-linguistically and intra-linguistically, including the contexts discussed in this and the preceding chapter.

Chapter 6

Conclusions and extensions

In part 1 of this book, I have offered an analysis on which missing objects are present in the syntactic structure, where they are represented minimally as the nominalising categorial head *n* and maximally contain all interpretable heads composing overt pronominals in a language. In part 2, I have presented a broader empirical picture of missing objects, focusing on data from English, Polish, and Hungarian. Previous descriptions of the phenomenon, supplemented with some novel data gathered from corpora and from native speakers, can serve as the basis for further theoretical discussion.

In this chapter, I consider some additional issues related to the analysis offered in chapters 1–3. I briefly revise some key points of the analysis in section 6.1, outlining how it can be employed to approach the issue of language vari-

ation in the domain of argument drop, including the problem of intra-linguistic variation (section 6.1.1). This encompasses both register-related variation and variation conditioned by special linguistic and extra-linguistic contexts which can license object drop, such as the experiential perfect in English. I suggest that variation of these types might be best analysed as involving an extension of mechanisms already present in the grammar of a language, rather than as constituting, for example, a case of parameter resetting. I then provide some suggestions about the ways in which the analysis bears on the problem of language acquisition in section 6.2, outlining the predictions which it makes for the acquisition path of structures with missing objects.

6.1 Missing objects: language similarity and language variation

Table 6.1 summarises the main components of the analysis of missing objects which I have developed in part 1.

	<i>English</i>	<i>Polish</i>	<i>Hungarian</i>
<i>Indefinite missing objects</i>			
<i>Syntactic representation</i>	<i>n</i>	<i>n</i>	<i>n</i>
<i>Interpretation via</i>	Restrict	Restrict	Restrict
<i>Definite missing objects</i>			
<i>Syntactic representation</i>	<i>n</i>	<i>n</i>	[_{DP} D [_{PersP} Pers [_{NumP} Num [<i>n</i>]]]]
<i>Interpretation via</i>	<i>ι</i>	<i>ι</i>	D

Table 6.1: Missing objects in English, Polish, and Hungarian

I have developed this system based on the observation that indefinite missing objects behave similarly in the three languages analysed here, in contrast to definite missing objects. The proposal to analyse indefinite missing objects as represented syntactically as *n* does not require additional mechanisms bypassing selectional restrictions of verbs, including postulating vast lexical ambiguity or detransitivisation operations. As the *n* head can be taken to be available in any language which has nouns, no special lexical item needs to be postulated on the current account. Similarly, Restrict (or any alternative operation employed for interpretation of mass nouns) is available in English, Polish, and Hungarian, as evidenced by their ability to interpret structures containing mass nouns, and is possibly available in any natural language (Chierchia 1994). In conjunction with the postulated denotation of *n* as shown in (1), this approach can successfully model indefinite missing objects, accounting for the similarity in scopal behaviour between them and mass nouns and bare plurals by taking all of them to be projected syntactically and to be interpreted via the same mechanism.

- (1) a. *Basic denotation of n*

$$\left[\left[n \right] \right]^A = \lambda y. \top \equiv y = y$$

- b. *Denotation of n bearing interpretable feminine gender feature*

$$\left[\left[n_{[G:F]} \right] \right]^A = \lambda y. \top \equiv y = y \ \& \ \text{FEMALE}(y)$$

I have shown that indefinite missing objects present a more complicated picture as far as their availability to participate in control is concerned than what has been suggested in the previous literature. Most importantly from the present perspective, the complexities observed even in the preliminary set of data provided in section 2.4 of chapter 2 suggest that treating the (un)availability of control with a missing object as a straightforward test for the syntactic projection of the object might be flawed, as it underappreciates the complexity of the phenomenon.

The investigation of indefinite missing objects in the context of the influence of the manner component of verb meaning on object drop has lead to the generalisation put forth in section 1.2 of chapter 1 and repeated below as (2).

(2) *Manner specification generalisation* [parametrisable]

If a verb makes object drop available, its near synonym with a more specific manner component tends to block it.

The effects of rich manner specification on grammatical phenomena extend beyond the contexts with missing objects and are observed also with extraction and *that* deletion, with the contrast pertaining to verbs of speaking and verbs of manner of speaking (see section 2.3 of chapter 2). These data seem amenable to a pragmatic explanation (cf. Erterschik-Shir 1977).

In comparison with overt pronouns, definite missing objects are more flexible with respect to their interpretation in English and Polish, but not in Hungarian. I have used this as an argument supporting a representational difference between definite missing objects and overt pronouns in English and Polish. By contrast, all interpretable heads which I have postulated for overt pronouns in Hungarian are also included in the projection of definite missing objects. The structural representation which I have proposed for definite missing objects in Hungarian has made available a morphological explanation of the intriguing asymmetries of object drop patterns in this language, where in third person, only singular objects can be dropped, while in first and second person, dropping a plural object is acceptable. Building on the analysis of morphological realisation of heads in the projection of pronouns, I have reanalysed the unacceptability of dropping third-person plural objects as a result of the lack of a host for the plural marker *-k* to attach to. As first and second person pronouns have an analysis on which the Num head moves to Pers, the blocking factor constituted by the need to realise the Num head at the SM interface does not apply. This proposal has an advantage over previous analyses of Hungarian based on the notion of the semantic recoverability of the number feature from verbal inflection (see Farkas & de Swart 2003; É. Kiss 2012), as these analyses cannot account for at least three types of facts: the availability of plural object drop in first and second person, the lack of

the need for the person feature to be recoverable from verbal morphology, and the availability of object drop in structures which do not bear any object-related verbal marking.

As the nominalising head in English needs not be associated with phonemic features, the non-pronunciation of an object represented as *n* follows without additional assumptions. The restricted availability of *n* in definite contexts follows from the lexically-restricted availability of *ι*. In Polish, where *n* contains the gender feature, the lack of phonemic realisation of an object represented as *n* is a result of the lack of number and case specification of the object, since gender can only be realised overtly within the fusional gender/number/case morpheme. I have hypothesised that the restrictions on the use of definite object drop in Polish follow from the preference for the use of overt pronominals, which are fully specified for ϕ features.

In addition to capturing the data with object drop in the separate languages investigated here, a major theoretical interest of the approach developed in part 1 of this book lies in its potential to account for language similarity and language variation. Taking *n* to be available in the lexicons of all languages (with the category noun), within the system developed here, one way in which (agreement-unrelated) definite object drop, and by extension also subject drop, can be blocked in a language is if the language makes definite interpretations available only

via mediation by an overt lexical item, rather than allowing for an argument to be type shifted in the semantics by the ι operation. Another potential blocking factor is the association of n (and other nominal heads) with phonemic features. Languages which lack the category D (and hence can apply ι to interpret noun phrases) and which have a zero-realised n head should make argument drop widely available, subject perhaps only to pragmatic/discourse principles and competition from overt pronominals. Even though more research is needed to test this prediction, it seems that this is the case in the so-called radical *pro*-drop languages such as Mandarin and Japanese. For example, Tomioka (2003) suggests that there is a dependency between the availability of bare nouns in argument positions and null arguments in Japanese, both of which can be interpreted via ι . As there is no indication of n in Japanese (or Mandarin) being necessarily specified for phonemic features, the data can be accommodated within the current proposal along the lines suggested here. On the other hand, when a language has a zero-realised n but has articles whose presence blocks the application of ι , merging an n in an argument position generally cannot result in a referential null argument.

Furthermore, also the way in which the final interpretation of a type-shifted n is achieved and the type of discourse contexts where it is appropriate can be subject to cross-linguistic variation. For example, despite being widely available, missing objects in Mandarin cannot be referentially dependent on the subject of

the matrix clause, as shown in (3) from Huang (1984:537).

- (3) *Zhangsan_i xiwang [Lisi keyi kanjian \emptyset_i].
Zhangsan hope Lisi can see
'Zhangsan_i hopes that Lisi can see him_i.' [Mandarin]

Variation in this respect can depend on more general properties of the domain of nominal interpretation in a language, perhaps along the distinction between subject-prominent and topic-prominent languages (see Li & Thompson 1976) or the more general distinction between sentence-oriented and discourse-oriented languages from Tsao (1977), as assumed in the discussion of null arguments in Huang (1984). Restrictions of this type will need to be encoded as constraints on what sorts of dependencies n can and must enter to be interpreted.

6.1.1 *Intra-linguistic variation*

Different types of intra-linguistic variation are associated with missing objects. One type of variation which has received some amount of attention in the literature is related to registers and another is constituted by special grammatical environments which can make object drop available even in register-unmarked contexts. The former type of variation has been discussed for English in the context of the recipe register, which makes definite missing objects freely available,

as shown in (4).¹ The latter factor has been discussed in terms of the licensing conditions on object drop, such as the experiential perfect in English, as demonstrated in (5) (see chapter 5).

- (4) To make the tomato bruschetta: drizzle most of the olive oil over each piece of toast and top \emptyset with the chopped tomatoes. Season \emptyset with salt and pepper \emptyset to taste, before drizzling the remaining few drops of oil on top, and you're done.

[Source: <http://www.nigella.com/recipes/view/breakfast-bruschetta-53>]

- (5) a. *I'm killing \emptyset .
b. I've never killed \emptyset before.

A question that arises is how this type of variation can be accommodated within grammatical theory.

In the light of the analysis of object drop presented in chapters 1–3, I suggest that the patterns observed in (4)–(5) are extensions of the mechanisms available elsewhere in the language. More specifically, definite object drop in the recipe context employs the same mechanism as definite object drop with verbs such as *call* and *visit* (see chapter 3). On this approach the objects in (4) are represented as *n* and are interpreted with the application of ι (see Ruda 2014b). If this is

¹For discussions see Haegeman (1987a,b); Massam & Roberge (1989); Cote (1996); Culy (1996); Bender (1999); Ruppenhofer (2005); Ruppenhofer & Michaelis (2010); Ruda (2014b).

correct, the only assumption which has to be made to account for object drop of this type is that the relevant registers extend the availability of ι beyond the lexically-determined context and make it available for interpretation of objects of any verb used within the relevant registers.

Similarly, the null hypothesis concerning special licensing environments is that these structures employ the same mechanism as the structures with object drop available more freely. The object in (5b) is indefinite, which suggests a parallel with object drop observed with verbs such as *read* and *eat*. This means that also here the object is represented as n , but this time it can be interpreted, for example, via Restrict. If this is correct, the reason why Restrict is made available by experiential perfect, but cannot be applied in (5a) can be speculated to follow from the semantics of the progressive. If the progressive operator requires a predicate with stages in the input, the object is required to calculate the progress of the event of killing (which the progressive operator could pick). In (5b) the contribution of the perfective frame to the calculation of event completion rescues the structure from failing to be interpreted at the C-I interface.²

If the approach to intra-linguistic variation suggested here is correct, it should extend to other cases of variation found within languages, where, for example, different registers could only employ mechanisms already present in the lan-

²A detailed investigation of the relation between the availability of object drop and event structure seems in general to be an issue worth exploring in the future.

guage, rather than making available options incompatible with the core grammars of particular languages.

6.2 Missing objects and language acquisition

Comparative linguistic research has an important role to play in informing theories of language acquisition.³ The three languages which have been the focus here provide an interesting ground for research in this area, as all of them make object drop possible in certain environments, but object drop is not completely unconstrained in any of them. This means that the primary linguistic data include structures with missing objects, but the language acquirer does not generalise from these data that object drop is free or that it is regulated by different features of the grammar than the ones which govern the availability of object drop in the adult language. Determining the features of the grammar which impose restrictions on object drop in different languages is thus a necessary step in developing a theory of how the acquisition of the relevant patterns is achieved.

The analysis of missing objects developed in part 1 makes some clear predictions for acquisitional studies.⁴ In particular, taking the nominalising head *n* and

³I thank Jeffrey Lidz for a discussion of issues raised in this section.

⁴An interesting attempt to reconcile the parametric theory of linguistic variation with the minimalist approach to the study of language has been suggested in Roberts (2012) and further developed in Biberauer & Roberts (2012:269). In brief, they suggest that language acquisition proceeds down the path of the parametric hierarchy quoted in (i).

the operation ι to be present in the initial state of the grammar, the way in which the acquisition of patterns with definite object drop in a language is achieved is predicted to be delimited by the features of the grammar related to the association of n with additional features (e.g. gender) and with phonemic content, and to the availability of ι in the semantics or the association of shifting predicates to individuals with overt lexical items (articles). If n , ι , and Restrict are present in the initial state (or, perhaps n is available as soon as the category noun is acquired), both indefinite and definite missing objects should be attested in child language, as has indeed been shown to be the case.

Even though more studies of child English focus on subject than object drop (see, e.g., Hyams & Wexler 1993; Wang, Lillo-Martin, Best & Levit 1992 and references cited therein), the acquisitional studies of object drop reported in Pérez-Leroux et al. (2008) and Pérez-Leroux et al. (2013) show that even children ac-

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- (i) For a given value v_i of a parametrically variant feature F:
 - a. Macroparameters: all heads of the relevant type share v_i ;
 - b. Mesoparameters: all functional heads of a given category (e.g. all verbal heads, all nominal heads, all ϕ -bearing heads or all finite Cs) share v_i ;
 - c. Microparameters: a small subclass of functional heads (e.g. auxiliaries, pronouns) share v_i ;
 - d. Nanoparameters: one or more idiosyncratic lexical items are specified for v_i .

Considering this proposal in the light of studies on object drop and its broader theoretical consequences in detail is beyond the present scope. However, the complexity of factors influencing the availability of object drop suggests that it may be better explained as a function of various interacting components of the grammar, rather than as a parametric option making special reference to null arguments. Whether these independent features of the grammar should be encoded as parametric hierarchies is of course a separate question.

quiring English pass through a stage in which their grammar seems to include both an indefinite and a definite null object.⁵ As noted in Mykhaylyk & Sopata (2016), this tendency to drop objects in early stages of language development is true in general also of the entire Slavic and Romance language families.⁶ These results are compatible with the hypothesis that *n*, *ι*, and Restrict are present in the initial state.

In the analysis in part 1, I have suggested that definite object drop is restricted in English by the presence of overt articles, which can be taken to block the application of *ι* in the semantics (Chierchia 1998). The analysis predicts that the process of lexical learning of the English article system should correlate with the decreasing rate of object (and subject) omission. The availability of definite objects with verbs such as *call* needs to be attributed to learning that some verbs/verbal roots retain the availability of *ι* for the purpose of interpretation of their complement.

Polish lacks articles and makes the application of *ι* generally available. Re-

⁵Pérez-Leroux et al. (2008) and Pérez-Leroux et al. (2013) suggest that the initial state of the grammar includes a null bare noun, which is initially available without constraints and can be merged in any argument position, including the object position. The content of this noun can be recovered either by lexical means (in the case of indefinite objects) or from a discourse antecedent (in the case of definite objects). The present approach is consistent with this analysis in that the null noun postulated in Pérez-Leroux et al. (2008) and Pérez-Leroux et al. (2013) can be identified as *n*.

⁶Interpreting results of this type certainly requires caution and omissions related to a genuine grammatical option available at a particular stage of language acquisition need to be carefully distinguished from omissions related to processing constraints.

strictions in the availability of definite missing objects are related to the content of n and its morphophonological realisation, including in pronominal structures. The decrease in the rate of object omission is thus expected to correlate with the acquisition of grammatical gender and nominal suffixes composing overt pronominals. As documented in Tryzna (2015), Mykhaylyk & Sopata (2016), and Sopata (2016), children acquiring Polish overuse missing objects in comparison with adults and the omission rate decreases in the process of language development. Naturally, the exact mechanisms of the omissions and the developmental changes, including their compatibility with the approach suggested here, require further experimental investigation.

The decrease in omission of definite objects in Hungarian is predicted to be correlated with the acquisition of overt suffixes realising heads within the extended projection of pronouns.

Hypothesising that the acquisition of object drop is guided by independent features of the grammar rather than being tied only to primary linguistic data with missing objects seems to be the only plausible approach to this problem, as it is highly unclear how the child could otherwise acquire the complex set of constraining and licensing factors observed in languages such as English, Polish, and Hungarian. Testing whether the present analysis is consistent with a broader spectrum of cross-linguistic acquisitional data requires future studies within the

domain of language acquisition.

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